DIGITAL PUBLIC ADMINISTRATION

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EFFECTS OF THE USE OF ELECTRONIC AUCTIONS ON PUBLIC PROCUREMENT EFFICIENCY: CASE OF SLOVENIA

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Abstract: *In the late 1990s online auctions were developed and often used to get an advantage in evolving internet technology and software tools. Not much later, in the 2000s, public procurement procedures were enhanced with non-mandatory usage electronic tools, and one of the most renown was the use of electronic auctions. Since electronic auctions are marketed and favoured for their efficiency, we searched for data from electronic auctions in public procurement procedures in the Slovenian government. We discovered that some parameters, such as competition, can influence the efficiency of procurement procedures, but some others, such as the procurement size, do not.*

Keywords: *electronic auctions, public procurement, efficiency, Symposium, SymOrg2018*

1. INTRODUCTION

In 193 A.D., after killing Emperor Pertinax, Praetorian Guards have sold off the entire Roman Empire by means of an auction. The winning bid was the promise of 25.000 sesterces per man to the Praetorians. Didius Julianus, who won the auctions, was declared emperor, but lasted only two months before he was beheaded. In the history of auctions since 500 B.C. this is most known auction, and probably also the worst example of the winner's curse (Cassady, 1967, Krishna, 2009).

Public procurement plays an important role in satisfying the needs of the public sector. Public procurement is a procedure for satisfying the needs of the public sector and represents an important part of public expenditure as a share of the gross domestic product. In certain EU member states, that share represents 20% of the entire GDP; in 2015 the average in the member states amounted to 14% (EC, 2016). The aim of the public sector is to satisfy the public interest and is in this part therefore significantly different from the private sector. This fundamental characteristic characterises the basis for the operation of public markets, where maximising profits substitutes the public interest (Bovis, 2015, pg. 1). Nevertheless, the economic efficiency of public procurement represents an important element of the public interest and one of the core principles of public procurement enabling the contracting authorities to achieve their interest of maximising the benefits of procurement, the latter being summed up in the catchphrase "more value for money".

Notwithstanding the fact that public procurement legislation for the European Union single market, which is regulated identically for all member states by European Directive 2014/24/EU on public procurement (*Directive 2014/24/EU of the European Parliament and of the Council of 26 February 2014 on public procurement and repealing Directive 2004/18/EC, UL L no. 94 dated 28 March 2014 pg. 65*), is based on the equal, non-discriminatory and transparent (trans-border) processing of tenderers. Through the recent EU policy making push in procurement, there has been a growing emphasis on secondary policies of public procurement and a greater focus on economic efficiency, taking into consideration both of the changes in the procurement directives of 2004 (*Directive 2004/18/EC of the European Parliament and of the Council of 31 March 2004 on the coordination of procedures for the award of public works contracts, public supply contracts and public service contracts, UL L 134, dated 30 April 2004, pg. 114*) and 2014. The Directives highlight economic efficiency through an increased opportunity to apply various criteria and by stressing the importance of quality as well as by expanding the scope of the electronic tools available in public procurement procedures. Furthermore, after mid-2018, the only permitted method of communication in the procedures (submitting offers) in all the member states will be communication through available information systems.

Another tool for improving the economic efficiency of the public procurement process is the digitalisation of procedures, the electronic public procurement. The European Commission (2014) assessed that implementing electronic procurement may result in potential savings of between 5 and 20 percent. Electronic procurement comprises various cornerstones or components, from the electronic submission of offers to the electronic verification of evidence and electronic catalogues, with electronic auctions being one of the most important ones. Electronic auctions are not a new development in the European public procurement process, since their use was already permitted by Directive 2004/18/EC. These Directives recognised the benefits of using electronic auctions as tools for allocating contractual relationships more efficiently and transparently, by establishing specific rules of procedure, regulating this technique of public procurement (Soudry, 2004, pg. 341).

Electronic auctions represent a computerised method of purchasing goods, services and works where various tenderers simultaneously bargain with the contracting authorities through the electronic platform and thus compete for winning the contract by transparently quoting lower prices or offering more favourable terms (criteria). Electronic auctions in public procurement play a significant role for the tenderers due to the high level of transparency and ensuring efficient equal treatment of tenderers while simultaneously offering an efficient negotiation tool to the contracting authorities, since negotiations are otherwise prohibited in the transparent proceedings. When speaking of using the computerised tool of the electronic auction in public procurement, this means a reverse electronic auction, leaving regular e-auctions in the public sector to be used as a tool for disposing of or selling-off of tangible property (Basta et al, 2016, pg. 263).

2. AUCTIONEERING AND ELECTRONIC REVERSE AUTIONS

Auctions have been used for over 2500 years, but they entered the economics literature only relatively recently. Vickrey (1961) was one of the first to recognize the game-theoretic aspect of a problem, and he made enormous progress in terms of analysing it and developing the Revenue Equivalence Theorem, and his papers of 1961 and 1962 were a major factor in receiving his 1996 Nobel prize (Klemperer, 2004, pg. 15).

One should not be confused by the terminology and different auctions in auction theory. There are four basic types of auctions, the ascending-bid auction (also called the English auction), the descending-bid auction (also called the Dutch auction), the first-price sealed bid auction and the second-price sealed bid auction (also called Vickrey auction). In public procurement, market goods are sold and so we refer here to reverse auctioning. When using internet auctions in public procurement, we used the English-type of auction, also known as the reverse version. There is no formal distinction between normal auctions in which the auctioneer is the seller and the bidders are buyers and public procurement auctions, where the auctioneer is a buyer (Klemperer, 2004, pg. 15).

Electronic auctions entered public procurement domain relatively quickly after they were used in B2B and B2C. In Directive 2004/18/EC electronic auctions were introduced '*since use of the technique of electronic auctions is likely to increase, such auctions should be given a Community definition and governed by specific rules in order to ensure that they operate in full accordance with the principles of equal treatment, non-discrimination and transparency*' (recital 14). The European Parliament and Council acknowledged that electronic tools in public procurement are a means of information and communication that can greatly simplify and increase the efficiency of procurement processes (recital 52 od Directive 2014/24/EU).

The economic theory emphasises that auctions, when used properly, have the potential to increase value for money, represent an efficient allocation of resources and increase the transparency in the proceedings of submitting public procurements (Soudry, 2004, pg. 342). Electronic auctions may therefore significantly affect the efficient operation of the public sector and contribute to an (improved) allocation of resources. The use of computerised tools, including but not limited to, the use of electronic auctions in the public procurement proceedings, plays one of the more important roles. Several authors (Stein et al, 2003, Shalev and Asbjornsen, 2010, Tassabehji, 2010) emphasise the importance of electronic auctions in the procedures for reducing costs in the public sector.

This paper focuses on the effects of the auctions on direct savings that arise from the use of electronic auctions and the impacts of several factors on the efficiency of public procurement auctions. We shall examine whether the savings arising from the use of the application e-Dražba *[e-Auction]* of the Slovenian government are similar to the savings that were presumably found and noted in other research studies. We shall further examine whether the noted savings are different for the different subjects of procurement and the different types of contracting authorities and how individual factors influence the savings. We presume that the savings resulting from the use of the e-Dražba application are similar to the savings in other research studies, that they do not differ from one another in terms of the subject and that the savings are affected by both the number of tenderers (offers) as well as the amount of the public procurement.

3. EFFICIENCY OF REVERSE AUCTIONING

Many governments and private businesses have been using electronic auctioning to improve their performance. In 2010 The UK Office of Government Commerce (today Crowns' Commercial Service) reported savings of GBP 50 million in IT hardware using e-Auction over a period of four years, while General Electric claimed to have saved USD 600 million, or 8 percent of their spending, through e-Auctions (Shalev and Asbjornsen, 2010).

Several studies (Stein et al, 2003, Shalev and Asbjornsen, 2010, Tassabehji, 2010, Hawkins, Coyne and Hudgens, 2010) emphasise the importance of savings in terms of an effective use of computerised tools in public procurement procedures. One of the advantages of the electronic reverse auction is achieving the lowest possible price (Pavel and Sičakova-Beblava 2013), in other words, achieving higher savings than in classic procedures of public procurement, where computerised tools are not used. Savings can be substantial, but some authors caution that the actual effects may be considerably milder and the savings substantially lower (Emiliani and Stec, 2002).

Notwithstanding the various information on the amount of savings, which are based on empirical findings, the conclusion can be reached that there is sufficient evidence to demonstrate that properly used auctions generate potential for the improvement of economic performance or the results of the public procurement procedures (Soudry, 2004, pg. 364). The success of the auctions (meaning the amount of discount) is also affected by the number of tenders submitted. Since the tenderers look for opportunities, among other reasons, in order to compensate for lower profits caused by lower prices, higher contract values attract a higher number of tenderers. Studies have shown that the size (scope) of the public procurement affects the number of tenderers, which affects the success (savings) of a public procurement (Shalev and Asbjorensen, 2010, pg. 433).

The literature emphasises the importance of the number of tenderers in procedures as a factor, guaranteeing the success of the auctions. Classic procurement, which may in a broader sense be understood also as a first-price sealed bid and used in open procedure public procurement format, the tenderer only has one option. The fundamental difference when using electronic auctions is that the tenderers dynamically change (lower) the price only when someone offers more favourable terms. Therefore, a higher number of tenderers must be present in order for the auction to be successful (Shalev and Asbjorensen, 2010, pg. 432). Number of tenderers also plays a significant role in terms of success of the electronic auction, Pavel and Sičakova-Beblava (2013, pg. 122) have found, among other, that the number of tenders in the public procurement procedures, where electronic auction is used, is higher when compared to the classic procedures. Shalev and Asbjorensen (2010, pg. 432) have studied the relation between success of electronic auctions and the size of the auction volume and established that there is no relation between the two.

Electronic auctions should mostly be intended for the procurement of goods and services (save for intellectual services where offers may not be sorted by using the methods of automatic evaluation). Auctions are mostly used for purchasing goods, however, as literature explains, auction is also suitable for purchasing complex services (Tassabehji, 2010, Schoenherr and Mabert, 2007), hence, there is no (major) difference between the use for purchasing goods and the use for purchasing services.

Savings in electronic auctions are measured as the difference between the expected price and the contractual amount or the last starting price in the bidding system. This may differ significantly; the usual savings fluctuate somewhere between 5 and 30 percent (Shalev and Asbjornsen, 2010), between 10 and 40 percent (Tassabehji, 2010). Sashi and O'Leary (2002) explain that typical savings in auctions fluctuate between 10 and 15 percent or 15 percent, according to Beall (Beall et al, 2003, pg. 54). Although the savings may be significant, some authors caution that the actual effects may be considerably milder and the savings substantially lower (Emiliani and Stec, 2002). Smeltzer and Carr (2003) state that the savings amount to 5-12 percent. Pavel and Sičakova-Beblava (2013) assess that the savings estimate expressed in two-digit percentage is not realistic. They established that the savings are significantly lower and amounts to no more than 2.4 percent, whereas Singer et all (2009) assessed the savings to be just 3.03 percent.
The success of the auctions is allegedly affected by the number of tenders. Several studies have shown that the value must be large enough to attract a larger number of tenderers and that this compensates the additional costs of the contracting authorities (implementing the system and the expenses related to the management of the system) (Shalev and Asbjorensen, 2010, pg. 433). The higher the value of the public procurement, the higher the potential of savings (NSW Government, 2006. pg. 5). Nevertheless, literature gives examples where even low values attract tenderers, e.g. the American Department of Defense received tenders through auctions where the values were very low, i.e. procurement under USD 10,000 (Turley, 2002, pg.36). Nonetheless, the author further states that auctions bring greater success when the value is significantly higher (over USD 500,000).

The literature stresses the importance of the number of tenderers therefore, in order for an auction to be successful, at least two tenderers should be present; if greater success is intended, more tenderers should be present (Shalev and Asbjorensen, 2010, pg. 432). Authors state that the number of tenders is important for the success of the electronic auction however, these differ significantly across member states. The data by the European Commission indicate that the number of tenders in procedures in the Eastern-European countries is significantly lower than the average of EU (European Commission, 2011). Pavel and Sičakova-Beblava (2013, pg. 122) establish that procedures, using electronic auction, generate more tenders, namely by 0.7 percent.

The findings of the authors (Singer et al, 2009, pg. 73) stating that electronic auctions with only one tenderers may have negative savings (higher prices), with the savings increasing with the increase of the number of suppliers, are not unusual. With two tenderers (and a small market) there is a high probability that the auctions shall not stay anonymous (which may not necessarily be negative per se; rivalry among the known competitors may even lead to greater savings) however, the likelihood of concerted practices (cartels) is increased. Most researchers therefore suggest at least three to five suppliers in order to achieve a successful electronic auction (Mabert and Skeels, 2002, Beall, 2003, Major, 2007, Kaufman and Carter, 2004). The relationship between the success (amount of savings) of the auction and the number of suppliers was further recognised by Pavel and Sičakova-Beblava (2013), who both found that each additional bid decreases the costs by 3.4 percent. To the contrary, certain authors e.g. Shalev and Asbjornsen (2010, pg. 441) did not identify a relationship between the success and the number of tenderers. Similarly, Wagner and Schwab (2004, pg. 21) did not. However, Shalev in Asbjornsen (2010, pg. 442) did not identify a relation between the success and the value of the procurement (r=-0.0034). In their research, they established that there is no relation.

4. FINDINGS OF USAGE OF ELECTRONIC AUTCIONS ON EFFICIENCY

4.1 Methodology

We have gathered data derived from application for eAuctions (*eDražbe*) of the Ministry of Public Administration (http://ejn.gov.si/edrazbe), we have analysed several factors influencing efficiency of electronic auctions in public procurement. Findings are based on data form SQL database, on parameters of estimated value, lowest price, contracting authority status (central – non-central), procurement item and number of received bids. In analyse were included auctions from 1.1.2015 to 31.12.2016. There were 198 auctions conducted in period of two-year from central and non-central contracting authorities. Procurements were proceeded for services and goods, for cleaning services, maintenance, IT equipment such as computers, laptops and LAN equipment and stationary material.

Table 1: Descriptive statistics

	N	Minimum	Maximum	Mean	Std. deviation
SAVINGS	198	-0.56	0.75	0.1737	0.19798
NUMBERS OF BIDS	198	1	7	3,35	1.423
STATUS*	198	0	1		
AMOUNT	198	30.74	3767220.00	151949.2010	389045.74640
ITEM*	198	0	1		

* *dummy*

Data was examined through statistical regression analysis, to analyse which of these factors influenced and derived efficient usage of public procurement reverse auctions, where dependent variable is savings and explanatory variables are the number of bids, status (of contracting authorities, amount (value) and group of items (services or goods). In the regression model, we will be using the method of least squares.

4.2. Findings

In this paper we will focus on efficiency of public procurement procedures when using electronic tools, in our case reverse electronic auctions. Our main question is related to the amount of savings, are those savings such as proclaimed in literature and well above 10 or even 20 percent? Furthermore, we are interested in variables that are determining savings, so does number of bids, status of contracting authorities, value of procurement and different groups of procurements influencing savings?

Therefore, we will first check the impact of usage of electronic auction on efficiency or 'savings'. Due to difficulties of measuring the additional costs of conducting the electronic auctions against efficiency gains, the variable success is mostly limited to difference between expected and actual cost of order (Shalev and Asbjorsen, 2010). We have compared estimated value, which by Slovenian law is furthermore a difference between average market prices and price of winning bid. Notwithstanding, expected cost can vary and be subjective estimation, but due to Slovenian law contracting authority need to derive it from and average market price. Therefore, computed savings were of 17.37 percent or 0.1737 of the estimated value of procurement. This finding is aligned with findings of some other authors. But, to realize the exact amount of savings of usage of an electronic tool, we need to compare it to estimated savings of whole set of (other) procurement procedures. For 2015 and 2016 in Slovenia the difference between estimated value and wining contract, due to yearly statistical reports of Ministry of Public Administration (2015, 2016) was 14.36 percent. Meaning that using eAuctions savings computed for using an electronic tool is 3.01 percent, and this finding confirmed similar findings of Pavel and Sičakova-Beblava (2013) and Singer et al (2009). An electronic auction module was used by 17 contracting authorities, governmental and non-governmental. We have computed the difference between using electronic auction by state contracting authorities and other (non-government). 33 electronic auctions were conducted by non-government contracting authorities, and 165 by governmental authorities. We discovered that the procurement of state contracting authorities are more efficient than non-governmental for 9.6 percent (t=2.663, p=0.008). We have used dummies with values 0= governmental contracting authorities and 1=non-governmental contracting authorities. This difference we can probably attribute more not to the experience of different contracting authority but rather to size (quantity) of different procurements, as governmental procurements are, on average bigger than non-governmental. Nevertheless, because of lack of data we don't know the influence of quantities on savings.

The eDražbe module was used for procuring different services and goods. It was not used for procuring works. Is there any difference? We calculated the difference in savings between different items, services and goods, and found that there is no statistically significant difference (t=0.525, p=0.600). Average number of bids received per procedure when using electronic auctions is 3.35. In procurement procedures in Slovenia for past three years (2014-2016) was 3.30, so there is no significant difference in average number of bids between classical and electronic procedures.

After first regression analysis (F=5.882, p<0.0001) we found that two independent variables, amount (value) of procurement and items (explained above) are not determining the dependable variable ((t=0.001, p=0.999 and t=-1.181, p=0.239, respectively). Someone would expect that bigger values would attract more competition and thus lowering the price, but we found no effect. This can be due to absolute effect on relative, percentage saving – the bigger the amount of procurement value, more money bidder is losing within the same rabat and exponentially more when lowering it.

As we concluded that value of procurement is not determining the savings when using reverse electronic auctions, also, there is no significant difference between auctioning using electronic tools services or goods, so these variables were removed from the model.

After adjusting the model, we included number of bids and status of contracting authorities,

$$y= \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \varepsilon \text{ oz.} \tag{1}$$

$$y_{(savings)}= \beta_0 + \beta_{(bids)} x_{(bids)} + \beta_{(status)} x_{(status)} + \varepsilon \tag{2}$$

where we have computed values

$$y_{(savings)}= 0.077 + 0.034 x_{(bids)} - 0.096 x_{(status)} + \varepsilon \tag{3}$$

with adjusted determination coefficient of model of r2=0.093.

We found, statistically significant (t=3.541, p<0.0001), that each additional bid, on average, lowers the cost by 0.034 units or 3.4 percent, which is similar to findings of Pavel and Sičakova-Beblava (2013). Also, Bulow and Klemperer (1996) show that when bidders are symmetric, an additional bidder is worth more to the seller in an (ascending) auction than setting a ceiling price. They have found that a simple competitive auction with N + 1 bidders will yield a seller more expected revenue than she could expect to earn by fully exploiting her monopoly selling position against N bidders (pg. 190). Meaning that, in public procurement terms and layman quite the opposite claim, it is usually better to have a competition in open procedure (using reverse descending auction) with N+1 bidder then conducting negotiating procedure without publication with limited, N bidders. Meaning that when a contracting authority is to expect one extra serious bidder to appear in a procedure, then it should generally not negotiate and should have an open procedure and use an auction (also, procurement procedures usually does not allow it). As we have seen in our case of an electronic auction on average every additional bidder is lowering cost of procurement by 3.4 percent.

5. CONCLUSION

Electronic commerce is seen as one of the most important tool for increasing procurement transparency and efficiency. Auctions have the potential to increase value for money and represent an efficient allocation of resources and increase the transparency in the proceedings for submitting public procurements (Soudry, 2004). Electronic auctions may therefore significantly impact the efficient operation of the public sector and contribute to an (improved) allocation of resources. The European Commission (2014) assessed that the implementation of electronic procurement may result in potential savings of between 5 and 20 percent, with electronic auctions being one of the most important ones. Therefore, online (reverse) auctions have become a popular method for reducing prices in public procurement too. Many governments around the world, including Australia, Canada, France, South Korea, Portugal, the United Kingdom, Chile, Colombia, Estonia and many others, as well as thousands of private sector entities, make extensive use of electronic auctions in order to conduct business more efficiently.

As we have noted, savings merely using an electronic tool was not as expected or claimed by many authors. An average, saving of a slightly more than 3% in electronic auction should put, considering many drawbacks, questions marks as often as straightforward decision of using it. Electronic auction can't be panacea and most important answer for seeking an efficient public procurement, governments should also be aware of wider impact. A lack of competition can drive prices up and risk-averse bidders will seek other opportunities. In smaller procurement markets, electronic auctions can drive to more collusion and one should be careful auctioning complex project. In tense competitions, prone to social dumping in some sectors, care should be focused on the side effects of using auctions, especially in work-intensity services. An old saying goes that you can squeeze a lemon only once. Maybe there will be some for a second time, but for the third there will be nothing to squeeze.

We have seen that the size of the procurement did not influence efficiency. However, in general we noticed that some contracting authorities were more efficient than others. A plausible answer would be that the central government contracting authorities are procuring bigger quantities that non-government authorities. There is also no significant difference between the average bid received per procurement in the classical and electronic procedures.

Using e-Auctions as efficiency driver is an important, but minor factor. It is far more important to attract more competition, which is a confirmation of the Bulow and Klemperer (1996) competition claim. It is far more important than using e-Auctions to boost competitiveness in public procurement procedures. Every additional bid, on average, reduces prices by 3.4%. Basic procurement principles should thus be respected, not only for the rule of law, but also for promoting economic efficiency. A procurement process that demonstrates transparency, equal treatment and non-discrimination should be the cornerstone of every public procurement procedure. Lowering the entering cost of economic operators in public procurement markets and assessing the wider competition should be one of the most important policies for a government. Moreover, full electronic procurement with more automated and re-usable tools, with easier and faster inclusion delivery and lowering operational costs should be one of the most important factors.

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APPENDIX

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,320[a]	,102	,093	,18855

a. Predictors: (Constant), STATUS, BIDS

ANOVA[a]

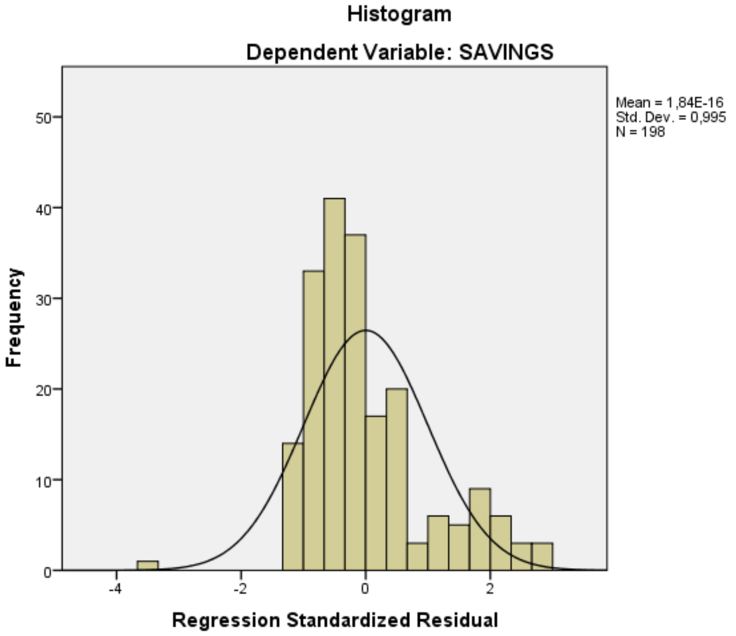
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	,789	2	,395	11,101	,000[b]
	Residual	6,932	195	,036		
	Total	7,722	197			

a. Dependent Variable: SAVINGS
b. Predictors: (Constant), STATUS, BIDS

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	,077	,036		2,158	,032		
	BIDS	,034	,010	,242	3,541	,000	,986	1,014
	STATUS	-,096	,036	-,182	-2,663	,008	,986	1,014

a. Dependent Variable: SAVINGS



E-ADMINISTRATION AND THE MUNICIPAL AUTHORITIES: THE CASE OF THE HUNGARIAN LARGE MUNICIPALITIES*

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Abstract: *Digitalisation could be interpreted as one of the tools for the economic development. In this article the regulation on the e-administration services and the practice of the large Hungarian municipalities (the municipalities with more than 100 000 inhabitant – except Budapest capital city) will be analysed. If we look at the regulation it was focused on the development a horizontally integrated e-administration. Although the acts on this system have been passed in the last years, and the former restrictions of the electronic administration have been eliminated, but the practice of the Hungarian e-administration is partly different. The municipal e-administration systems have been built by the largest municipalities, but their operation could be further developed. Although these local interfaces could be developed and the accessibility of these pages are not always perfect, but the e-administration have been extended after the reforms of 2014/2015. These services focuses on those sectors which have direct links to the local economic development. The main fields of the municipal e-administration are the administration of the local taxation, the construction administration and the administration of the commerce.*

Keywords*: digitalization, e-administration, Hungary, urban areas, digitalization of municipal authorities, economic development, municipal administration*

1. INTRODUCTION

Today, the digital revolution has also caught up with the administration. E-governance has many advantages. For example, clients are not tied to office hours, do not have to meet with officers, they can access information more easily, and many tools are available to help them make decisions (Bowman & Kearney, 2016: 223). The *e-government* is an umbrella term: in the literature it covers the government innovation and the government information and services. The concept of *e-democracy* is distinguished by the literature: it covers the topics on the e-participation and e-voting issues (Paskaleva-Shapira, 2009: 71). The aim of e-government is often referred as the paperless office, which means that electronic administration converts paper processes into electronic processes. E-government creates a lot of ways that in governments and citizens can communicate with each other. As a result, clients become the actors of the administrative system (Wohlers, 2010: 89-90). Therefore the e-government is interpreted as a tool of the economic development. The simplified procedure, the automatization of the decision making could accelerate the procedure. This could result reduction of the administrative cost. Therefore the investment in e-government is considered by the literature as an investment in the economic development (Joseph & Kitlan, 2008: 2-4).
Our presentation is based on the research project of *Territorial aspects of the economic development* co-funded by the European Union. The focus of the research is the role of the Hungarian urban areas and urban governments in the economic development. Our team – which is based on the Department of Administrative Law of the Eötvös Loránd University (Budapest), Faculty of Law – does the researches on the role of the municipal administration of the large Hungarian towns in the field of economic development. This research is a part of a complex analysis. As we have mentioned earlier, the digitalisation and the innovation in e-Government could be a tool of the economic development.
As we have mentioned, our research and presentation focuses on the role of the municipal administration in the field of the economic development, especially the role of the municipalities as authorities. Thus the analysis of the digitalisation of the municipal authorities will be reviewed by this presentation. Therefore the central elements of our review are the analysis of the legal regulation on (municipal) e-Government and e-Administration and secondly the review of the digitalisation of the Hungarian urban authorities and especially the accessibility to these e-tools.

2. METHODS

In our research, we examined Hungarian towns with over the population of 100 000 (which could be considered as large Hungarian municipalities)* – excluded the capital municipality, Budapest, which has

* The research has been founded by the research project "Territorial aspects of economic development" – founded by the KÖFOP-2.1.2-VEKOP-15-2016-00001 (project leaders: Prof. Dr. János Rechnitzer and Györgyi Nyikos PhD).

special status and a two-tier municipal model – to find out in which cases and in what way they provide electronic administration services. First of all, our analysis is based on the methods of the *jurisprudence*. Therefore firstly the concept and the legal regulation on the digitalisation of the administrative services will be reviewed, especially the services provided by the Hungarian urban municipalities. As part of this analysis the basic elements of the concept of the e-administrative services will be shortly shown.
The presentation contents an empirical analysis, as well. Thus we have visited the websites of these towns. On the websites, we visited the electronic administration interfaces to examine what types of administration opportunities are provided by them to the clients. The accessibility to these services has been reviewed, as well. If it was allowed, we tried to enter the electronic administration interface with the official government portal (*Ügyfélkapu* literally translated: 'customer gate').[†] In other cases, we looked at what electronic forms and e-papers are available on the website. We also investigated whether information on electronic management opportunities could be available. After that the results of the tests have been compared to find out which typical cases were the possibilities of electronic administration at the local government level.
Thus the expectations – the legal regulation – and the reality could be compared. Not only the legal regulation have been analysed but we tried to examine the reality of the e-administration of the large Hungarian municipalities.

3. THE ANALYSIS OF THE REGULATION ON THE EGOVERNMENT IN HUNGARY

Firstly, we would like to examine the analysis of the regulation on eGovernment, especially on the e-tools of the authorities in Hungary. After this analysis we would like to review the actual situation of the e-administration in the large Hungarian municipalities. But as a preliminary issue, we would like to analyse the interpretation of the e-services, especially the e-services of the Hungarian municipal administration.

3.1. Municipal e-administrative services

The e-services are different and the different stages of e-administration is distinguished. Four main stages of the e-government development are distinguished. This classification is based on the integration of the different services and on the complexity of the structures and technology. The first stage is the *catalogue,* in which the online presence of the government is provided, the main tasks are catalogued and the several forms could be downloaded. The second stage is the *transaction,* in which the services and forms are online and the online transactions are supported by several working databases. The third stage is the *vertical integration,* in which the local systems are linked to higher systems (within similar functionalities). The fourth stage is the *horizontal integration,* in which the systems with different functions are integrated and a real one-stop-shop is provided (Layne & Lee, 2001: 124-125).
It is highlighted by the literature, that significant investments are required to fulfil these aims (Heeks, 2006: 107). But the e-government technologies have several prerequisites. After Layne and Lee three vital condition should be fulfilled to implement a successful e-government reform: universal access to the e-government tools, the defence of privacy and confidentiality and – last but not least – the citizen focus in government management (Layne & Lee, 2001: 134).
The accessibility to these services is an important element of the characterisation of the systems. The international standard is based on different indicators. One of them is the *number of the clicks* to access the given service. Formally a hidden information could fulfil the accessibility, but the growth of the number of the required clicks could reduce significantly the accessibility to the services. Therefore the *clearness of the link* to the services is an important element of the analysis (Garson, 2006: 440-441). These elements are mainly tested by the international researches, and in our methodology we tried to – at least partly – examine them.
As we have mentioned earlier, the several issues are covered by the concept of eGovernment. Thus the services and decision making of the authorities and its automatization and the improvement of the electronic accessibility of the different procedures are interpreted as a part of the eGovernment. But this concept has a broader interpretation: the e-Democracy and the citizen's participation are defined as an important element of the eGovernment, as well. Both sides of e-government are focused by the literature on local e-government and both sides have a significant role in the field of the recent administrative reforms (Pollitt & Bouckaert, 2017: 125-127). As we have mentioned, the central element of our research are the administrative activities of the municipalities, especially the municipal authorities. Therefore in this presentation a narrow interpretation of e-administration will be used: the e-services – especially the accessibility and the automatization of the decisions of the municipal authorities – will be reviewed by this presentation and the citizen's participation and the access to the public information will be analysed just tangentially.

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[*] Hungary had 3152 municipalities in 2010. Budapest, the capital municipality has more than 1 000 000 inhabitant (circa 1 700 000 inhabitant). 8 municipality have a population between 100 000 and 1 000 000 inhabitant (practically, the 2nd largest town of Hungary, Debrecen has ca. 200 000 inhabitant). Thus 0,28% of the municipalities have more than 100 000 inhabitant (including Budapest) (Szigeti, 2013: 282-283).
[†] The homepage of the official government portal is: https://ugyfelkapu.magyarorszag.hu/ (downloaded March 27th 2018).

3.2. Municipal e-administration in Hungary – a short review

The Hungarian public administrative system was a highly decentralised one before the reforms of 2011/2013. After the Democratic Transition a very fragmented and very autonomous municipal system evolved.

Table 1: Population of the Hungarian municipalities (1990-2010)

Year	0-499	500-999	1,000-1,999	2,000-4,999	5,000-9,999	10,000-19,999	20,000-49,999	50,000-99,999	100,000-	All
	Inhabitants									
1990	965	709	646	479	130	80	40	12	9	3,070
2000	1,033	688	657	483	138	76	39	12	9	3,135
2010	1,086	672	635	482	133	83	41	11	9	3,152

Source: Szigeti 2013: 282

The majority of the tasks of the local authorities belonged to the competences of the local bodies especially as delegated administrative tasks of the officers of the Hungarian municipalities. Therefore the general first instance body of the Hungarian public administration was the municipal clerk before 2010 (Fábián – Hoffman, 2014: 330). Therefore the eGovernment issue of the Hungarian local government system became a significant element of the Hungarian strategies and service provision.

In Hungary the development of the municipal e-administration was partly a 'from bottom to top' initiatives, especially in the large municipalities, but it is highlighted, that primarily the local e-administration was a top-bottom initiative (Budai & Tózsa, 2007: 52-55). As it will be shown in the point 3.2. the Hungarian legislation is now tried to realise the 4^{th} stage: a unified government portal has been organised and the local (municipal) systems are integrated in it.

The evolvement of the municipal eGovernment system begun at the end of the 20^{th} century. Several problems have been occurred: firstly, the general administrative knowledge of the citizens and the accessibility to the e-tools were limited (Budai & Tózsa, 2007: 52-55). Therefore – and because of the limited form a bottom to the top approach – the online presence of the larger municipalities were provided in the early 21^{st} century. As it will be reviewed later, the Act XC of 2005 on the freedom of electronic information was a turning point: the first stage and second stage of the eGovernment model should be realised by the Hungarian municipalities. New platforms were developed in this time, firstly in several sectors (for example in the municipal finances, later in the field of construction administration). An integrated national system has been developed after the Millennia, the www.magyarorszag.hu site and the Government Portal and its Client Gate. Originally the municipalities were not fully integrated, but the tendency of integration has been strengthened. After the reforms of 2010 the integration of the local and central was an important reforms issue (Budai, 2013: 134). A new model of the municipal e-administration was evolved after the amendment of the administrative and tax procedural acts, because the municipalities should provide fully electronic administrative platform in the field of local taxes. These transformation impacted the municipal e-services.

3.3. The legal framework of eGovernment in Hungary

It is a main strategic goal for Hungary to modernize its public administration. The goal is to increase the use of modern information and communication technologies in the communication between state institutions themselves and between state institutions and citizens. During the last few years, considerable measures have been taken by the Hungarian government to reform the public administration of the country. The most important results of these reforms include the reduction of administrative burdens and the simplification of administrative procedures.

From October of 2009 (with Act CXI of 2008) the general administrative procedure rules were amended. Electronic communication between clients and authority became available through the use of an online citizen portal dedicated to this end, called Client Gateway. In April 2012, with the amendment of the Act CXL of 2004 on the General Rules of Administrative Procedures and Services by the Act CLXXIV of 2011, and the introduction of the so-called regulated electronic administration services, the legal preconditions for eGovernment services were established (Baranyi, 2013: 222-225). In addition to this, in July 2015 a new law on the Hungarian eID card has been adopted. As the scope of the Hungarian eGovernment developments continuously grew, the need for a separate eGovernment law appeared. Act CCXXII of 2015 on the General Rules for Trust Services and Electronic Transactions (hereinafter referred to as ET Act) kept the achievements of the 2012 reform and further extended the possibilities of electronization of processes.

As of January 2018, a new act regulating administrative procedure entered into force (Act CL of 2016 on General Public Administration Procedures). In Section 26, the new act also regulates the communication of the authorities with clients and utilise the electronic communication means provided by the ET Act as a form of written communication. (It is also allowing electronic communication not in accordance with the ET Act, but that is regarded as oral communication.) The new Procedure Act, according to its general concept, is not containing detailed rules of this form of communication but rely entirely on the ET Act. There is also an option to deliver the decision by the ET Act, in place of an official document, regulated in Subsection 3 of Section 85 (Baranyi, 2017: 317-319).

According to the ET Act, it is mandatory for municipal governments to provide the option for electronic communication for clients. To be precise, it is mandatory for almost all governmental bodies to provide this option. There are only few exception to this rule: when an act or government decree adopted in a vested legislative capacity creates an obligation for the physical presence of the client, or for the submission of documents that may not be obtained in any other way; where it is not applicable; when it contains classified information or when it is excluded by an international treaty or a directly applicable Community legislation that is binding in its entirety.[*]

Clients shall have the option to make statements, take procedural steps and fulfil other obligations either through a single, personalized communication interface or through e-governance services platform if it is provided.[†]

The ET Act contains the general rules of the electronic connection between the body providing e-governance services and the client, as well as the provisions on the IT cooperation between the body providing e-governance services and other bodies. An important provision for local authorities is provided in ET Act. According to Section 1 17. b), local authorities are bodies providing e-governance services which are obliged to ensure electronic administration services as specified in the ET Act from 1 January 2018. ET Act Section 9 (1) paragraph a) and b) also states that electronic communication is mandatory for economic operators acting as clients and for the legal counsels of clients from 1 January 2018. There is an obligation to maintain electronic communication, then any statement not in compliance with this regulation shall be deemed invalid. The only exception under this regulation is when the client can't maintain electronic communication due to a failure of the system on behalf of the authority, when the electronic administration service cannot be accessed or when the required forms can't be reached because of it wasn't provided.

For clients, ET Act does not make electronic communication mandatory but it gives them the opportunity to use this form of communication.

In general, it can be said that in any type of cases local authorities provide the electronic administration services for their clients via electronic form services on their websites or in other cases through e-Paper services. In cases in which it is not possible to use electronic forms, clients are required to use the e-Paper services. In most cases, the electronic form services can be used through Client Gateway, which is the most widely used and most essential eGovernment application in Hungary.

E-Paper is a general purpose electronic application form, a free, authenticated messaging application that connects clients electronically with the institutions and bodies connected to the service via the Internet. The purpose of the e-Paper service is to enable the client to submit a complaint to the authority electronically for those procedures or simple matters which are not supported by a system of expertise for their frequency or other reasons. The e-Paper service is available through Central Identification Agent, at https://epapir.gov.hu.

As we have mentioned earlier, this process requires significant human and financial resources. The digitalisation and the eGovernment investments and reforms in Hungary– as an element of the economic and regional development – is co-funded by the European Union. The support of the digital and e-administration is an important objective of the operational programme supporting the development of the Hungarian public administration and public services (Közigazgatás-és Közszolgáltatás-fejlesztési Operatív Program – KÖFOP). The municipal e-administration projects are funded by this programme, as well (Hoffman, 2017: 105-106).

3.4. Transformation of the legal framework of the municipal e-administration

There is also an online system, called The Local Government Office Portal (hereafter referred to as Portal) which is the location of the e-government administration in the local ASP system. The Portal provides municipalities with a local government ASP system for both natural persons and legal entities, providing the opportunity to use electronically available services for specialist applications.

Through the Portal, the clients can query for a local tax balance, the status of local government affairs electronically initiated by the Portal. They can also initiate an administrative action using it. At present, the local government's tax, industrial, commercial, estate inventory, estate protection, birth and social affairs are supported by system development through the local ASP system. The application provides customers with the opportunity to track the process of their administrative procedures over the Internet. The Portal is mostly used by smaller municipalities, bigger cities both with and without county rights (which are the scope of this paper) normally use their own websites.

Thus, a modern stage 4 e-Government system begun to evolved in Hungary: a horizontal integration of the local, central and sectoral systems is required, as well several administrative services are available only online. These are the expectations, but these expectations are – at least partially – checked by our empirical research. We analysed how this system works in those municipalities which have significant resources.

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[*] See the section 8 of ET Act.

[†] See section 10 of the ET Act

4. EMPIRICAL ANALYSIS OF THE E-ADMINISTRATION OF THE LARGEST HUNGARIAN MUNICIPALITIES

4.1. The electronic municipal administration – in general

Most of the settlements in Hungary has its own website. Their development differs depending on the financial resources of their local governments. Local governments comply with their statutory obligations in connection with e-governance services on these websites. While the cities which are fall under the scope of this paper have mostly up-to-date and modern websites, the general state of the local government websites is quite unfavourable. Hungary has a fragmented spatial system, and the maintenance of the website is not a priority of the smaller municipalities (Budai 2018: 5-6). The larger municipalities like the ones below usually maintain websites both for administration and for representation purposes too.

In the following we would like to analyse the e-administrative services of the large municipalities. Our analysis *focused on accessibility,* as we have mentioned earlier, and we analysed the possibilities of the digitalisation and automatization, as well.

4.2. Electronic e-administration in the large Hungarian municipalities – an empirical analysis

Debrecen is Hungary's second largest town after Budapest. It is the regional centre of the Northern Great Plain region and the seat of Hajdú-Bihar county. Debrecen is a city with county rights. Debrecen's web page is available via www.debrecen.hu. The website has a page for administration within we can find an electronic administration page and another page for electronic forms. We can access the electronic administration page through client page. For security reasons, it is necessary to register personally at the Mayor's Office Customer Support Center. Only then can the first case be initiated on the online interface. As far as available services are concerned, the only option is the electronic local tax query.1

The situation is different with electronic forms. The page has 10 categories for the electronic forms: e-tax, e-finance forms, e-technical forms, e-administration forms, e-culture forms, e-public educational forms, e-social forms, e-property management forms, e-urban management forms and e-Papers. On each page, we can find information on the legislative reforms of 2018 in connection with the mandatory electronic communication.

E-tax and e-administration pages contain most of the available forms. There are 49 different forms in the e-tax category. We can find forms with these types of taxation: building tax, property tax, community tax, local business tax, municipal tax. The municipal authorities are responsible for the taxation of the vehicle tax, however 60% of the income from this tax belong to the incomes of the central government (Kecső, 2016: 377). They are mainly general notification forms or tax and fee concession forms. The other major category is e-administration. There are very different kinds of forms within e-administration, 46 varieties in total. Most of them are applications for some kind of activity authorisation or activity notifications for example notifications on commercial activity or applications for operating licenses.

Szeged is a city with county rights, the third largest city of Hungary, the largest city and regional centre of the Southern Great Plain and the county seat of Csongrád county. Szeged's website is available via www.szegedvaros.hu. E-services are available via https://eservices.szeged.eu. It contains an information page and a page with all of the available electronic forms. This page contains all the forms, without any category, listed in alphabetical order, making it difficult to navigate. On the side of the page, we can find links to the page of the offices such as Tax Office or Development Office, and on these pages, you can find the forms within the competence of the offices. The main problem is that some of the pages are empty or contains only an information file about the prices for example.

Szeged also has an electronic tax system, in which we can find the electronic forms and we can inquiry our electronic account balance.

Miskolc is the fourth largest city in Hungary behind Budapest, Debrecen, and Szeged. It is also the county capital of Borsod-Abaúj-Zemplén and the regional centre of Northern Hungary. The administration page is available via http://miskolc.hu/varoshaza/ugyintezes. Online forms and online services are hard to find on this website. Also, the search engine does not work properly on the interface created for these.2 For example, this search engine will not drop hits on electronic forms. Electronic forms are therefore difficult to find. There is a longer description for each case type on separate pages. At the end of these, you can find the links to the forms. The main problem is that you can not see exactly that in what kind cases there is available online e-service. Like Szeged, Miskolc also has an electronic tax system, but in this more options are available. For example, you can review the tax declarations and the taxpayer's data, and you can also query the account balance

Hungary's fifth largest city is **Pécs**, which is the administrative and economic centre of Baranya County. Pécs has two main websites, one of them is dedicated to administration (http://gov.pecs.hu/). The other site is mostly dedicated for tourism and it could be reached easier. For electronic communication, there is a dedicated subpage with general information in PDF format (http://gov.pecs.hu/download/e_ugy/altalanos_ugyfeltajekoztato_1_1.pdf). According to this page, clients can initiate their procedures through E-Paper for which a link is provided but there is also information about each

category of action under their subsection. On paper, a client can start a whole plethora of actions in many categories, such as tourism and construction, industrial and environmental administration, agriculture and veterinary matters, social administration and more. It is not easily accessible, there is a necessary authentication but the client interface is not intuitive, and only informational material is available mostly for non-electronic purposes. There are dedicated subpages for local tax with fillable forms and for a status report on ongoing procedures. Amongst the numerous (almost 40) tax-form there is a majority of outdated ones, for previous years.
Westernmost of the surveyed cities, **Győr** is the seat of Győr-Moson-Sopron County and Western Transdanubia region with almost 130 000 citizens. Like all others, Győr has a dedicated page for administration purposes (http://ekozig.gyor.eu/kezdolap). The page contains information and promotes the use of E-Paper for administrative procedures. It also promises downloadable and fillable forms for a couple of categories. Most of them only PDF format forms, only to make non-electronic communication easier. There are some which only can be filled with the use of ÁNYK (*Általános Nyomtatványkitöltő* – General Form Filler Application, mostly used by governmental bodies). For these, there are links and help provided to download and use this software. There is also local tax form both in PDF and ÁNYK format. For construction issues, there is information to use yet another central system designed to specifically for this purpose, called ÉTDR. The website is functional and transparent but there some subpages with a confusing design.
On the opposite side of the country than Győr, there is **Nyíregyháza**, the county seat of Szabolcs-Szatmár-Bereg. With a population of 118,000, it is the seventh-largest city in Hungary and is one of the leading cities of Northern Hungary and of the northern part of the Great Hungarian Plain (Alföld). The city's website (https://www.nyiregyhaza.hu) has a subpage dedicated to eGovernment. Administrative action categorised by the organisational structure of the municipal government – a viable solution for categorisation but can be deceiving for clients. Under each category, there is some general information on administration actions and forms both fillable and non-fillable. The forms which are fillable can be used for E-Paper or ÁNYK documents, there is help for each step of the process of electronic communications. Most of the main types of administrative action are available through the website, under one of the subpages but the site is not easily navigable and there were a couple category and form not working at the time of the survey. There is also a local tax interface. It contains information about each local tax but the forms are on another subpage which makes the navigation unnecessarily difficult.
The county seat of Bács-Kiskun, **Kecskemét** is also a city with county rights over 100 thousand citizens. Its eGovernment page (http://www.ekecskemet.hu/ismerteto) contains accessible information on electronic communication and administrative procedure. It has a clear connection to the Client Gateway website and the E-Paper service. The downloadable forms structured by the organisational system, like in the case of Nyíregyháza and they are not organised after that. You can find the forms for the previous years too. The forms are mostly not fillable PDF files. There are also fillable online forms for local tax, social, environmental and service procedures amongst others. These are given in category groups, in alphabetical order. In every form, the version number and the date of the last update are clearly indicated which make it tremendously easier for clients to inform themselves about the up-to-dateness of them. Moreover, there is information on the judicial electronic procedure, which can also be highly useful for the client. There three available form for the ÁNYK system, these are the most used judicial forms concerning local municipalities.
The city of **Székesfehérvár** located in central Hungary is the ninth largest city in the country; regional capital of Central Transdanubia; and the centre of Fejér county. It is also the last city to qualify for the scope of this paper. The accessibility of the administration website of Székesfehérvár (https://ekozig.szekesfehervar.hu) has several problematic elements (for example there are no easily reached list of fillable form, the client needs to start searching for his necessary files - while it is not a major fault but it is inconvenient). After finding the forms, there is ample help to fill it, most of them can be filled online after authentication with Client Gate. For the local tax procedures, there is another website available (https://eado.szekesfehervar.hu/), but the clearness of the link from the main webpage could be interpreted as a problematic one, it is hardly reachable. The page contains just limited information on the tax issues, the link to the forms are partly broken.

4.3. Discussion of the result of the empirical analysis

The surveyed cities use their website for complex purposes and electronic communication is one of them. They normally make available auxiliary information which is needed for administration. The local regulations are accessible. The websites also used for communication with citizens generally, local news and general (sometimes political) information is the main profile for them. All of the municipal governments surveyed here are maintaining some form of eGovernment websites. Most of them give general information on and the basic means of electronic communication and e-procedure. Generally speaking, the website of the local governments unreasonably difficult to navigate, and they are not answering the challenges of e-government. Almost all of them need some form of authentication to use the online procedures, as a minimum the use of a Client Gate account. The most common development is when some official forms can be downloaded from the home page in non-fillable forms. Some of them have easily used online forms available but in general, they promote the use of the E-Paper website. We have found on several websites that the information is no longer in line with the legal environment, they refer to legislation no longer in force. In other cases, such information material was not available for clients. Another thing we have been aware of is that these websites are very different from each other, there is nothing common in the information surfaces created by the local authorities the structure is very different for each of the websites. This only makes it more difficult for them to be transparent. To date, there has been no technical solution that would allow effective communication between the client and the civil servant at the office. The general solution is to give information of email addresses and telephone numbers on the website, but these are mostly higher level information, and no direct link between the civil servant and the client.

4. CONCLUSION

The digitalisation and the e-administration are important issues of the public administration reforms of the last decades. The challenges of the new, digital ages resulted the transformation of the traditional administration. These changes could reduce the administrative costs and could accelerate the administrative procedures. Therefore the digitalisation of the (public) administration has strong links to the economic development. Digitalisation could be interpreted as one of the tools for the economic development.
As we reviewed, the Hungarian regulation on eGovernment and on the digitalisation of the public administration transformed significantly. The regulation was focused on the development a horizontally integrated e-administration. Although the acts on this system have been passed in the last years, and the former restrictions of the electronic administration – especially in the field of the administration of the human services (for example in the field of the administration of the children protection) – have been eliminated (Mattenheim et al. 2017: 683-684), but the practice of the Hungarian e-administration is partly different. The municipal e-administration systems have been built by the largest municipalities, but their operation could be developed. If we examine the issues of the e-administration services of the municipal authorities, it is clear, that these systems focuses on those sectors which have direct links to the local economic development. Thus the main fields of the municipal e-administration are the administration of the local taxation, the construction administration and the administration of the commerce. Although these local interfaces could be developed and the accessibility of these pages are not always perfect, but the e-administration have been extended after the reforms of 2014/2015. The reforms of 2016/2017 transformed the regulation but the scope of the electronic administration of the human services in these municipalities is limited. It is clear, that the digitalisation of the administrative procedures and the e-administration services are interpreted by the largest Hungarian municipalities as special tools of the economic development.

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INNOVATIVE WAYS OF CITIZEN PARTICIPATION IN SOLVING MARKET FAILURE

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Abstract: *The development of information and communication technologies (ICT) enables, inter alia, to address the problem of ineffective provision of public goods (free-rider problem) and emerging externalities. This degree of inefficiency can be reduced by introducing alternative ways of securing public goods on a voluntary basis such as crowdsourcing. Crowdsourcing taps into a large pool of individuals, primarily online through social media and crowdsourcing platforms, and leverages their networks for greater financial support and advocacy initiatives with a social impact. The aim of this paper is to introduce crowdsourcing as a tool for solving public sector failure in the delivery of public goods by demonstrating the factors influencing the achievement of desirable results. This illustrates these effects, we use the method of case study to demonstrate the provision of public goods through crowdsourcing in the environmental policy sector. In the analysis we look at the comparison of selected projects using crowdsourcing. The paper suggests that using a network of crowdsourcing for social impact has its externalities, e.g. positive network externalities exist if the benefits are an increasing function of the number of other users.*

Keywords*: public goods, crowdsourcing, crowdfunding, public services*

1. INTRODUCTION

The works of many authors, e.g. Cullis& Jones (1987, 1992), Osborne &Gaebler (1993), Osborne & Brown (2011), Nemec& Wright (1997), MikušováMeričková& Stejskal (2014) discuss the two basic questions of public economics:
1) How can public goods be produced?
2) How can public goods be funded?

An economically rational reason why public goods are to be realized on the political market is that consumers do not take express their preferences whilst consuming it, i.e. the willingness to provide a counter-value for meeting their needs, or simply put the willingness to pay (Arrow, 1962). Individuals are aware that regardless of whether they pay or not, they will not be excluded from the consumption of public goods. This phenomenon is called the free-rider problem in public economics (Bailey, 1999; Jackson and Brown, 2003, Cullis and Jones, 1998, Groves and Ledyard, 1977, Stiglitz, 1997). The lack of expression of consumer preferences in the consumption of public goods (e.g. environmental protection) means that there is no information on the expected ex-ante benefit from the consumption of these goods as would be the case with private goods (e.g. a hamburger). The problem is that if the strategy of the free-rider is applied by all members of a given society, there will be no production of public goods and the strategy itself becomes ineffective.

Table 1: Payoffs from public goods: voluntary contribution versus free-riding

		Outcomes
Strategies	Other contribute (goods provided)	Other free-ride (goods not provided)
Individual contributes	(€10 - €5) = €5	-€5
Individual free-riders	€10	€0

Source: Cullis, Jones, 2009, p. 66

Buchanan (1968) assumes that an individual is one of many who would benefit to an amount of €10 if a level of public goods were provided, whereby the contribution of the individual would only be €5 (Cullis& Jones, 2009). Therefore, if the individual contributes (and others also contribute), the goods may be provided and the individual's net return is €5 (Cullis& Jones, 2009). In the event that other individuals decide to choose the free-rider's strategy, the individual loss to the individual would be €5, without recourse to a refund. The net profit of an individual who became a free-rider is €10. Their outlay is zero, as they are paid by other members of society. Therefore, each individual faced with the decision to contribute voluntarily to public goods chooses the best "payoff" and attempts to free-ride even though everyone would earn €5 if everyone contributed (Cullis& Jones, 2009).

This assumption leads to the conclusion that the private provision of public goods will be less efficientwhen compared to public and state provision (Špalek, 2011, p. 27). At the same time, however, it must be borne in mind that in the case of a society with hundreds or several million people, the state cannot decide correctly about the types and quantities of public goods provided. The reason is very simple, the state does not know the value of the goods or, they do not recognize the benefits of those citizens who have utilised the goods and do not know the loss (cost) of those citizens who contribute their taxes to the goods but do not use them (Hayek, 1994).

Innovative answers how to solve this public-sector failure, i.e. how to produce and finance public goods, intended to enhance public values such as effectiveness, efficiency, and legitimacy, can be found through collaboration with different stakeholders, delivering interesting social innovations (Voorberg et al., 2015). This approach to the production of public goods can also be defined by the term "public private civil sector mix", which is dealt with by Nemec (in Medveď et al., 2005). According to the author, in the area of increasing public sector efficiency, it is desirable to create situations where individual forms of ownership (public, private profit and private non-profit organizations) compete equally for public contracts, where appropriate, while others are directly involved in meeting the public interest. Also, Horak et al. (2013) argues that the nature of the public-private mix of social service delivery is affected by the processes of centralization of decision making, marketization and contractualisation of service delivery, the growing use of new public management methods, organizational innovation al., 2016), and the increasing networking between state and non-governmental organizations (Vaceková et al., 2017).

Crowdsourcing is a new concept of realising and funding projects with the help of crowds via the Internet. It has been a significant growth trend in the world and whose application and benefits are also noticeable in the public sector. The largest boom in crowdfunding servers occurred worldwide after 2006 and in Slovakia even later (the first crowdfunding portal was established in 2013). Any scientific research on crowdfunding in the CEE region is very scarce, especially when used for funding public services. There was a study conducted in the Czech Republic by Makýšová&Vaceková in 2017, on the sample of the 617 funded projects via the "Hithit" Czech crowdfunding platform, of which 212 were created by non-governmental organizations that also provide public or publicly beneficial services. Based on this knowledge, it is necessary to research crowdfunding more in depth for sourcing public services or services that are beneficial to the community. This was the motivation for the preparation of this paper with the objective of presenting the factors of crowdsourcing for achieving positive changes in environmental protection and demonstrating case studies on the provision of public goods through crowdsourcing as an innovative way with the participation of citizens.

2. INNOVATIVE WAYS OF PARTICIPATORY SOLUTION FOR PUBLIC SECTOR FAILURES: CROWDSOURCING AND WHY IT WORKS

In innovations, information and communication technologies (ICT) have an ever more vital role. ICT have enabled the creation of tools to organize, transmit, store and act on information in digital form in new ways (Atkinson - McKay, 2007). Combined with the reforms of government and public administration in the spirit of the abovementioned public private civil sector mix, many innovations are driven by ICT in the public sector.Wymer (2006) presents the significance of the Internet for non-profit organizations, both public and private. As the limiting factors he sees the availability of ICT equipment and the creativity and knowledge of managers and employeesof public organizations. The Internet is an environment conducive for the development of new trends, e.g. Web 2.0 type applications, and also the use of social media, crowdsourcing (an open appeal to society to get engaged in the preparation and development of a product/service), and a subset of crowdsourcing - crowdfunding (group or community funding), also known as crowdsourced capital.

2.1 Crowdsourcing

Crowdsourcing is connected to the Internet and social networks, creating effective advertising for the project, accessible to a wide range of people from around the world, and can be followed and shared by the support of the relevant person, project, event or campaign. By building social networks, crowdsourcing creates a new dimension to help projects that reflect the interest, passion, attitudes of people to certain problems or situations (Dresner, 2014). Belleflamme, et al. (2013) describes crowdsourcing as a new tool that has not been addressed in scientific literature yet and that we are only now beginning to gain knowledge of it. Crowdsourcing can be understood as a practice of engaging a 'crowd' or group through the Internet for a common goal - often innovation, problem solving, or efficiency. The subset of crowdsourcing, the crowdfunding, is better defined by several scholars. Thus, we define the crowdfunding and we bear in mind that crowdsourcing is a broader term encompassing crowdfunding. According to Sullivan (in Castrataro, 2011), crowdfunding is based on reciprocity, transparency, shared interests and, above all, funding from the crowd. Kleeman et al. (2008) define crowdsourcing as an open call, essentially through the internet, for the provision of financial resources either in the form of a donation or in exchange for some form of reward and / or voting rights, in order to support initiatives for specific purposes. Crowdfunding is a process that takes place on the Internet and helps to increase the volume of capital of organizations through a relatively large number of small quasi-investors. It is a way of meeting the needs not only of non-profit organizations but can also be used by ordinary people or public-sector organizations (Cunningham, 2012). Liu (2015) pointed out that crowdfunding makes not only financial assets more accessible but that distribution of money is more democratic and supports community development. Younkin and Kashkooli (2016) added an interesting view that collecting money through a crowdfunding platform enables finance seekers to gain access to new networks. In the context of this paper, we work with the definition that crowdfunding is an emerging source of funding involving open calls to the public, generally via the Internet and ICT, to finance projects through donations and monetary contributions in exchange for a reward, product pre-ordering, lending, or investment. Crowdsourcing is then also receiving a non-monetary contribution (e.g., information or input) into a task or project by using the services of a large number of people, typically via the Internet. Crowdsourcing has been used for various projects in the profit and non-profit sectors; in this paper, we focus on its use in the public sector to solve the public-sector failures in the field of environment. Therefore, we define several factors that influence the human behaviour and decision-making, as well as can be seen as the principles which crowdsourcing builds on.

2.2 Why crowdsourcing works

In addressing public sector failures in the field of environmental protection, climate change, it is necessary to change the behaviour of individuals, households, companies and public organizations. If we do not perceive the individual as purely rational (homo economicus), i.e. a person who is driven exclusively by "economic" motives in order to achieve the greatest possible material or monetary gain who would choose thefree-rider strategy, but perceive their bounded rationality, bounded willpower and bounded self-interest, then it is possible to achieve desirable the results by means of suitable settings of the conditions in which an individual decides.

According to Mullainathan &Thaler (2000) bounded rationality reflects the limited cognitive abilities that constrain human problem solving. Within bounded rationality, we identified several determinants acting on individuals:

1. **Framing effect**, respectively, the way individuals are presented with individual choices (decisions) that depend on a number of other influences: rational choice (Kagel& Roth, 1995; Špalek, 2011); collective decision-making (Mises, 2006), information asymmetry (Musgrave & Musgrave, 1994; Camerer, 2003; Tullock, 1967; Mueller, 2003), a fiscal illusion (Buchanan, 1998, Fehr and Fischbacher, 2003, Gintis et al, 2003). This means that when making decisions, individuals make certain calculations, taking a number of factors into account - human, social and emotional factors associated with inaccuracies in predicting the outcome of the procedure. The situation where we can encounter the effects of a framing effect is, for example, when contributing to a "charity" collection. For example, if a given NGO has the setting for, respectively the default monthly amount of voluntary contributions, it may happen that individuals will not increase their contributions retrospectively (Dolan et al., 2009). Crowdsourcing and especially crowdfunding determine different support options and varying amounts of financial contributions to eliminate the framing effect.
2. **Incentives,**where the individual's goal is to avoid any loss resulting from the processing and evaluation of that information. For example, if the situation is presented as a loss, individuals may act as risk takers, while in a situation presented as winning, individuals display an aversion to risk-taking (Kahneman, Tversky, 1979). According to Kahneman and Tversky (1979), people have a subversive resistance to a loss that is greater than satisfaction from profit. For this reason, crowdsourcing is focused on presenting a solution that individuals gain from implementing the project rather than what they could lose / be threatened by. Crowdsourcing uses positively tuned instructions, which, as it were, force the "altruism" or highlight the benefits of collaboration on the individual and thus achieve a higher degree of voluntary engagement, as well as public policy-making experiments with negatively tunedinstructions by means of sanctions. Dolan et al. (2009), regarding the perception of risk, also suggest that it is important for individuals to have an overview or, know what their money was used for, or when their money was used. Individuals want to know what they can do rather than what prevents them from doing so. Campaigns set through crowdsourcing are time-limited, and those involved are always informed about the results.
3. **Priming,** the actions of an individual are influenced by subconscious impulses, that is, if the individual is affected by a particular message (e.g. advertising) before the final decision, the resulting decision may be different. For example, not removing graffiti or illegal landfills may cause the same behaviour in other individuals (Keizer et al., 2008). According to Dolan et al. (2009), whether an individual is ultimately influenced by a particular behaviour depends on the environment (Aarts, Dijksterhuis, 2003;

Greitemeyer, 2009), where the individual is, from what the individual sees, hears or feels when it comes to spreading the message or, in the sense that an individual imitates what they see or hear (Dijksterhuis, Bargh, 2001). The reason for this behavior, imitation, is that the individual has a "need to belong" (Baumeister, Leary, 2000; Caporael et al., 1989; Leary, Baumeister, 2000), i.e. does not want to be alone, wants to be accepted by society. Social networks make this largely possible, crowdsourcing also contributes to community building.

Individuals often make decisions that are not beneficial to them in the long run (bounded willpower (Mullainathan &Thaler, 2000) and may be influenced by news (messenger), i.e. who provided them with the information (Dolan et al., 2009). In practice, this means that individuals are more likely to respond to the news if an expert (e.g. a nutrition counsellor, research assistant) provides them with the information than from a "layman" from the given field (e.g., an article in a magazine) (Webb, Sheen, 2006). Similarly, if there is a certain demographic and character similarity between the expert and the respondent, the efficiency of the relevant intercession is increased, resulting in a desirable behaviour by the respondents (Durantini et al., 2006). An increased willingness to help occurs even if the individual is directly exposed to the victim's suffering (victim effect), e.g. is confronted with a photograph of a suffering individual (Batson, 1987 in Hladká, 2015, p. 57). Crowdsourcing uses video and photo campaigns, e.g. of illegal landfills, and attempts to get people to do something about it, that this problem also affects them. The faces of charismatic personalities are frequently used as the bearers of ideas for such campaigns.

Individual behaviour is also limited by selfish interests. Bounded self-interest incorporates the comforting fact that people are often willing to sacrifice their own interests to help others (Mullainathan &Thaler, 2000). The individual acts in order to have the best possible feeling. If an individual or group in which an individual is present and succeeds, their success is attributable to their skilfulness, but if an individual or group in which the individual is present does not succeed, then their mistakes or deficiencies are considered to be mistakes of others, or mistakes due to other factors determined by a particular situation (Hewston et al., 2002, Miller, Ross, 1975; Ross, 1977). Dolan et al. (2009) recommend that states, respectively, organizations have used this perception of the individual in creating new goods and services. Asking individuals first about something "small and easy", for example, filling in a short questionnaire may result in something "big" (e.g. buying a new product or service). By completing the questionnaire, the individual has expressed their preference and feels the need to buy the given product or service (Bem, 1967; Festinger, 1957 in Dolan et al., 2009). In the hypothesis of crowdsourcing, "something small" is to take a photograph of the illegal landfill, "something big" is to help in its removal.

The way a state or an organization can intervene and influence (change) the behaviour of an individual is, according to Dolan et al. (2009), presenting how many individuals do it in the required way. For example, the Most of Us Wear Seatbelts media campaign to increase the use of seatbelts (Linkenbach, Perkins, 2003) helped increase the use of seat belts by presenting the survey results where only 85% of respondents use safety belts, whereby only 60 % of them are adult respondents. Another example is the repeated use of hotel towels where the hotel informs guests about the behaviour of other hotel visitors and their "recycling", respectively, the repeated use of towels (Cialdini, 2003). Likewise, the repetition and suitability of the information also has an effect on individuals (Allkot, 2011; Golman, 2016), furthermore, the method and forms of dissemination of information, e.g. use of social networks (Christakis, Fowler, 2007, 2008). Social networks also work with crowdsourcing and take advantage of the group's strength to achieve positive externalities.

3. MATERIAL AND METHODS

Private production or consumption can generate costs (negative externalities) or benefits (positive externalities) that are not being internalized, and producers or consumers, therefore, do not pay for the costs or benefits. As a result, these costs are not charged, companies are left behind, and the activities that generate these costs usually have a huge range (Musgrave & Musgrave, 1994). Whilst subsidies can be applied in the case of positive externalities, negative externalities require sanctioning that responds in a certain way to problems associated with a social "ill", such as environmental pollution or the creation of illegal landfills.

In the previous section, we pointed out the need to apply the political process in the case of public goods, because as long as there is no exclusion from consumption there are no voluntary payments and therefore no expression of preferences. However, we are dealing with a problem where neither the state is able to address any negative externalities arising in society. For example, climate change as a consequence of environmental pollution is now an urgent challenge and a potentially irreversible threat to future economic development and well-being (OECD, 2015). The carbon intensity of energy used in human activities has hardly changed since the summit in Rio de Janeiro in 1992, and fossil fuels continue to dominate energy supply (OECD, 2015). This is why innovative solutions that engage citizens, for example through crowdsourcing, come to the fore.

Various initiatives are underway in the world to tackle climate change (OECD, 2017). These include, for example, projects aiming at encouraging energy conservation and private investment in energy efficiency, promoting the purchase of more fuel-efficient cars, encouraging water conservation, incentivising more sustainable food consumption, preventing waste and promoting resource efficiency, promoting environmental compliance and participation in voluntary scheme and the solution of illegal landfills. Whether an individual will or will not participate in tackling climate change depends on a number of factors that affect their rationality, willpower and self-interest.

From our point of view, the greatest degree of citizen participation in the field of environmental protection as a public good is possible in dealing with illegal landfills in terms of their reporting and the economical use of water resources. To illustrate these effects, we analyse the characterization of selected projects in order to point to crowdsourcing as an innovative way of public goods provision with the participation of citizens.
The method we applied in the analysis is a case study, whereby the case being observed had to meet the following criteria:

- The case study is from the environmental protection sector where the public sector fails to deliver the public service.
- Citizens are involved in solving the issues through crowdsourcing / crowdfunding.
- Possibility of specifying the outcomes of crowdsourcing / crowdfunding use - in order to draw some conclusions about these outcomes, the selected cases need to involve crowdsourcing / crowdfunding initiatives that are no longer in their initial phase but have actually delivered some results.

4. CASE STUDIES: CROWDSOURCING IN WATER SAVINGS AND IN THE SOLUTION OF ILLEGAL LANDFILLS

4.1. Water saving

The case of Columbia: In 2015, Colombia suffered the worst droughts and forest fires in the history of the country due to the climatic phenomenon El Niño. This climate phenomenon influences a large area of climate on the Earth, with the most striking impact on the atmosphere in the tropical and subtropical regions in the Eastern Pacific Ocean. El Niño causes extreme weather fluctuations; in some areas there is a significant increase in precipitation, whilst in others, as a result of drought, a number of fires occur. The Colombian Government has therefore introduced measures to deal with water savings. They introduced incentives for protective measures and penalties for water wastage to reduce water consumption in certain regions. The first was a communication campaign that encouraged citizens to save water. It warned that if citizens did not start water saving, 70% of the city's inhabitants would be left without water. The campaign resulted in increased water consumption because the citizens did not know how to save water. Due to the failure of the communication strategy, the government came up with three simultaneous intercessions. Firstly, they changed the physical environment (distribution of stickers to be placed next to water faucets in order to make the need to conserve water salient at the point of use – OECD, 2017), secondly, by publicly rewarding households that saved more water and publicizing how they had done so, by punishing those who wasted water, and also by making the public aware of an efficient water consumption limitation strategy (OECD, 2017, World Bank, 2015). By using social standards, local government was able to influence the behaviour of individuals, households and businesses, and after eight weeks of campaigning, it was able to reduce water consumption by 13.8% by also making effective use of crowdsourcing. Even though these measures were adopted to address the emergency, they have been reflected in the long-term behaviour of individuals.

The case of Spain: Projects focusing on water conservation include the Esferic "WaterDrop: Don’t Feel Guilty About Wasting Water" crowdfunding project, published on the Kickstarter website, which focuses on water capture. The average amount of water that drains away while we wait for the hot water is 3 to 6 litres. The Esferic solution is a thermoplastic polyurethane tote bag that can be hung on a shower and filled with cold water while waiting. The water captured in the bag can be further utilized e.g. for polishing, cleaning, flushing. The goal of the project is not only to sell bags that capture water but change the behaviour of individuals. Esferic is a project of 4 individuals who want to create a huge water-saving community and social movement built on common sense. With people who value important things. Esferic launched the project in December 2015, setting a target amount of €15,000. By January 4, 2016, thanks to 314 contributors, they managed to reach this amount and even exceeded it by €1,680.

Other projects that try to save water include various shower systems. Thanks to dispersing water into atoms, respectively, the atomisation of water can save from 28% to 92% of water. Many similar projects (Altered: Nozzle, e-Shower, Nebia Shower, Methven Rua - Power shower) are published on the website www.kickstarter.com. Thanks to crowdfunding, these projects managed to collect €2,669,471.73 from 16,288 contributors.

4.2. Solution of illegal landfills

In addition to water saving, citizens can also participate in the area of waste management. The continued increase in population raises a dramatic increase in waste production.

The case Sweden: Through an inclusive nationwide recycling strategy, Sweden has been able to transform high-cost waste disposal into a profitable business. Not only can Sweden save fossil energy from renewable energy based on waste recycling, but at the same time it can generate millions in revenue annually by recycling waste from countries such as the UK, Norway, Ireland and Italy. One of the reasons why Sweden is successful in recycling 99% of the waste is (52% of the waste is converted to energy, 47% is recycled and 1% is landfilled) that in the middle of the 20th century Sweden adopted a coherent national policy (Kim & Mauborgne, 2017), which has increased the recycling of waste. The second reason for successful recycling is to educate individuals from an early age. In Sweden, there is even a national day during which children around the country gather together to clean up their surroundings. Teachers, thanks to special training, engage children in practical activities such as creating their own documents, respectively, implementation of a waste policy in schools. By making recycling simple, affordable and comfortable (a recycling station is up to 300m away), Sweden has been able to involve everyone in recycling. Sweden also uses material incentives in the form of discount vouchers as a reward for the use of nearby recycling machines. In new urban areas, it is even possible to use the waste shafts leading to the power generation converters. This means that the waste produced by the inhabitants of a given building is directly transformed into energy that can be used by individual households (Kim & Mauborgne, 2017).

The case Slovakia: projects targeting illegal landfills include the environmental TrashOut project initiated by a group of enthusiasts. The goal of TrashOut is to involve people from around the world in tackling environmental problems by locating illegal landfills while developing an effective solution to fight them. As can be seen from the results of the experiment (Dijksterhuis& Van Baaren, Tabula Rasa and IPR Normag, 2010 in OECD, 2017), the cleanliness around waste bins is a necessity for the population. The problem is not only the generation of waste around the waste bins, but also the creation of illegal landfills. Illegal landfills have multiple negative impacts on the landscape, economy and human health. Illegal landfills can increase the threat of floods due to the narrowing of water flow profiles by landfilling but can also contaminate soil and air. The aim of each country should therefore be to raise their citizens' awareness of illegal landfills and activities that can be developed to deal with illegal landfills by educating people in schools and various projects.

The TrashOut project works on a crowdsourcing platform where individuals use the application to report the type of waste (automotive, building, dangerous, animal skeletons, electronics, communal, liquid, metal, organic, plastic or glass), landfill size (can fit into a bag, wheelbarrow or need to be removed by a vehicle), GPS position, accessibility of the landfill (accessible by car, located in a cave, under water, not for normal cleaning), method of dispatch (anonymously) and a photograph of the landfill. TrashOut, in addition to announcing the existence of a landfill, makes it possible to create a social event for landfill cleaning. Thanks to this application, 42,678 landfills were reported, of which 3,381 managed to be cleaned (Trash Out, 2018).

5. CONCLUSION

Crowdsourcing can be successful only on condition that the activities the project/campaign offers are beneficial for the community and thus contribute to society's sustainable development.Another condition for success is to build a community and/or create a networkof contributors who are willing to contribute in monetary or non-monetary form so the campaign would be fulfilled and the project realised. Crowdsourcing works with network externalities, which are the effects on the user of a product or service of others using the same or compatible products or services. Positive network externalities exist if the benefits (or, more technically, marginal utility) are an increasing function of the number of other users. Negative network externalities exist if the benefits are a decreasing function of the number of other users. For example, social media likely confers positive network externalities since it is more useful to a user if more people are using it as well.

Crowdsourcing builds on many principles used in creating effective public policies, there are several joint factors discussed in this paper (framing effect, incentives, priming). Yet, crowdsourcing uses the power of a crowdand thus has more effective results than just implementing public policy. The impact of crowdsourcing is also in the education of citizens and changing their behaviour in environment protection. The further research could focus on the crowdfunding part and analyse the amount of public budgets saved, as well as how to manage public project on crowdfunding platforms.

ACKNOWLEDGEMENT

This paper is supported by the FINAC project (FINancial management, Accounting and Controlling for capacity building of public administration), funded with support from the European Commission.

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PUBLIC POLICIES STRATEGIC MANAGEMENT AT THE REGIONAL LEVEL – MYTH OR REALITY?

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Abstract: *The use of the public policies strategic management concept in the new member states is a relatively new experience where we are witnessing implementation of certain strategic goals in one electoral term and its complete abandonment in the very next period. On the regional level the problem is even more eminent, because of the exogenous factors directly influencing possibilities of local governments to take full advantage of the strategic management concept. Even though there has been a significant strengthening of the regional strategic management dimension in the last decade in the Central European region, still there are numerous procedural, ideological or historical obstacles causing inefficiencies within regional public policies. The key problem here is the underestimation of strategic management structural concept and real implications of its implementation on the regional or local level (Mintzberg, 1994). On regional level we can see that there are strategic documents aimed on different public policies – in paper is an example of human resources development area in the Czech Republic regions – are frequently created (like primary and secondary education), but nevertheless there are strong signals that real implementation is questionable. The paper focuses on issues limiting full implementation of a strategic management concept on the regional level, specifically on inability to implement strategic planning on the regional level (Mintzberg, 1994; Kooiman, 1993).*

Key words: *strategic management, human resources development at the regional level, strategic planning, three level strategic management conception, human capital*

1. INTRODUCTION

The possibility of proving a relation between the socio-economic development of a region and the development of human resources is based on the assumed application of certain controlling elements or tools given by legislative, economic, and social conditions of a certain region related to the national or supranational level.[1] Regions in the Czech Republic have only been established recently, their legislative basis is still being developed and their purpose is under ongoing discussion.[2] It is, however, indisputable that **legislation provides them with opportunities to apply certain financial or coordinating tools to influence human resources on "their" territories**.
Given the definition, the author of the paper will be using the term *„strategic management"* which expresses **long-term continuity of certain activities and tools, at least in the medium term (i.e. 8 – 10 years).** Long-term activities projected at the level of states or the European Union is a domain in which first comprehensive treatises based on empirical data of the past decades have not been written until recently. These treatises primarily aim to **identify the correlation between changes of political parties (or the system) related to meeting long-term priorities set by strategic documents (e.g. the Lisbon strategy)[3], or rather the inability to meet them.** For example the publication by Potůček, M. and col. (2007) uses the term *„strategic governance"* defined by many recently published studies (Kooiman 2005, Dror 2001 etc.). With regard to the content of the paper, however, a more suitable term *„strategic management"* will be used which can be, to a certain extent, **differentiated from the former by being defined as a term dealing with a practical realization framework, or the**

[1] The assumption is confirmed for example in Belanger, J.: *From Human Capital to Organizational Learning*. In *Canadian Public Policy.* Toronto: University of Toronto Press, 2002. Volume 28, number 1, p. 143 – 148, where the positive correlation is proved between the necessity of an institutional frame at the state level and the potential of "positive" development in human resources.
[2] The paper will reflect the current wording of Act on regions No. 129/2000 Coll., and Act on regional development No. 248/2000 Coll.
[3] See probably the most comprehensive publication available in the Czech Republic: Potůček, M. and col. *Strategické vládnutí a Česká republika* (Strategic governance and the Czech Republic). Prague: Grada Publishing, 2007. ISBN 978-80-247-2126-2., which also defines a set of indicators to measure the level of strategic governance.

implementation of strategic documents rather than with a general concept of approach to creating certain policies or activities of institutions.

2. STRATEGIC MANAGEMENT AT THE REGIONAL LEVEL

Potůček, M. and col. (2007) distinguishes three main levels in strategic governance, the concept of „strategic management“ being tied to the second of them – in simplified version it is the following three levels:

- Mechanisms for creation of strategic documents including their long-term validation in various public policies linked to political systems and their constituents;
- Mechanisms for creation and implementation of particular strategic documents including definition of the set organizational units that will carry out the process, evaluation tool, budgetary planning etc.;
- Mechanisms defining the involvement of or impact on target groups which are subject to the activities and tools defined in the strategic document (including measurement, benchmark activities etc.)[4]

Some conceptions that could be found in the European Union use different approach within the public sector' strategic management concept based on the so called *strategic triangle* or three main *"management dimensions":* political, cooperation and operation (McBain, Smith 2010; Moore 1995). The political factor reflects the need to have political support for any activities in the public sector management. Cooperation principle is based on the new public management paradigm where is a strong stress put on the cooperation and networking between social actors. And thus operation dimension derives from general concepts of efficiency and effectiveness. For this paper and further research would be used simplified conception (derived from Potůček 2007), because latter mentioned concept requires among some other methodological issues extensive research in political science etc., while concentration should put especially on the system and process conception.

The core of the problem-oriented concept of „strategic management“ at the regional level in the Czech Republic (for regions will be further used term *"district"*) is the process of implementation of the strategic document connected to the long-term general socio-economic development of a district. In general the strategic management on the local level' issue is being perceived in the literature ambivalently, where we could find several authors that have detailed some difficulties for "strategic management" or "strategic planning" concept on local level[5] (like Streib 1992; Backoff, Wechsler and Crew 1993) and on the other hand there are numerous authors seeing local level strategic management as promising and effective tool for public administration, because on local level there are being "delivered" more concrete products and services compared to central governmental units (Moore 1995; Lax, Sebenius 1986; Alford 2001). One of the classical definitions[6] for strategic management and strategic planning is that it's "a disciplined effort to produce fundamental decisions and actions that shape and guide what organization is, what it does, and why it does it" (Bryson 1995). Also it has to be said that any form of a strategic management that is being performed on the local public administration' level should be also methodologically based on the understanding of differences from the private sector.[7]

The key term „strategic management“ is, at the moment, not often associated with human resources development at the state or district level, or it is often reduced and perceived by the expert public as a term "only" associated with specific activities of a particular employer from both private and public sectors aimed at employees. **The term „strategic management ", in relation to the above definition of human resources development, is a term defined by the author himself with regard**

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[4] For comparison model for strategic planning developed by Vinzant and Vinzant (1996) that is based on four levels: 1. Completion of a full-fledged strategic planning process, 2. Production of a strategic planning document, 3. Changes in resource allocation to support the accomplishment of strategies, 4. Changes in control and evaluation processes to provide feedback on the implementation of strategic plan.

[5] Among the main reasons could be stated variety of stakeholders influencing whole process, difficulties with measurement of the given targets/goals etc.

[6] More could be found in the Poister, T.H. & Streib, G. Elements of Strategic Planning and Management in Municipal Governenment: Status after Two Decades. In: *Public Administration Review.* January/February 2005, Vol. 65, No. 1, pp. 45-56.

[7] Summarization could be found for example in the Nutt and Backoff (1992) model where they had identified three main factors distinguish public sector organizations from private ones – environmental factors (influence of the political settings, projected and also expected results from key stakeholders etc.), transactional factors (scope of impact that is much wider than in a private sector companies, public assessment of all transactions leading to need of collective accountability etc.) and internal processes/factors of organization (not feasible measurement by profit only, difficult incentives for employees etc.).

to the theoretical definition of „strategic governance “, a detailed analysis of which was carried out by Potůček, M. and col. (2007).

3. OPTIONS FOR RESEARCH IN THE HUMAN RESOURCES DEVELOPMENT ARE STRATEGIC MANAGEMENT AT THE REGIONAL LEVEL

The possibility to carry out research in strategic management (a model example in the human resources development area) is defined by several factors: the existence of empiric statistic data of long-term validity, existence of tools in districts for „influencing" processes in a particular domain (e.g. human resources) and a theoretical basis given by a relevant economic theory (here strategic governance, or management and for example the theory of human capital).

Generally speaking, the incentive to launch research of any kind is very often an effort to bring information on a certain phenomenon which has not yet been elaborated sufficiently or at all. This holds true even in this particular case in which, with regard to the aforesaid defined subject and basic terminology, we can say that strategic management in the selected field of human resources at the district level is not systematically covered in the available literature. The only existing materials are general theses and manuals for example for district authorities claiming the necessity to apply strategic management in the human resources area[8] but, in principle, there is no systematic publication bringing a summary of current knowledge of key tools and mechanisms in human resources and evidence of a positive correlation between use of strategic management and the socio-economic development of a district. Another reason for research is also the fact that the concept of strategic management in human resources in correlation with defined economic indicators was not used in the Czech Republic until recently[9] and at the district level such activities are only beginning.[10] Yet another reason is the establishment of a set of new financial tools available for human resources development in districts after entering the European Union – above all, the allocation of so called structural funds.

It is obvious that human resources play a key role in the development of districts in today's global economy, associated with terms such as knowledge or information society. Strategic management in this field should become a priority carried out both in transferred and in independent competence of district municipalities. Nevertheless, according to the described theories, the concept of strategic management must be understood not as a process carried out by one subject only (e.g. the government) over an exactly defined period (e.g. electoral period) when precisely quantifiable results will be available, but rather as **a long-term process involving a lot of participants (including for example non-profit-making sector) where both quantifiable results and medium-term and long-term trend are continuously monitored and evaluated**. Processes of strategic management at the district level feature a number of various participants acting both directly (e.g. public administration subjects or allowance organizations) and indirectly (e.g. non-governmental non-profit organizations) and pursuing their own goals when deciding on their involvement in a particular process. Public administration bodies on regional/local level have thus also strong role of coordinator that has to be taken into account within strategic management.

It sounds trivial to state that another trouble spot in the strategic management research at the district level is the necessity to accept exogenous factors such as for example the influence of supreme bodies of public administration or even supranational subjects such as the European Union. It is therefore necessary to specify key priorities within the Czech Republic which can be identified in the strategic management of human resource (RLZ) and which are broad enough to satisfy the wide spectrum of participants engaged in the process. Related to the aforesaid phenomena of global economy, building the "knowledge capital" in a society may be mentioned.[11]

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[8] E.g. *Regionální hospodářská konkurenceschopnost (Příručka pro představitele veřejné správy) [Regional economic competitiveness (A Manual for public administration representatives)]*. [online]. Prague: Czechinvest, 2006. Available on: <http://www.czechinvest.org/data/files/prirucka-verejna-sprava-208.pdf>, 20th May 2011, one charter deals with this matter.

[9] Strategy of human resources development for the Czech Republic was not published until 2003.

[10] Above all it is launching the process of creating documents mostly referred to as „Strategy of human resources development" related to for example a Regional Development Program.

[11] Building knowledge capital related to the process of so-called life-long learning of employees is briefly dealt with in for example Škorpil, P.: Current trends in human resources management in the Czech Republic: strategic foundations and implementation in an institution's activities. In *Strategie rozvoje lidských zdrojů v České republice*

4. LINKAGES TO THE NATIONAL AND SUPRANATIONAL LEVEL

At the level of European Union, however, some principles of strategic management in human resources development are implemented in the long-term (mainly continuous updating and monitoring of implementation of long-term priorities).[12] We can say that in view of the division proposed by Potůček, M. and col. (2007) the European Union strives to assert concepts of strategic governance, which are further strengthened by other integration trends (e.g. the Lisbon Treaty).

Czech Republic did not start dealing with **strategic management in human resources development until after 2000;** the endeavour was culminated by publishing studies of the National Educational Fund and the Ministry of Labour and Social Affairs.[13] Key trends in management of human resources development in the Czech Republic were summarized in the **document Strategy of Human Resources Development for the Czech Republic**, 2003 (hereinafter SRLZ CR). **In view of primary needs of the Czech economy and society, the following goals were set out:**

Goal 1 – Establish life-long learning as common practice

Goal 2 – Teach human resources in the Czech Republic to face challenges brought by information and knowledge society, global economy, the necessity of sustainable development, and membership in the European Union

Goal 3 – To boost international competitiveness of the Czech economy and its attraction for investors

Goal 4 – Enhance workforce employability and thus contribute to higher employment

Goal 5- Improve the use of limited resources and mobilisation of essential means for human resources development

The key question, first mentioned by the document, is **not only the top priorities in human resources development but also the most efficient allocation of both public and private financial means**. Put simply, most comments listed in the SRLZ CR reflect the conclusions of the theory of human capital (mainly related to original works by Becker, Schultz) and unambiguously **prefer maximization of investment in education** in this field**.** According to SRLZ CR investment in education is the highest priority in the medium term and this priority will be also reflected in the system of public budgets. In accordance with the theory of human capital, SRLZ CR deals also with the need of engaging private capital in education.

The adoption of SRLZ CR positively shows that the Czech Republic has made the first key step in the concept of strategic governance in human resources development including the specification of the coordination participant – in this case it is the Office of the Government alongside the Ministry of Labour and Social Affairs. Unfortunately, the process of strategic management connected with the implementation of the document is currently suspended and the Council of the Human Resources Development of the Czech Republic[14] does not meet regularly any longer.

The incentive to create and adopt a strategic document at the state level was, in accordance with trends in other European countries, reflected at the district level.[15] In about 2005 first strategic documents dealing with human resources development in the districts of Czech Republic started to be adopted.[16] It has become common practice for the structure of district strategic documents dealing with human resources to contain an analytic part (disparities in human resources or a SWOT analysis), a proposal (containing particular measures including participants and their

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a v Evropě. Sborník příspěvků z konference. Prague: Magistrát hlavního města Prahy, 2005. ISBN 80-239-766-4. s. 29 – 33.

[12] The trouble spot of European strategic documents regarding human resources remains to be their implementation, i.e. carrying out the tasks in cooperation with differentiated participants. The main factor is that the goals are defined too broadly and their achievement is difficult to coordinate (be it financial or administrative aspect) or some member countries are not able or willing to implement certain changes in relation to their own development priorities. These trends are shown for example in so-called Kok's report critically reviewing implementation of the so called Lisbon strategy. [online]. Available on: <http://ec.europa.eu/growthandjobs/pdf/kok_report_en.pdf>, 20th May 2011.

[13] Before the document was published, systematic development of human resources in the Czech Republic was dealt with by the project in the so-called Phare pre-entry fund called „Strategy of Hunan Resources Development for the Czech Republic " which was terminated in 2000.

[14] Established by the ruling of the Government of the Czech Republic No. 210/2003 Coll. of 3rd March 2010.

[15] An example of fulfilment of strategic management for human resources development in a district an at sub-district administrative units can be Finland which regularly adopts documents valid for the period of four years together with all evaluation and monitoring mechanisms. A presentation can be found for example in the article Kaartinen, L. Strategy of regional human resources in municipalities of the Helsinky district 2004 – 2007. In *Strategie rozvoje lidských zdrojů v České republice a v Evropě. Sborník příspěvků z konference.* Prague: Magistrát hlavního města Prahy, 2005. ISBN 80-239-766-4. s. 34 – 37.

[16] The South Moravian strategic document dealing with human resources was the first to be created in 2005 within the project Common regional operational program, measure 3.3.

involvement), a financial part (allocation of particular financial sources – e.g. for district budgets or financial means from structural funds), and a communication part (tools and processes for informing both direct and indirect participants). **Compared to the national level the process of strategic management of human resources development is fulfilled to a relatively larger degree**. By 2009 most districts in the Czech Republic had adopted their own strategic documents, coordination units had been established (e.g. the Council for the Human Resources Development) and the allocation of parts of district budgets on particular projects related to the strategic document for human resources management was also under discussion.

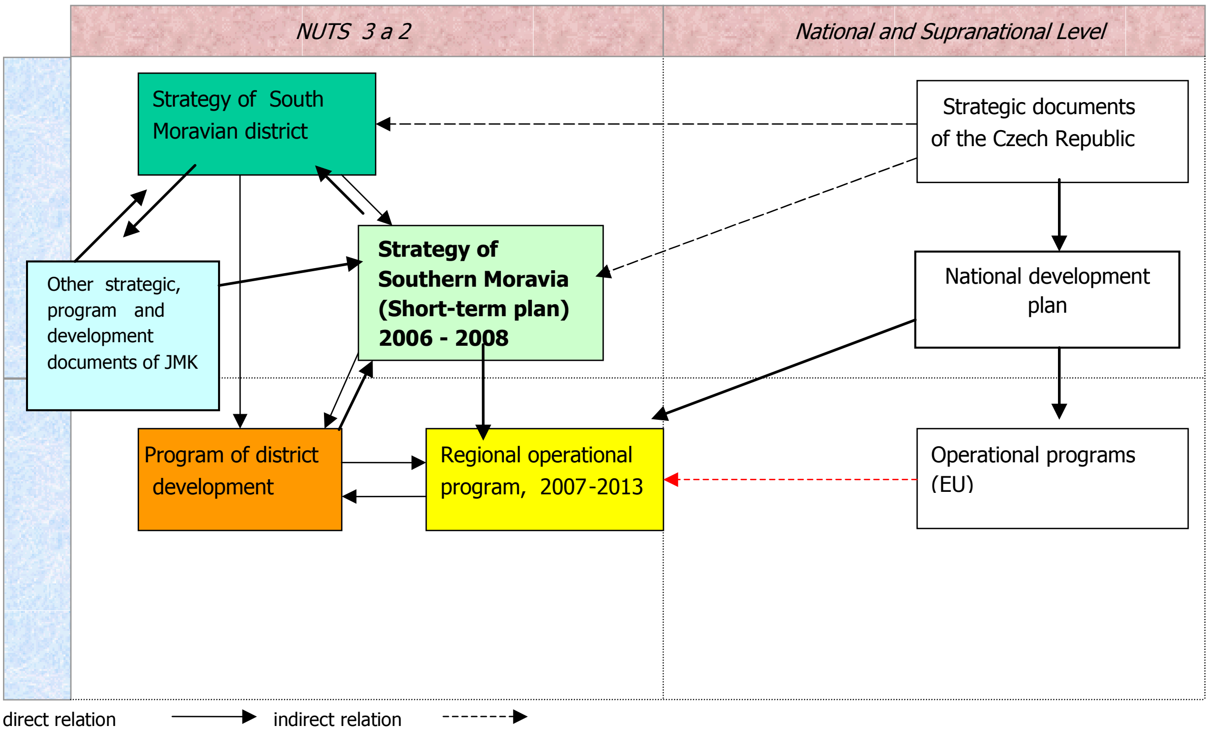
Strategic management of human resources development at the district level are currently being fulfilled to the extent that strategic documents are regularly created and updated, particular key projects are defined, budget framework is defined including the estimated investment from public finance and private sources, and controlling bodies have been established.[17] **However, unfortunately, the implementation and the concept of strategic management are far from being complete or fulfilled, the main reasons being the following:**

1) Non-existing feedback on the efficiency of human resources projects carried out in accordance with the strategic documents
2) Problematic communication among various participants in human resources management, in other words the non-existing communication platforms integrating various types of participants (e.g. representatives of public administration, non-profit non-governmental organizations or employers)
3) Budget frameworks are only approximate and, except for pricing of concrete projects, the relation to strategic documents is not monitored
4) Inability to take rational decisions on carrying out particular projects (i.e. investment opportunities) which are not taken until the strategic document has been adopted (unlike projects which are chosen by the coordinating subjects while the document is being prepared and adopted)[18]
5) Problem of strategic governance in districts where a change in political orientation of district municipalities results in scaling down activities and projects connected with the strategic document adopted in the previous period (the problem at the national level was pointed out by Potůček, M. and col., 2007; in his opinion, strategic governance in the Czech Republic is very problematic issue).
6)

[17] See strategic management in human resources development at the state level – e.g. Míkovcová, L. Program of implementation of the Strategy of human resources developemnt. In *Lidský kapitál a investice do vzdělání (sborník z 8. ročníku mezinárodní vědecké konference).* Praha: VŠFS, 2005. ISBN 80-86754-50-2. s. 51 – 53.

[18] The issue of taking rational decisions concerning investment opportunities in human resources is dealt with in Valenčík, R. Efficiency of investment in human capital: Information on project solution GA ČR 402/03/0128. In *Lidský kapitál a investice do vzdělání (sborník z 8. ročníku mezinárodní vědecké konference).* Praha: VŠFS, 2005. ISBN 80-86754-50-2. s. 65 – 79.

Scheme No. 1 An example of a relation of strategic and program documents of South Moravian district (JMK) to the district and national level



Source: *The Main Strategic Trends and Recommendations of the Strategy of Human Resources Development of the South Moravian District, p.13. Available on: <http://www.kr-jihomoravsky.cz/Default.aspx?PubID=51443&TypeID=2>, 5 December 2009.*

Putting plans into the action (implementation process) is generally perceived as a problem across all levels of public administration where usually a strategic plan/document is not directly linked to implementation, because of for example budgetary issues, resistance of employees who felt threaten by change or by endangerment of more control mechanisms that would be put on an organization.[19] Pregnant summarization of issues connected with implementation process was given by Mintzberg (1994), according whose opinion the criticism is base precisely on fact that organization's planning activities are too often completely divorced from performance measurement and resource allocation.

5. FURTHER RESEARCH OPTIONS

It follows, from the aforesaid analysis of current state of strategic management of human resources development, that some steps have been taken in the Czech Republic towards implementation of this concept, but they are considerably reduced at the national level. **The key factor for the research is that the incentive from the level of the European Union and the Czech Republic has brought about first strategic documents in human resources development in the districts of the Czech Republic.** In terms of the research we can say that the process of strategic management in human resources development can be analyzed at the district level where, in accordance with the theory of human capital, unambiguously specified indicators can be used. The research should primarily focus on full application of the concept of strategic management in the trouble spots mentioned above. The crucial problem will be **the efficiency of public expenditure including an analysis of application of so-called multi-source financing, as financial means from structural funds nowadays represent a fundamental tool (in terms of money supply) for the implementation of strategic management in human resources development** at the Czech Republic regional/local level.

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[19] Among major sources could be named Franklin 2000; Donald, Lyons and Tribbey 2001; Mintzberg 1994; Streib, Slotkin and Rivera 2001.

The aforesaid findings are postulated as a summary of key terms as well as of important theoretical constituents which, used as complements, could **prove the validity of research into strategic management of human resources development at the district level of the Czech Republic**. Currently, „only " so-called strategic documents are available, **but they have not yet been appraised and neither has the efficiency of public spending been analyzed in relation to growth indicators such as labour productivity.**

6. CONCLUSIONS

It follows, undoubtedly, that **human resources development is a field which the districts in the Czech Republic must deal with, be it in terms of legislation (see Act on Districts No. 129/2000 Coll., or the Act on regional development No. 248/2000 Coll.) or in terms of political sciences.** During further research the approach of district/regional self-government to strategic management of human resources development could be more specified in relation not only to legislation but, in accordance with the concept of strategic management outlines above, alto to the implementation process including establishment of appropriate institutional elements (e.g. establishment of the Council for Human Resources Development). According to major survey performed in 2004 among more than 1200 municipality officials in the US (Poister, Streib 2005) the results showed that a substantial number of local governments – though well under a majority – have used or using strategic planning to establish long-term direction, determine priorities and guide decision making and from survey also came out that is a growing number of local governments that are linking strategic planning to a mix of approaches that would suggest the beginning of a comprehensive strategic management process.

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KNOWLEDGE OF THE EUROPEAN UNION REGULATIONS ON PUBLIC PROCUREMENT AT THE LOCAL LEVEL IN SERBIA

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Abstract: *Countries that are candidates for membership in the European Union (EU) need to harmonize their legislation with the EU regulations during the integration process. Republic of Serbia is has been undertaking this process since 2013, when the Stabilisation and association agreement between the European communities and their member states of the one part, and the Republic of Serbia, of the other part, came into power by the Council and Commission Decision. Public procurement is just one of the fields covered by this agreement. Serbian Law on public procurement from 2013 was reformed in 2015, implementing the changed EU directives on public procurement. Full compliance with the EU regulations in this area is expected to be reached in 2018, after the new Low that is currently in the preparation is adopted. Existing Serbian legislation on public procurement already contains most of the EU directives, demands and standards. As successful implementation of new regulations demands the participation of all levels of authority, it is of extreme importance that the representatives of local self-governments know and understand European public procurement regulations. The purpose of this research is to examine the knowledge of the EU regulations on public procurement at the local level in Serbia.*

Keywords*: Public Procurement, Directive, Regulation, Compliance, EU Harmonization, EU Integration, Local Government, European Union*

1. INTRODUCTION

The countries of the Western Balkans are preparing for EU membership. This process has to start long before accession and has to be well advanced when the country eventually becomes a full Member State and an important part of this process concerns the reform of the public procurement laws of the accession countries (Trybus, 2005) The term public procurement refers to a situation in which a public body procures necessary goods and services by entering into contracts with other entities (Arrowsmith, Linarelli & Wallace, 2000). The European Union is the largest market for public procurement in the world today, with a total value of public procurement contracts of around 1.4 billion Euros per year, and the countries that are part of the enlargement process of the EU have to harmonize their laws with the European treaties and secondary Community legislation (Trybus, 2005), in this area, as well as in all others. The directives on public procurement are adopted in order to provide transparency and equal treatment in public procurement, one of the most important issues in establishing the single market (Soudry, 2004).

Regarding the situation in Serbia, as one of accession countries, the first step in harmonization with EU legislation in area of public procurement was adopting the new Law on Public Procurement on January 6th, 2013. At the time, the Joint report to the European parliament and the Council on Serbia's progress in achieving the necessary degree of compliance with the membership criteria, published on April 22nd, 2013, stated that this Law further aligns the Serbian legislation with the acquis and generally improves the efficiency of public procurement procedures (Komazec, Todorović, Krivokapić, & Jaško, 2013). There was one more change in Serbian legislation in 2015, so during this study Serbia's public procurement legislation was already highly harmonized with the acquis in the area of public procurement. But the following year (2018) is seen as the most important, in a sense that by the end 2018 Serbia's legislation related to public procurement, as well as on concessions, has to be fully aligned with the acquis (Blagojevic, 2017).
The main focus of this paper will be on public procurement at the level of local self-government. Significance of public procurements at local level can be illustrated by assessment that the share of public procurements in the local government budgets in Serbia, amounted an average 20-25% in 2011. (Jansen, 2012). According to the Ministry of Finance and the Public Procurement Office data, the share of public procurements, which were undertaken by the city and municipal administrations in the value of local budgets amounted 7.2% in 2014 (Jovanović & Benković, 2012).

At the bottom line, the procurement function in operations and core knowledge of public procurement professionals is the critical and complicated element of the public procurement system (Thai, 2001). In one of the previous studies, we have concluded that improvement of personnel capacities is required at local level in Serbia. Also, the study showed that for the implementation of the public procurement rules of the EU, rather expertise of employees in public procurement than their number is crucial (Komazec, Todorović, Krivokapić, Jaško, 2013). Those findings are in line with stand that there is no transparent and efficient public procurement system without appropriate personnel (Sakane, 2009).

Regarding the compliance with the EU directives for public procurement, which should lead to efficient public procurement system, the empirical findings indicate that both purchaser's familiarity and organizational incentives have a positive, statistically significant impact on the compliance (Gelderman, Ghijsen, & Brugman, 2006). Those findings had been confirmed not only for familiarity with EU regulation, but also for procurement regulation in general, and it justified to expect that that the more procurement personnel are familiar with the regulations, the more compliant they will be (Eyaa & Oluka, 2011). So the purpose of this paper is to examine familiarity to with EU directives and standards among public procurement officers at local level in Serbia, as one of main precondition of efficiency of public procurement system.

2. METHODOLOGY

The questionnaire that was used for data collection was designed as an online survey and contained closed-ended and open-ended questions. The answers were provided by 72 respondents from 63 different municipalities, which is more than 40% of local self-governments in Serbia. Accorting to the Regulation on Establishing the Uniform Development List of Regions and Local Self-Governments (2014), local self-governments in Serbia are categorized by the level of development into four groups, while the municipalities from group IV that are below 50% of the average development level are proclaimed as devastated areas and placed in a separate group. The respondents covered all the groups from this classification, as shown on Figure 1 and Figure 2.

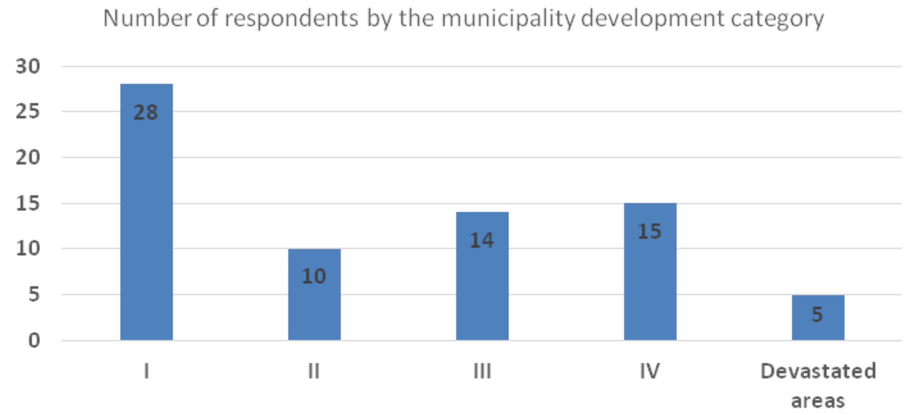

Figure 1: Number of respondents by municipality category

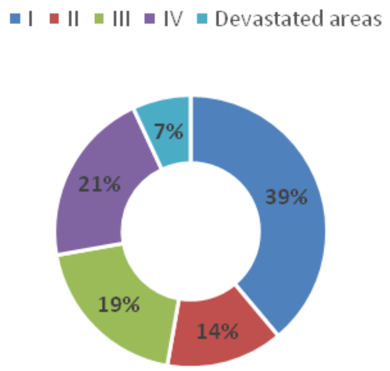

Figure 2: Sample distribution

This survey was conducted by the Standing Conference of Towns and Municipalities (SCTM) – National Association of Local Authorities in Serbia as part of the program "Support to Serbian Municipalities on the Road to EU Accession: Enabling High-Quality Services, Stakeholder Dialogue and Efficient Local Administration" that is financed by the Government of Sweden and implemented by the SCTM. The authors of this paper were hired as the experts for the purpose of analyzing the results and providing the recommendations for further development of Serbian local self-governments in the area of public procurement.

3. RESULTS AND DISCUSSION

During the research, it was examined whether representatives of local self-governments were familiar with the three basic directives of the European Union in the field of public procurement. These questions included:

1) Knowledge of Directive 2014/24/EU on public procurement (‘’classic’’ or ‘’traditional directive’’);
2) Knowledge of Directive 2014/25/EU on procurement by entities in the water, energy, transport and postal services sectors (‘’communal’’ directive);
3) Knowledge of Regulation (EC) No 2195/2002 of the European Parliament and of the on the Common Procurement Vocabulary which establishes a classification for goods, works and services that the contracting authorities have to use.

The results showed that only 1/3 of the total number of respondents knew all three directives, as presented on Figure 3.

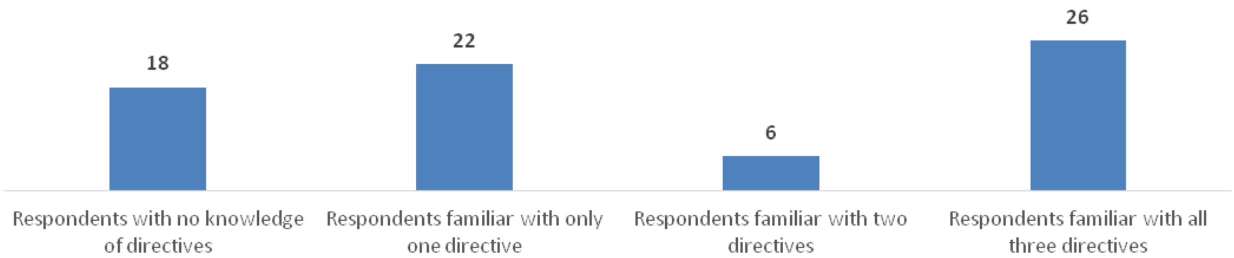

Figure 3: Knowledge of key EU directives on public procurement

Respondents who knew two regulations of the three which are subject of analysis are generally not familiar with the Directive that harmonizes the public procurement procedures of entities in the water, energy, transport and postal services sector ("communal" directive), while they are familiar with remaining two. On the basis of the results, it can also be noted that none of regulation that is subject of analysis is known to all local self-government units examined. Most of respondents, 74% of the total number of those who completed the questionnaire, are familiar with the Regulation the on the Common Procurement Vocabulary. The "classic" or "traditional" directive is familiar to 43% of the total number of questioned, and the "communal" directive to 39% of them.

Almost all respondents who are familiar with only one of the analyzed Directives are familiar with the Regulation the on the Common Procurement Vocabulary, which establishes a classification for goods, works and services that the contracting authorities have to use. Considering how questions were formulated in the questionnaire, and when comparing the original titles of regulations which are subject of analysis and the way they are translated and incorporated in domestic regulations, it can be noticed that only Regulation the on the Common Procurement Vocabulary is literally translated, i.e. that its title is same in the applicable regulations and in the questionnaire distributed. The term "Common Procurement Vocabulary" is widely used in the Republic of Serbia among public procurement employees, and as this question contained a very similar formulation, the respondents were likely to immediately conclude that the respective Regulation relates directly to it. Therefore, it can be assumed that representatives of local self-governments may also be familiar with the remaining two directives, but that they were not able to link them with provisions from the domestic legal framework that relate to them.

It has already been noted that every third respondent is familiar with all of analyzed regulations. When clustering is made according to the level of development, it is concluded that this percentage in three most developed groups of local self-governments is somewhat higher and that it increases to 40%, and in devastated areas it significantly decreases to 20%, as shown on Figure 4.

Based on the research results, it can be concluded that the level of knowledge of European Union regulations in the area of public procurement among representatives of local self-governments is decreasing with the degree of development of the municipality. The research also showed that more than 60% of respondents were not familiar with the influence of EU regulations on local self-government.

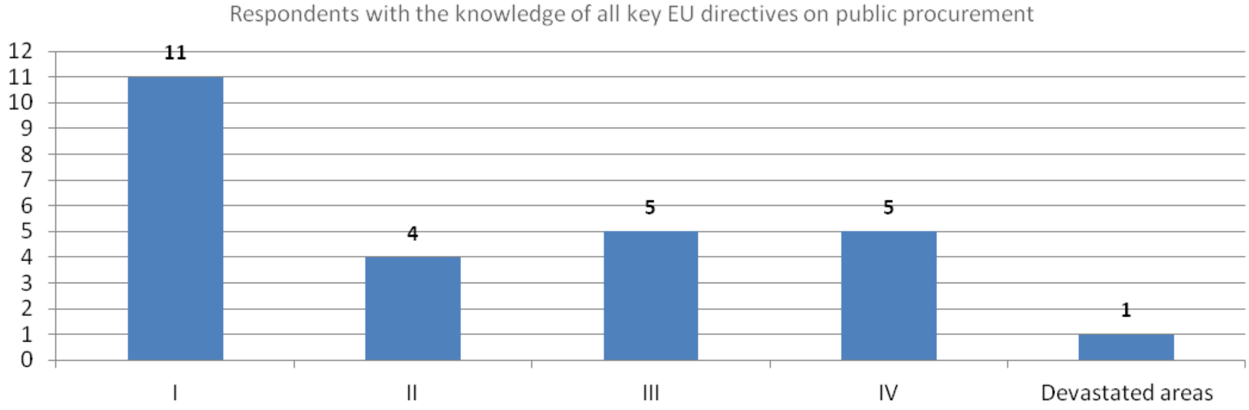

Figure 4: Distribution of respondents who are familiar with all EU directives on public procurement by municipality category

When it comes to the general knowledge of the requirements of European Union in the area of public procurement requirements regarding the process of accession of the Republic of Serbia to the European Union, two thirds of the respondents said they were not familiar with them. The situation is the worst in least-developed municipalities, where as many as 80% of respondents are not familiar with these requirements, which can be seen on Figure 5.

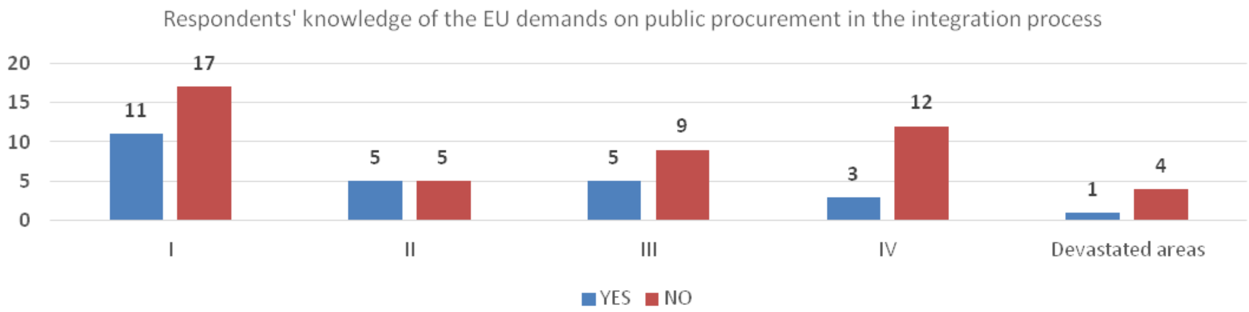

Figure 5: Distribution of respondents by their knowledge of the EU demands on procurement and by municipality category.

The respondents were further asked to indicate in an open-ended format what requirements of the European Union in the field of public procurement regarding the process of accession of the Republic of Serbia to the European Union are known to them. The results are presented on Figure 6. Respondents' answers presented on the graph show that the representatives of local self-governments in Serbia mostly recognize *harmonization of public procurement regulations with the EU, implementation of electronic procurements, strengthening competitiveness, greater transparency and enhanced supervision* and *reduction of corruption* as Serbia's demands related to public procurement in the process of EU integration.

The survey also contained a set of questions to determine the extent to which representatives of local self-governments are familiar to four basic principles of European Union in the field of public procurement, according to the Article 18 of Directive 2014/24/EU on public procurement:

1) The principle of ensuring competition;
2) Principle of equality of bidders;
3) The principle of transparency of the procedure;
4) The principle of environmental protection and ensuring energy efficiency.

The results showed that respondents are much better acquainted with EU public procurement principles than with European directives, regulations and requirements in the accession process related to the same area, as the first three principles are familiar to 89% of respondents, while with the last is familiar to 87% of them. Interestingly, the respondents are mostly familiar with all EU public procurement standards, or they are not familiar with any of them. As many as 86% of respondents are familiar with all key EU public procurement principles, while 10% of respondents are familiar with none of the key principles that are important for local self-government.

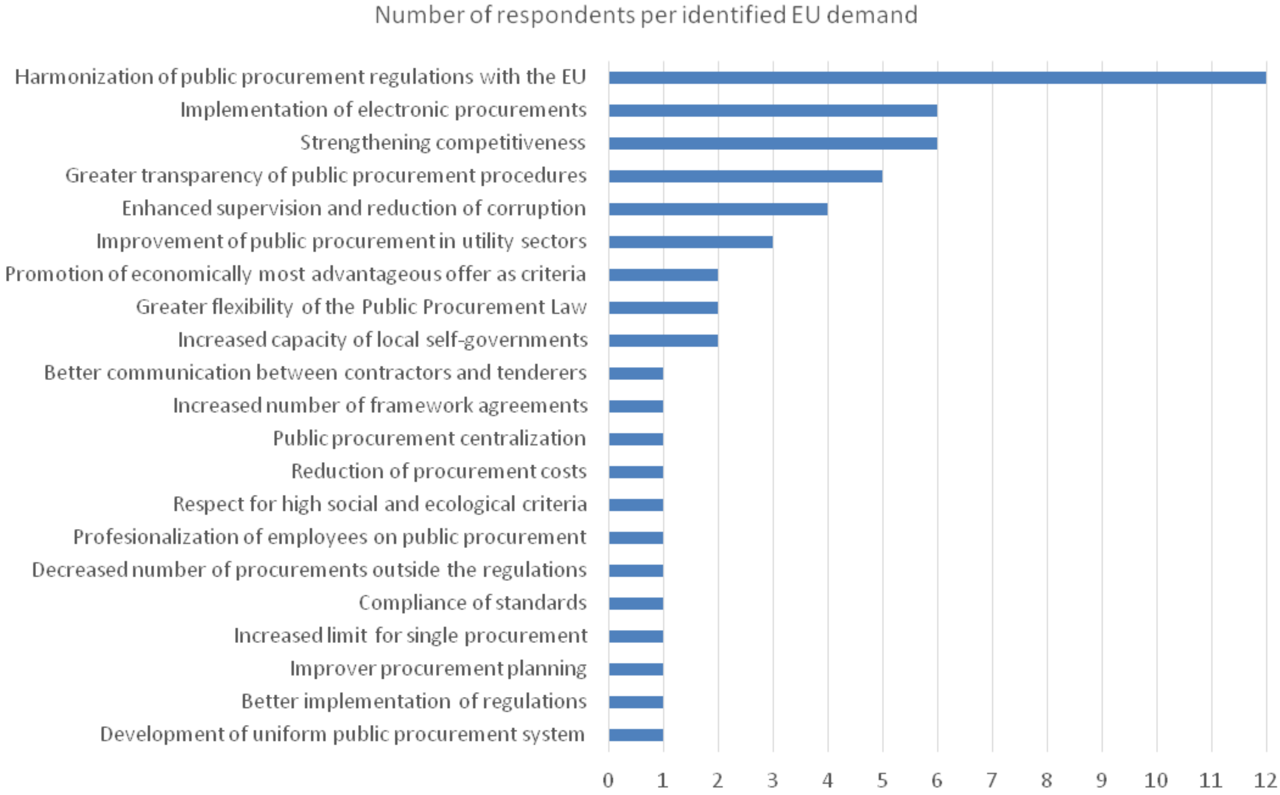

Figure 6: EU demands on public procurement in the integration process according to the respondents

Although most respondents are familiar with EU public procurement standards, only 17% of respondents consider that they are fully implemented in their municipalities. More than 70% of respondents consider that in their municipalities EU standards in the field of public procurement are applied to a large extent or completely, while in the least developed municipalities this percentage drops to around 50%. Figure 7 shows the extent to which local self-governments apply EU public procurement standards, according to their representatives who were involved in this survey. It can be noted that 30% of the respondents feel that in their local self-governments the standards are not being implemented enough or at all, while 80% of them believe that there is room for improvement in this domain.

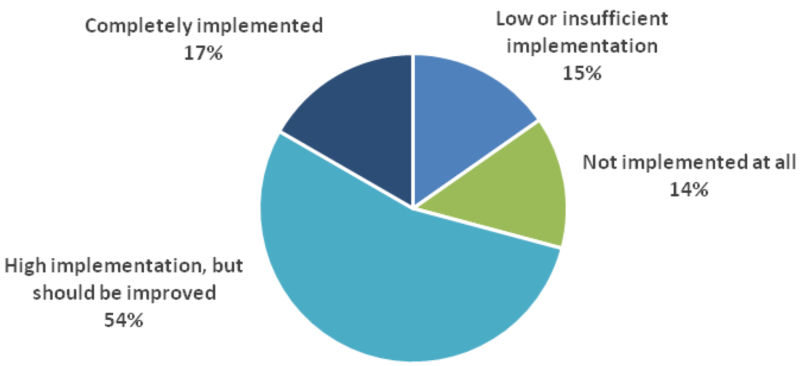

Figure 7: EU demands on public procurement in the integration process, according to the respondents

Deeper investigation has identified two basic reasons due to which the respondents believe that the EU standards in the public procurement area are implemented insufficiently, or not applied at all:

1) Insufficient information;
2) Lack of need, i.e. suitable requests in the local regulative.

However, the analysis has shown that Serbian legal framework in the field of public procurement is mostly aligned with the acquis communautaire, and that in previous years Serbia has made significant progress in regard to reforms in area of public procurement. This implies that representatives of local self-governments may not even be aware of the need to apply EU procurement standards, or are unable to recognize these standards in the domestic legislative framework. This further emphasizes insufficient knowledge as a key problem in the domain of (non) implementation of European standards in the field of public procurement at the municipal level, which leads to the conclusion that additional education in this area is necessary.

4. CONCLUSION

Adequate application of the EU procurement rules affects local self-governments, purchaser of goods, services or works, as significant factor which is often underestimated. These rules aim to increase competition, fairness and transparency, which certainly lead to more bids, and consequently result in lower prices and higher quality.

On the other hand, these rules often require additional training and engagement of external experts, which increase the costs of public procurement. Also, a large number of procedures and rules can often lead to errors, whereby dissatisfied bidders have a greater likelihood of complaining, which can often lead to the delay of the process, even the annulment of the public procurement agreement. It is precisely these issues that need to be addressed, since the Republic of Serbia faces major challenges in the process of harmonization of public procurement regulations with EU rules. By signing the Stabilization and Association Agreement with the EU, Serbia undertook obligation to harmonize national legislation in this area with the acquis communautaire, as well as the obligation to implement them. Therefore, it is extremely important that local self-government representatives are familiar and understand EU procurement regulations. It is necessary to make a full harmonization of public procurement regulations with the applicable directives, and special attention should be paid to the implementation of the legal framework in practice at all levels of government, both central and local level.

The conclusions of this research can be of benefit to public authorities in Serbia and the in EU, in order to review the current situation in the field of public procurement regarding the integration process, as well to institutions that works on capacity building in field of public procurement and education of employees in these jobs, and to researchers dealing with this topic. Further research in this area should focus on assessing the compliance of the Serbian legal framework with EU regulations after the adoption of the new Public Procurement Law that is currently being drafted, as well as examining the capacity of local governments to apply its provisions.

ACKNOWLEDGEMENT

Authors' engagement on this research was partially supported by the Ministry of Education and Science of the Republic of Serbia through the Project No. 179081: Researching Contemporary Tendencies of Strategic Management Using Specialized Management Disciplines in Function of Competitiveness of Serbian Economy.

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FINANCIAL MANAGEMENT CAPACITY BUILDING IN PUBLIC ADMINISTRATION BY UPGRADING KNOWLEDGE OF EMPLOYEES IN AREA OF ICT

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Abstract: *Public administration contributes to the government's ability to ensure high-quality public services from the standpoint of competitiveness and progress. By taking in account importance of digitalisation and therefore role of information and communication technologies the paper presents some of research results conducted for the purpose of mapping current level of knowledge employees in public administration gained throughout ERASMUS+ project entitled Financial Management, Accounting and Controlling curricula development for capacity building of public administration during spring 2017 year. The paper aims to highlight how knowledge and competence of employees in public administration can be upgraded by involvement of information and communication technologies of Albania and Serbia in order of strengthening their capacities.*

Keywords*: public administration, digital age, information-communication technologies, Albania, Serbia*

1. INTRODUCTION

Public administration is the basis of the functioning of a state, as it contributes to the government's ability to ensure high-quality public services from the standpoint of competitiveness and progress. In addition, it plays a key role in the European Union (EU) integration process, by contributing to the dialogue about the reforms implemented as part of the integration process and alignment with the standards of good governance of EU countries. It is frequently pointed out that "good governance and the right to good governance represent relatively recent important concerns both for the national and the European governmental authorities (Mateia L. et al., 2016, pp. 335)".

The concept of "good governance" was defined by EU countries and included in the Charter of Fundamental Rights of the European Union (The Independent Commission for Good Governance in Public Services, 2004). The notion of a "European administrative space" was set out by SIGMA (Support for Improvement in Governance and Management) principles. SIGMA is a joint initiative of the OECD and the EU. Its key objective is to strengthen the foundations for improving public governance, by improving elements including reliability, predictability, accountability and transparency, as well as technical and managerial competence, organizational capacities, financial sustainability and citizens' participation in public administration.

Although good governance criteria are universal, these principles are primarily intended for countries which aspire to join the EU and which receive assistance via the Instrument for *Pre*-accession Assistance (IPA). Based on the principles of good governance, accepted by most European states, ICGGPS (2004) presents "the good governance standard for public policies", which comprises the focus on outcomes for citizens, transparency of decision, risk management, development of the capacity and capability for efficient governance, real accountability etc. (Mateia L. et al., 2016, pp. 335).

Regional countries Albania and Serbia belong to Western Balkan countries that are making a great effort in order to reaching EU membership. That process implies set of activities considering policies harmonization and improving quality of services to citizens. Additionally, those reforms include changes both in applicant countries as well as in candidate countries. All European country may apply for European Union membership if they are embracing democratic values and if they are committed to further improvements together with other EU family members.

First step for every country in reaching EU membership is to fulfil main criteria that basically where defined in Copenhagen 1993, on the EU Council meeting and those are called "Copenhagen criteria". EU accession process helps candidate countries to build capacities for adopting and implement EU laws as well as EU and international standards. Motives for countries to apply for EU memberships lies in the fact that they gain partnerships with EU countries that offers trade privileges, economic and financial help, assistance for reconstruction and development, stabilization and association process. In order to fulfil its commitments from

The Stabilisation and Association Agreement, every candidate country is getting closer to EU membership step by step. European Commission appraises achieved progress with countries reports of progression that are published every year (Benković et al. 2018. pp. 1).

European Council granted Serbia status of candidate country in March 2012, and from September 2013 Serbia has started process of monitoring of application legal attainment of EU through screening The Community *acquis*. At the same time Albania is expecting during 2018 getting a status of candidate country which means that it will start and a Screening of *acquis* in order of opening Chapter 23 - Judiciary and fundamental rights and Chapter 24 - Justice, freedom and security. Opening a chapters is a process structured in 35 steps or 35 chapters that are helping to candidate countries in build their capacity to adopt and implement EU law, as well as European and international standards. Chapter 23 and chapter 24 are ground chapters that are opening room for implementation of all other values structured in other chapters during process of accession to EU.

Serbia as a candidate country in November 2015 has opened Chapter 32 - Financial management and control. Ministry responsible for implementation of this Chapter values are Ministry of Finance and Ministry of Public Administration and Local Self-Government. Albania, as a regional country is still waiting for opening this chapter but it makes significant efforts in process of upgrading their capacities of public administration, particularly in area of financial management and control.

ERASMUS program entitled *Financial Management, Accounting and Controlling curricula development for capacity building of public administration (FINAC)*, financed by European Commission, part of witch results from one of the work activities are presented in this paper, aims to point available capacities of knowledge and employees competences in public administration. The paper is particularly aims to highlight how knowledge and competence of employees in public administration can be upgraded by involvement of information and communication technologies. Or, precisely speaking, do the employees in public administration od Albania and Serbia that are dealing with management and finance perceive the need for additional trainings in the field of information and communication technologies in order of strengthening their capacities.

By taking in account importance of digitalisation and therefore role of information and communication technologies, in this paper are presented some of research results conducted for the purpose of mapping current level of knowledge employees in public administration for the purpose FINAC project. The research findings presented in the paper are just small segment of primary research findings collected within the work package 1 of the ERASMUS+ project during spring 2017. The paper is divided in several parts. The introductory part is followed by the second chapter that provides overview of digitalisation of public administration. The third chapter presents the methodology of research, more specifically, the research sample, while the fourth chapter lays out the research findings. The fifth chapter summarizes the conclusions based on the research findings and gives recommendations for improving the public finance segment of the Serbian public administration. The final chapter provides concluding remarks.

2. DIGITALISATION OF PUBLIC ADMINISTRATION

Delivery of the services has been broadly defined by SIGMA (2017):*“as all contacts with the public administration during which customers, i.e. citizens, residents and enterprises (hereafter referred to collectively as citizens) seek data, handle their affairs or pay taxes. In this context, orientation towards citizens needs to be understood as encompassing all contacts and all tasks performed by the public administration that affect citizens. This broad definition encompasses not only contacts between the public administration and customers, but also the rules regulating those contacts (i.e. the administrative procedures).*” In order of modernization of public services the main priorities is the elimination of physical service windows, where documentation is generated and administered by the state itself, and, consequently, simplification and facilitation of the whole process thanks to the digital infrastructure.

For a last 4 years the Government of Albania has dedicated to implementation of a breaking reforms that should reinvents the way that public administration delivers services to the citizens. The reform relies heavily on innovation and the use of information technology in order of improving standards, procedures and the organization of service delivery. Some of results are particularly visible in combat of corruption due to fostering a customer-care culture, enhancing a public access, and increasing efficiency in the Albanian public administration.

Additionally, adoption of crucial documents like the Albanian Digital Agenda 2015-2020 and the Cross-cutting Strategy for Public Administration 2015-2020 should contribute to higher level of information and communication technologies services. The process of documents implementation is planned to be reached by enhancing of the interconnection of information technology systems with each other and the exchange of real-time data between them through Government Interoperability Platform in order of simplifying services and reducing of a number of documents required for citizens or businesses in the service windows. Additionally, those steps will contribute to reduction of licenses, permits and authorizations needed to carry out activities, as well as to reduction of maximum deadlines for implementation.

Up to now 47 information systems in Albania are interconnected to the interoperability framework, including all basic registers, about 1400 services of 134 central government agencies have been classified and coded to support digitization and ensure efficient IT interaction. On a number of those activities that concern introducing and upgrading information and communication technology services of public administration in Albania is engaged the National Agency for Information Services (NAIS). These activities are including IT system development, Digitization, Interoperability, E-Albania platform and E-signature. The NAIS also co-ordinates integration with the interoperability technical solution to enable data exchange among registers. More importantly, the NAIS has strong leverage to push authorities to integrate their new systems with the common interoperability solution.

At the same time the IT sector is one of the key priorities of the government of Serbia that has set as a goal to be the centre of an electronic administration. During summer 2017, the Serbian government passed a decree on the establishment of the Office for Information Technology and Electronic Governance, that task is to consolidate state IT resources, ensure connectivity of various information systems, provide strong support and establish the basis for the development of Serbia's e-governance.

The Office for IT and e-Government deals with the development and implementation of standards in the introduction of information and communication technologies (ICTs) in state administration bodies and government services, while providing support in the application of information and communication technologies in state administration bodies and government services through the design, development, construction, maintenance and improvement of the computer network of republic authorities. The Office also coordinates the work of the National Center for Security of the ICT System (national CERT) that provides services of designing, developing and functioning of Internet access, Internet services and other centralized electronic services, and it is responsible for all ICT equipment procurement needs of state administration bodies and the government services.

Opening of the first National Data Center is a key for placement of information and communication infrastructure in order of upgrading efficiency of the state administration. The National Data Center has two teams: one for IT and one for e-Government and the centralization of state infrastructure will help streamline the budget, both in terms of using state-of-the-art hardware and software, but also for the future investment.

3. METHODOLOGY

Described trends in financial management and control and digitalization of public administration in Albania and Serbia generate a number of new and challenging practices for public administration employees. These practices require specific competencies which need to be acquired or further developed by many employees and it is presumed that this fact is recognized by many employees. Therefore, the main hypothesis that was investigated through this paper is the following:

- Majority of public administration employees in Albania and Serbia who have responsibilities in financial management and control (FMC) feel the need for additional professional improvement in usage of information and communication technologies (ICT) in order of building up capacities in sphere of financial management and control.

The overall research was designed as a mixed-method research. However, the part of the results that are reported in this text come from a quantitative segment that had a form of an on-line survey – participants were provided with a link to on-line questionnaires. Questionnaires were in a form of Likert scale and were designed for the purpose of this research. Each item described a specific practice for which respondents had a task to asses:

1) the extent to which they are taking part in the given practice (whether they actually perform it, organize it or manage/supervise it) - respondents could choose one out of four answers: Yes, to a greater extent; Yes, to a lesser extent; No, and This is not relevant for my job.

2) the extent to which they think they need further professional development in order to perform each of the practices more effectively - respondents could choose one out of five answers: High level of need; Moderate level of need; Low level of need; No need at all, and This is not relevant for my job position.

In other words respondents were ask provide information on their work and on their needed professional development. The self-assessment approach was deemed as suitable for civil servants as target group for several reasons. Moreover, this approach provides more direct information needed for the project as a whole – what is that for what civil servants think they need more of professional development, for what they would appreciate more education and training. The questionnaire was developed by the Centre for Educational Policy (CEP), in cooperation with partners from the Ministry of Public Administration and Local Self-Government in Serbia, and with partners from the European University of Tirana in Albania.

The target population for this research were civil servants from state administration authorities - from ministries, integrated authorities within ministries, special organizations and government offices. Three main sub-samples were defined: general managers (individuals who are responsible for meeting organizational objectives in a specific functional area or line of business, disregarding their position in command hierarchy (raging from, for instance in a ministry, assistant minister to a manager of the smallest organizational unit)), finance departments' staff (heads of units and subordinate staff), and internal auditors. Accordingly, there was four different versions of on-line questionnaires consisting of a different combination of topics covered, corresponding to the responsibilities of a given type of job.

In both countries, recruitment of participants was a two stage process - finding a contact person in participating organization that distributed link to a questionnaire to other civil servants who satisfy the conditions for being part of a sample. Finding organizational contact persons was task of Serbian Ministry of Public Administration and Local-Self Government and Human Resource Management Service of the Government in Serbia and European University of Tirana in Albania.

Having this two-step recruitment process as a consequence had a fact that final number of civil servants who actually get an invitation e-mail is unknown and thus the response rate could not be calculated. Therefore, realized sample of civil servants cannot be considered as representative for the given populations, so the findings should be understood as indications of certain patterns with limited generalizability. However, qualitative part of the research (which will not be reported here) strongly validated many of the findings of the quantitative survey, thus providing an argument that survey findings can be regarded as valid. Table 1 presents realized research sample.

Table 1: Sample characteristics

Subsample (realization)	**Albania Number of respondents**	**Serbia Number of respondents**
General line managers	46	152
Finance department managers	27	58
Internal auditors	98	21
Total	172	231

On the base of presented results it is important to notice that more than half of sample in Albania are internal auditors, while in Serbia two third of respondents are general line managers.

The survey was conducted from April to mid June 2017. The questionnaires were anonymous and it took respondents 45 minutes to fill it. The language used in questionnaires were Serbian and Albanian. Data were gathered via known platform for on-line surveys, cleaned and analysed in the Statistical Package for Social Scientists program (SPSS) version 17.0.

4. RESEARCH FINDINGS

For the purpose of this paper, we are presenting the most interesting results in terms of how much civil servants in Albania and Serbia recognize the need to improve their competencies in information and communication technologies in sphere of financial management and control.

First results are concerning general managers and their practice and perceived need for professional development in the area of developing ICT system that will provide employees with clear and precise directives and instructions on their role and responsibilities concerning FMC.

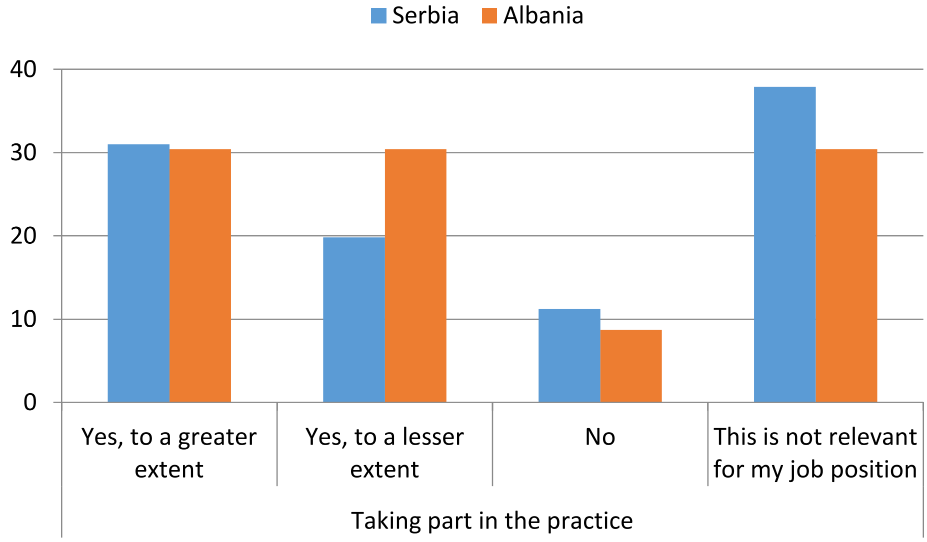

Figure 1: General managers - Developing information and communication system concerning financial management and control

Results presented in the Figure 1 show similar pattern for respondents across two countries. In both Serbia and Albania, a considerable portion of general managers do not take part in this type of practice (around one third of them). On the other hand, about 30% of them is taking part in this task to a great extent (whether they actually perform it, organize it or manage/supervise it) in both countries.

In relation to perceived needs for further professional development, out of those who see this practice to be relevant for their work, every fifth general manager in Serbia indicates high level of need in this area, and twice as much in Albania (Table 2). On the other hand, much bigger percentage of respondents in Serbia indicates no need at all for professional development in this area than what is the case in Albania. In sum, distribution of answers show that managers in Serbia less perceive they have a need for further training than their counterparts in Albania.

Table 2: General managers - Perception of need for professional development

Developing information and communication system that will provide employees with clear and precise directives and instructions on their role and responsibilities concerning financial management and control				
	High level of need	**Moderate level of need**	**Low level of need**	**No need at all**
Albania	38,5	23,1	23,1	15,4
Serbia	20,8	29,9	13,0	36,4

When it comes to managers of finance departments, results presented in Figure 2 suggests that these managers are much more involved in developing ICT systems concerning FMC than the line managers are (especially in Albania). When comparing two countries, all finance managers in Albania are dealing with the task (and majority to a greater extent), while in Serbia a quarter of the sample believes that this is not relevant for their job position.

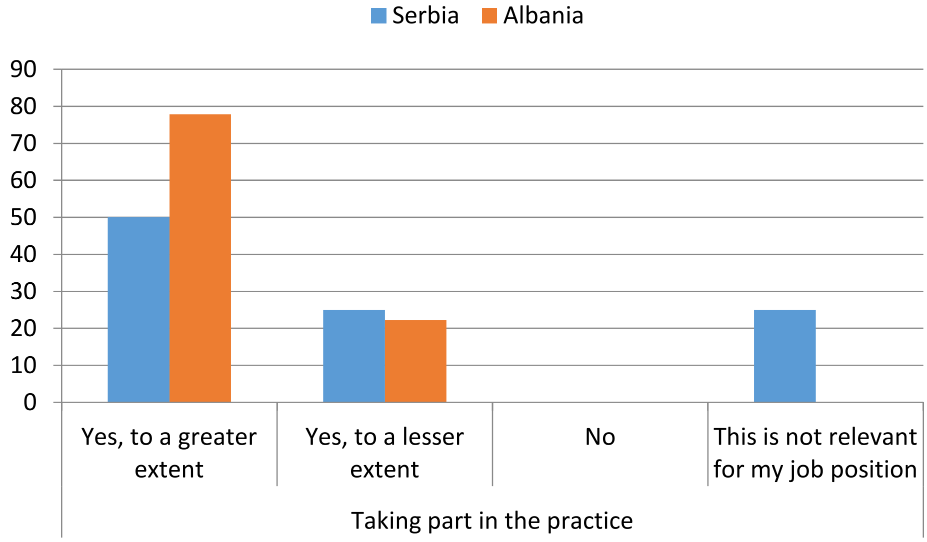

Figure 2: Managers of finance departments - Developing information and communication system concerning financial management and control

Out of those who see this practice to be relevant for their job, almost three quarters of finance managers in Serbia stated that they have a need for further professional development (whether it is high or moderate need). Interestingly, not one manager from Albania indicated high level of need, but more than half of them specified that they have moderate level of need. In sum, respondents from Albania appear to feel less need for trainings in this area than their peers in Serbia.

Table 3: Managers of finance departments - Perception of need for professional development

Developing information and communication system that will provide employees with clear and precise directives and instructions on their role and responsibilities concerning financial management and control				
	High level of need	**Moderate level of need**	**Low level of need**	**No need at all**
Albania	0,0	57,1	14,3	28,6
Serbia	47,4	26,3	10,5	15,8

Internal auditors were asked about perceived need for professional development only. Table 4 presents the results for two types of audit: information system audit and financial audit. Financial audit was taken here for the purpose of comparison with information system audit. Results suggest that in both countries need for information system audit is perceived at high level, much higher than further training in financial audit. More than three quarters of internal auditors in Serbia indicates high level of need in this area.

Table 4: Perception of need for professional development in information system audit and financial audit

	Serbia		**Albania**	
Need for professional development	**Performing information system audit**	**Performing financial audit**	**Performing information system audit**	**Performing financial audit**
High level of need	76,5	43,8	58,8	29,9
Moderate level of need	17,6	31,3	31,3	36,4
Low level of need	5,9	18,8	8,8	26
No need at all	0	6,3	1,3	7,8
This is not relevant for my job position	5,6	5,9	1,2	2,5

Auditors were also asked how much they feel a need for development in one of the aspects of information system audit - assessing whether the information technology governance of the organisation supports the organisation's strategies and objectives. As it can be seen in the Figure 3, vast majority of respondents asserted high or moderate level of need.

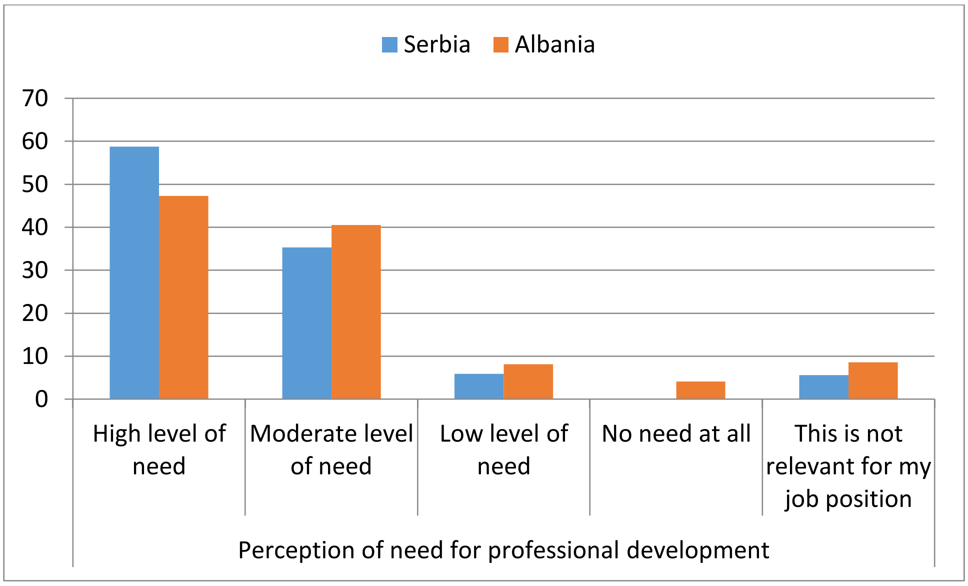

Figure 3: Perception of need for professional development in assessing the information technology governance

Overall, most unambiguous data are found with internal auditors in both countries. They strongly recognize the need to further develop in the area of information system audit. Situation with finance department managers is also mainly straightforward (more so in Albania) - dealing with information and communication system concerning financial management and control is generally seen to be their duty and they perceive the need to further improve in the area. In respect to general managers, results show that many of the do not see this be relevant for their position. We cannot say to what this can be attributed - to seeing financial management and control as not relevant for them or information and communication technologies. In the context of results of the main FINAC study, we are inclined to first explanation - many general managers do not see financial management and control to be their responsibilities. One reason for this is wrong perception that this is exclusive responsibility of finance departments.

These findings, as we see it, partly prove our initial hypothesis that the majority of public administration employees in Albania and Serbia who have responsibilities in financial management and control feel the need for additional professional improvement in usage of information and communication technologies in order of building up capacities in sphere of financial management and control. Aside of providing additional trainings in connecting ICT and FMC, what is still needed is raising awareness of general managers of importance and their role in financial management and control.

5. CONCLUSION

The European Union is committed to assist Albania and Serbia to create a more efficient modern public administration to meet the challenges the country faces in its bids to improve public administration. Till 2017 had already given 32 million euros (36.5 million U.S. dollars) for capacity building in Albanian administration. In order to guide implementation of Financial Management and Control, Albania has established the Public Finance Management Strategy 2014-2020 (PFM Strategy), where Pillar 5 of which seeks to establish effective internal control through a wide range of deliverables, covering issues such as information systems needed for effective Financial Management and Control (SIGMA, 2017, pp. 146).

Then again, Serbia is one of the European countries with the smallest number of public administration employees, when measured by the ratio of public employment per 100 inhabitants. Currently, this ratio equals 6.4 employees per 100 inhabitants, while the average for EU countries is 8.5. In the future period Serbia should strengthen the capacities of public administration employees, in order to reach the level of knowledge and competence of employees and efficiency and effectiveness of their performance similar to that of the public administration of EU countries. Digitalization should provide to citizens and companies to have a more practical, efficient and transparent approach to public administration, particularly financial management and control sector of public administration.

The rationale behind research conducted within ERASMUS + FINAC project was to get information about professional competencies of employees in public administration in management, financial management and audit positions, as well to get a picture do they recognise urge for improvement of their knowledge in field of information and communication technologies towards increasing process of digitalisation regional countries.

Although digitalisation and the digital transformation are processes that are widely discussed, and which will be among main topics in a period ahead, they actually present a topic-process that is not fully defined. In a broader sense we are talking about adequate and skilful introducing of process in public administration that will improve operations and provide to citizens and companies service on the quality level and fast and efficient enough for which they are paying.

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PUBLIC MANAGEMENT: COMPARATIVE ANALYSIS OF THE APPLICATION OF PARTICIPATIVE BUDGET CONCEPT IN THE COUNTRIES OF FORMER YUGOSLAVIA

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Abstract: *Participatory budgeting (PB) is a process that enables citizens to participate in decision-making related to local governments, i.e. improving the quality of life on a micro level. This paper takes an example of the former republics of the Socialist Federal Republic of Yugoslavia, which do not have such a developed system of PB, but the process has certainly begun, with the likely tendency of expansion and development. The aim of this paper is to provide a comparative analysis of the use and role of PB in Serbia, Croatia, Macedonia, Bosnia and Herzegovina, Slovenia and Montenegro.*

Keywords*: participatory budgeting, public investment decision, former republics of the SFRY, citizens' decisions*

1. INTRODUCTION

Participatory Budgeting (PB) is a relatively new concept in the countries of the former Yugoslavia, although it has been applied worldwide since 1989, when it was first used in Porto Alegre, a city that has faced serious financial problems. There is no single definition of participatory budgeting, because the scope of the concept differs depending on the city in which it is applied. Nevertheless, what is common in all attempts to define this concept is that *it is the process by which the local population is involved in the decision-making process on the distribution of all or part of the available public sources*. The fact that this type of budgeting was implemented in Porto Alegre (Brazil), at a time of democratic challenges and following a change in the political regime with the support of the working class and the poorer segments of society, when local governments faced a major budget deficit, infrastructure problems, insufficient financial resources and managed to change the image in a relatively short period of time, indicates the effectiveness of this mechanism. The basic principles underlying this mechanism are the strengthening of democracy, social equity and civic control.

Although the definition of PB emphasizes the participation of unelected citizens in the creation and distribution of public finances, important additional criteria are related to: discussion of the financial (budget) dimension, participation of municipal bodies, repetition of the process, the existence of some form of public debate and responsibility for the achieved result (Joan Font et al., 2014).

PB is a way of investing public money according to citizens' decision, ie, public. In any case, this is a limited amount of money that is different from the budget to the budgets of individual municipalities. It represents support to the civil sector, which is also a challenge for citizens to be involved in the decision-making process for the allocation of a certain part of the budget funds. PB is the process of the most direct possible involvement of citizens in decision-making, and can be called the most democratic way of decision-making. In a word, citizens are asked what they want to finance their (public) funds. Suggestions are submitted to local administrations.

2. CONCEPTUAL DEFINITION OF PARTICIPATORY BUDGETING

It is an innovative way of involving all members of a community, and connecting them with common goals and interests, regardless of party or any other affiliation. In this lies the secret of the success of this method of distributing budgets, because individual interests are subordinate to the common good. Participatory budgeting contains the basic settings of a democratic process that is truely applied in practice, and not only serves as a dead letter on paper. Thanks to the success and results achieved in Brazil, PB is rapidly expanding in Latin America (Argentina, Chile, Uruguay, Peru, Colombia), in many African countries as well as in neighbouring countries (Albania). OECD member countries adhere to so-called The principle of information, consultation and active participation of citizens in order to create an open and inclusive public administration since 2001, with an annual evaluation of the fulfillment of these principles. Nowadays, it is used in some form in over 2,500 municipalities around the world.

The main advantages of PB can be synthesised by giving priority to the needs and goals of the most vulnerable and impoverished members of the community, strengthening social cohesion, improving the services provided, increasing the transparency and accountability of local authorities, strengthening the credibility of local authorities. Transparency of the whole process is something that makes PB attractive to all actors, and especially to citizens. The amount of the public budget itself allocated in PB varies from city (municipality) to city. Usually, these are small amounts of the city's annual budget, where citizens discuss the proposed investment projects, and make a decision on the use of available funds, but they are not legally defined costs.

Nevertheless, PB in itself carries certain risks, and practice and literature identify several limitations (Wampler, 2007), which still depend on the form of PB:

- Focus on public works / projects, which require additional learning and engagement of citizens on rights, fiscal responsibility of the government or wider social policies. The way to overcome this constraint is fairly clear - the local community should evaluate the time and invested energy of the participants through the implementation of particular projects specific to the particular current problems of the local population;
- The process depends to a large extent on local government (organisation, availability of information, implementation) and therefore requires the will and support of the mayor who appears as the main actor in the whole process. So far, there have been poor experiences with the boycott of "hostile" citizens and selective "listening";
- Citizens mainly focus on short-term plans and projects that fulfill social goals, but often it is done to the detriment of economic feasibility of projects. It is necessary, during the process of PB, to develop an understanding of the complexity of the proposed allocation decisions;
- Similarly, the focus is on local problems, ignoring the general economic and social situation in the country, because although participants dedicate their ideas to ensuring changes in local public policies, the main problems faced by communities are often related to unemployment, violence or lack of educational opportunities;
- There is a risk of abuse of the entire process, such as the use of PB to achieve its own political goals, with the concealment of information on the size and structure of the budget, the weakening of the implementation function and monitoring of the entire process.

3. PARTICIPATORY BUDGETING PROCESS

The process of PB involves the active participation of citizens in the creation and implementation of all stages of the budget cycle, starting from identifying the crucial local issues for which projects will be drawn up, through the preparation of feasibility studies and submission of proposals to local authorities, analysis, discussion and selection of a project whose implementation will be approached in the upcoming period, to monitoring and evaluating the execution of public works. Part of these activities can be all members of the community, who want to participate in the decision-making about the allocation of budget funds. In this way, local authorities and the population cease to be two separate segments of the community, and unite their efforts to contribute to the prosperity of their municipality. Local government representatives have got (or should have got) skills and knowledge that citizens may lack, while the citizens themselves, for their part, know best to identify the problems they face on a daily basis.

PB is a process consisting of several repetitive phases. As already pointed out, the participants are the local self-government and the Mayor, and citizens (with special emphasis placed on the incorporation of the most vulnerable categories of population), civil society organisations, the business community. All of them participate voluntarily, which means that the first precondition for the application of PB is the existence of the will of the mentioned participants, primarily local self-governments.

PB is a model by which citizens are given an opportunity to propose the purpose of investing public money, which is later included in the budget. The amount of funds available for this kind of decision-making and the management of funds depends on the municipality to the municipality. Concerning the legal framework, participatory budgeting or citizens' rights are supported by several laws at the international and national levels: the Law on the Budget, the Law on Financing Local Self-Government, the Law on Free Access to Information, the Budget Law, the Law on Local Self-Government, the Law on Local Self-Government the ratification of the Convention on the availability of information, the European Charter of Local Self-Government, public participation in decision-making and the right to legal protection in environmental matters (the Archives Convention), it is also possible to refer to the statutes of cities and municipalities. (https://www.cdtmn.org/wp-content/uploads/2017/02/brosura-za-participative-bud%C5%BEetiranje-2-ver.pdf)

In practical terms, the PB process differs from the local community to the local community. In the global process, it begins with an assessment of the situation, and determining the amount of available resources, and prioritizing after identification of needs. An important role is the process of improving the mechanisms for collecting proposals, opinions and feedback. It is necessary to ensure the smooth running of all stages of the process. Then follows the analysis of the proposal, and the democratic gradation of the proposal. The final step is the realization of selected proposals.

Good democratic practice in a regulated society can facilitate the governance process, and also increase the level of citizen satisfaction. Citizens, when voting in elections, entrust their trust to representatives, but through participatory budgeting and they alone or individually can influence the improvement of the development of local communities. The model of participatory budgeting allows citizens to express their ideas and to vote for the proposals they support. In this process, several principles should be respected: responsibility, participation, transparency, tolerance, fairness, competitiveness, efficiency and effectiveness, respect for the agreements reached, equality and predictability. Also, the participatory budgeting phases should include information, consultation, inclusion, cooperation and empowerment.

PB is not a complex process, but it differs from municipality to municipality depending on the projects that enable this system and the policy of local governments. As noted above, the process came to life at the end of the last century, and more recently, the initiators of this way of allocating local financial resources are represented by non-governmental organizations, and they also contribute to the spread of this kind of decision-making.

In order to implement this procedure, it is necessary to reach an agreement with the local self-governments, whereby political organizations / parties can contribute to the process of participatory budgeting being implemented. In this process, political parties can gain on their popularization because of a democratic idea, if citizens consider that such a form of management is adequate. Mostly this process is carried out through numerous international projects.

After the local government decision has been taken that part of the budget will be entrusted to the citizens for decision-making, the process begins. Regarding the amount of money in the absolute amount or the percentage of the budget that is entrusted to the citizens for decision making, it depends on the municipality to the municipality, and also from the project to the project, i.e. source of funding.

The first premise is the available resources. After that, citizens give project proposals that can be like building or restoring children's playgrounds, sports fields, increasing the quality of life of children, or the third generation, building bicycle paths, improving lighting, paving the streets etc. It is necessary that every proposed plan should be in its package contains a sufficiently elaborated business plan, which clearly shows the effects, the value of the investment, and the projected design period.

Proposed within the agreed time, projects are considered and publicly announced according to the procedures and decisions of local governments. Project proposals can be available on local government websites, can be printed and distributed in the form of leaflets, or inserted into the most popular local newspapers. It is also possible to promote through local radio and television stations. Basically, the point is to inform as many percent of the population as possible. The interested parties are definitely responding because the process is neither demanding nor complicated. Again, depending on the local self-government, a number of days are proposed projects for insights, and after the expiration of the given period, voting is allowed.

In principle, all interested citizens can vote. In some settings, this is an adult's life, while some high school students are involved in the process of participatory budgeting somewhere. Voting can be done publicly or secretly, and the voting period may last fifteen business days, again in line with local decisions. After the voting is conducted, the most sustainable projects are selected, up to a certain amount of budgetary funds. If projects require a smaller amount of funds, more projects can be implemented during a budget year.

The process in practice takes several months. Usually begins at the end of the calendar year, when a budget is proposed and approved, and then a clear amount is dedicated to participatory budgeting. After that, project proposals and proposals are accepted, included in the selection, and publicly disclosed. Then follows the voting of the population, which is a key step in democratic decision-making on the use of public funds. Lastly, the holders of selected projects receive funds through which proposals are put into operation within the agreed time.

The PB process could be presented in the following phases:
1. Determination of the amount of funds that will be incorporated into the budget of the local community;
2. Public call for submission of project proposals;
3. Matching with projects that contain a business plan;

4. Adoption of projects, and their promotion to the citizens through various information agendas - the period for the adoption of a pardon;
5. Citizens' voting, and selection of the most attractive projects, according to the number of votes.
6. Assigning budget funds and putting them into practice.
These phases must be respected, the process must inevitably be carried out in a transparent atmosphere. After that, projects selected by the citizens within a reasonable time have been put into operation.

4. MODELS OF PARTICIPATORY BUDGETING

Sintomer, Herzberg and Röcke (2008) distinguish six basic models of participatory budgeting, based on a set of criteria:

1. "Porto Alegre adapted for Europe"
2. "Participation of organized interests"
3. "Community funds at the local and city level"
4. "The public/private negotiating table"
5. "Proximity participation"
6. "Consultations on public finance ".

4.1. "Porto Alegre adapted for Europe" and "Participation of organized interests"

In some European experiments where the influence of the anti-globalization movement has been particular importance, the Porto Alegre model directly influenced the setting up of a completely new procedure. For example, in the Cordoba, the participatory budget (introduced in 2001) can be considered as an ideal example of "Porto Alegre adapted for Europe". However, in other cities, the influence of the Brazilian case was more indirect in character, as is the case where participation is not directed at individuals. In the second ideal case, secondary organizations, NGOs, trade unions and other organizational groups are the main actors. This model is based on neo-corporate logic, and is called "Participation of organized interests". Very often, it develops in places where the previous tradition of participation is based on contributions from associations by stakeholders to define the policies of certain sectors. Although there have not been direct examples of models of organized interests in Europe, some experiments are moving in that direction. The budget for the participation in Albacete can be considered as a hybrid of Porto Alegre and a model of "organized interests" (Sintomer et al, 2008).

The content of discussion represents the second difference between the two types. In the "Porto Alegre Adapted for Europe" model, discussions primarily refer to specific investments and projects, while the discussion of broader policy orientations is at the heart of the process of "Participating interests" (ie, general orientation of population, education, environment or local policies related to for traffic). The subsequent difference is in the way people's proposals are treated. In the "Porto Alegre adapted for Europe" model, there is a high pressure for the implementation of proposals that arise during the process of budgeting participation, because the local self-government has to comply with the undertaken obligations to accept them. Although the municipal council is technically still responsible for the final decision on the budget, citizens are those that can be deemed to have a de facto possibility of (joint) decision-making. As in the Brazilian case, this model contains the formula for the redistribution of investments. However, the criteria are not necessarily the same as in the Brazilian context. Other factors can be used, such as the number of beneficiaries of social benefits in the district, participation in meetings or the degree to which citizens themselves implement the proposed projects. In the "Participation of Organized Interests" model, the rules can be more informal than in the Porto Alegre model, and this can lead only to a consultative process.

One advantage of both models is the potential for making quality decisions. Participants not only discuss topics in a larger space, but can do the same in smaller forums, committees or councils of representatives. In these circumstances, a fundamental discussion, which allows the development of detailed proposals for problem solving and clarification of important topics, becomes possible. This may even mean that students develop expert reports on equipment in schools or better integration of minorities. One challenge for both models, however, consists of merging procedures with extensive modernization of the entire administration. Another challenge is to address potential conflicts between individuals' participation and the participation of organized interests. In some experiments that are closer to the Porto Alegre model, this proved to be problematic, for example, when associations were already being set up afraid of adversity regarding their promotion.

4.2. "Community funds at the local and city level" and "The public/private negotiating table"

The models of "community funds" and "public/private negotiating table" have only played a marginal role in European participatory budgeting so far. Regardless, they represent a potentially strong basis for the future development of participatory budgeting, most notably in the UK and Eastern Europe. In both cases, there is a fund for investments or projects for society, the environment or culture. Such a fund existed, for example, in the British city of Bredford and the Polish city of Płock. Another specificity of these models is that they are relatively independent of the municipal budget, since the money in question does not come, or comes only partially, from the local self-government. Accordingly, the municipal council has no last word on the acceptance of the proposal. It is already a committee, a commission or assembly of representatives that sets priorities. Organized groups, such as local associations or communities, and NGOs are in the center of both processes, but the work is excluded from one of them and is central to others. The possibility of a meeting can be considered fair, as several meetings with a sustainable group of participants take place.

In the case of a "public/private negotiating table," private firms and perhaps international organizations are collecting some money. Oil company ORLEN S.A. for example contributes 50% of Płock funds with a total of 300,000 euros, in addition to the municipality and the UN development program. This financial involvement allows the private sector to influence the design of the procedure, so that citizens who do not give money but apply for it play only a secondary role. This model can be developed when international actors try to involve civic groups or NGOs in public / private partnerships. The UN program Habitat officially adopted a participatory budgeting (Sintomer et al., 2013b), but shortly thereafter, it largely moved away from the Porto Alegre model while defining this instrument "an innovative mechanism that tends to promote the involvement of local self-governments, the private sector and civil society in process of remediation of municipal finances". The impact on Rio Grande do Sul's capital is therefore indirect.

On the contrary, the combination of a strong participative tradition with the ideas of Porto Alegre has led to the extension of the local model funded by the community to the city level. In this model, the participants decide on the rules of the joint fund independently, while the business is exempted. Funding is provided through specific policy programs, for example, for urban renewal. In this model, the promotion of socially vulnerable groups is a key feature. In 2004, for example, the fund for participatory budgeting of the British city of Bredford of more than EUR 875 000 was reserved exclusively for groups from vulnerable zones. Moreover, participants of "joint funds" ideal type realize the projects themselves. While this is also possible for a public / private negotiating table, it is not a necessary condition.

These two models have advantages and disadvantages. The connection of a local political structure, for example, is weak or non-existent, even when the municipal council retains some influence as it collects a portion of the money. At the public / private negotiating table, the influence of private investors depends on the size of their contribution, but radical reorientation towards greater social justice is unlikely. Similarly, the "common fund" model presents new opportunities for participatory budgeting. National and European programs for the promotion of cities and infrastructures can, for example, be connected at the local level with the budget of participation and promote vulnerable settlements or groups of residents. Both models have the same advantage that they enable a diverse citizen participation, as participants also implement projects.

4.3. "Proximity participation" and "Consultation on public finances"

While examples of the model of participation in proximity are mostly found in France, the model "Consultation on public finances" is a feature of the budget for participation in Germany. Both have in common that involve only consultative processes. This means that the results of the discussion were summarized by the local self-government, not by the citizens of the participants. Unlike the models that have been presented so far, participants do not vote here or develop project priorities. This is more about the process of "selective listening", that is, the local self-government can freely (and at its sole discretion) integrate some of the proposals in its public policies after the process of participation (Sintomer, 2012). What's more, civil society has only a slight influence on the design of the procedure. It has to be underlined that these models are not looking for any specific goals, and that there are no distribution criteria in this process. Another common feature is that associations can barely play any role within the procedure. Participation takes place through open-source councils where citizens are called upon to publish in media, letter or direct contact. In Germany and in some French experiments, participants were (additionally) mobilized on the basis of a random selection from the register of the right holder to vote. These persons receive a personal invitation from the Mayor to attend a civic forum. This method, among others, was applied to Emsdetten of Hilden, Vlotho and the Berlin districts (Sintomer et al., 2010).
The two procedures differ in their roots. The proximity model usually relies on pre-participant instruments, such as funds or district councils, which tend to link together with a preparatory budget together to a single instrument. This development takes place after the ideological impact of Porto Alegre, but the real resemblance to Treptow-Köpenick remains very limited. The model of "Public Finances Consultation" can keep some influence from Porto Alegre, but de facto is more similar to the trends in the participation of New Public Management strategies. In Germany, it was imported from the New Zealand City of Christchurch and the Brazilian experiment had an impact only later, which led to the emergence of mixed models. The

"proximity" model generally involves districts and refers to investments at that level. At the city level as a whole, this model no longer deals with investments, but with general political goals ("a nice city") (Sintomer et al., 2013a).

In general, the term "proximity" has two meanings. On the one hand, it refers to geographical proximity, in the sense of, for example, the organization of several meetings with quarters and not just one meeting in the city council; on the other hand, the term refers to close contact between municipal management or between administration and citizens. According to this model, Mayor Bobigny organizes open gatherings twice a year in order to respond to citizens' concerns. The model of "Public Finances Consulting" first deals with the establishment of transparency of the financial situation of the city. Information on the general budget is disclosed through brochures, the Internet, and press releases. There are two versions of the model. In a more widespread variant, public services and municipal accountability zones are presented, for example, in the form of revenue and expenditure for libraries, swimming pools and preschools and street cleaning, wastewater treatment and waste disposal, etc. Citizens can submit their proposals in an open session or in a specific forum. The second option aims to balance the budget deficit. In the city of North Rhine-Westphalia, Emsdetten, for example, the budgeting process for 2002. It is based on five options for a balanced budget: reducing personnel costs and operating costs, reducing voluntary liabilities and accountability, withdrawing from the reserve or increasing taxes and fees. Through the survey, each participant was asked to develop his or her proposal, which is based on the combination mentioned.

At the end of the event, the general recommendation of the civil forum was calculated on the basis of individual opinions. Generally speaking, the modeling aspect of the model is poor, because in most cases there is very little time for more intense discussion. Through the model of "Participation by neighborhood," contrary to the nature of considerations, can be herbs, as citizens sometimes work in small groups that meet more often over a longer period of time. The model of "Public Finance Consulting" is interesting in the sense that it is part of the general modernization of local bureaucracy, even if the promotion, limited to one or two sessions a year, can hardly produce tremendous effects. Moreover, civic participation is only a "supplement" of this modernization process, without a direct link with social problems and for the renewal of politics. The Model of "Proximity Participation" can trigger a discussion between citizens and administrations / council members, but it can hardly produce the effects of modernization at the city level. In both models, accountability is low on the implementation of the proposal and the autonomy of civil society is weak.

5. RESEARCH RESULTS

5.1. Serbia

The Municipality of Ruma recognized the importance of participatory budgeting and for the second year in a row enabled all interested citizens to get involved in budget planning for 2017. The Project Implementation Team "Participatory Budgeting" of the Municipality of Ruma carried out research among the citizens within the project activities and defined the List of Project Proposals, ie candidates to become part of the annual budget for 2017.

On June 30, 2016, Ruma adopted a Decision on including citizens in the budget decision-making process and preparing a budget guide through the budget. This Decision defines that the involvement of citizens in the budget process is carried out through the following activities of the municipal administration services: 1. Regularly informing the public about all steps in preparing the budget, such as: announcing citizen surveys, providing information to the media, setting information on the official website of the municipality (and on social networks); 2. prepares questionnaires and organizes citizens' surveys on budget priorities at the moment when the budget process starts; 3. the organization of the Local Budget Forum where the results of the survey and the Draft Budget Decisions are presented and conducts a public debate on the topic of budget revenues and local economic development and other topics of the overall development of the municipality; 4. Conclusions from the Local Budget Forum, as well as the results of the questionnaire / survey analysis, are an integral part of the explanation of the draft / proposal of the Decision on the municipal budget.

5.2. Croatia

An analysis conducted in Croatia shows that participatory budgeting (PB) of Croatian local units is not well developed. Several cities have had experience with involving citizens in the preparation of the local budget, but in most cases it is a process of "shallow consultation" without the real commitment of citizens to the decision-making process for specific financial amounts. Therefore, the types of engagement vary from a simple call for proposals to transfer the decision-making process by directing the priorities of sub-municipal projects.

Since most of the civic participation initiatives in the preparation of the local budget in Croatia have not been developed and are still elaborated, it is difficult to talk about PB and it is even more difficult to talk about specific PB models in local units of Croatia. The predominant part of the analyzed local units is primarily oriented towards making the local budget transparent and understandable to citizens, and thus only includes information in the form of one-way communication between administration and citizens. However, some of them have implemented non-binding consultation practices (in most cases e-consultation) that can be considered as one type of PB model, which Sintomer et al. (2008, 172 - 173) called "Public Finances Consultation". Half of the cities organized public sessions and discussions on local needs and necessary projects at the sub-municipal level and in cooperation with local government, which is a feature of "Participation by neighborhood". However, the model implemented in Pazin is the most developed. Since it involves the direct participation of individual citizens who decide on concrete investments and projects with a larger share of acceptance of proposals, this model is closest to the original PB model, or "Porto Alegre adapted for Europe" (Sintomer et al., 2008, 170). As the most developed local unit in PB practice in Croatia, the city of Pazin, or its PB model, is presented in Table 1. Other forms of citizen involvement in the local budget should not (still) be characterized as a developed PB practice.

5.3. Macedonia

Participatory budgeting in Macedonia is in its initial implementation phase. As a model recognised as successful by cities / municipalities around the world, representatives of some local authorities in Macedonia have decided to give a chance to this type of budget allocation, and to decide, together with citizens, about priority investment projects for the coming period of time. The PB project in Macedonia, supported by the USAID Civic Engagement Project through the East West Management Institute, is in progress (May 2017-2020). The overall objective of the project is to improve the practice and participation of local actors in the local budgeting process, as well as to increase the efficiency of spending municipal money. The specific objectives defined within the project include:

- Increasing the participation of local actors - civil society, business community, citizens, local media, in the local budgeting process;
- Increasing the awareness of the local population about how the endeavor of the local budget affects the quality of their lives;
- Increasing the credibility and efficiency of local government decisions related to the spending of public money and raising awareness of the necessary transparency in this respect.

The realisation of the project is organised so that six members of the FISCAST network (this is an acronym of FISCal Accountability, Sustainability and Transparency) plus Financial Think (independent non-profit institute for economic research founded in 2012) represent the core of the entire network. The selection of members was carried out carefully, bearing in mind their previous experience with certain municipalities, as well as the level of successful cooperation with Financial Think in the previous period.
The municipalities covered by this project are:
Kvantum Prima - Kavadarci, includes: Kavadarci, Negotino
Institute Zip - Skopje, which includes: Saraj, Gjorce Petrov
Egri Civic Center for Sustainable Development - Kriva Palanka, covering two or three of: Kriva Palanka, Kumanovo, Staro Nagoricane
Inicijalni Glas (Initial Voice) - Prilep, which includes: Prilep, Krivogastani
Institute IMAPKT - Skopje, which includes: Strumica
Center for Change Management (MCP) - Skopje, which includes: Center, Gjorce Petrov (together with Zip)
Financial Thinking: Krusevo, Centar (together with TsUP).
What is expected after the implementation of this project is more efficient allocation of budget funds, improvement of the quality of life of residents in these municipalities, as well as the expansion of PB in other cities / municipalities in Macedonia.

5.4. Bosnia and Herzegovina

Also, in Bosnia and Herzegovina (BiH), some municipalities have decided to introduce the PB process into their practice and use all its benefits. Among the innovators, and we hope for examples of successful practice, there are the municipalities of Breza, Istočna Ilidža and the municipality of Kreševo.
The Municipality of Breza is one of the municipalities in BiH which, according to the population census in 2014, has got 13,787 inhabitants. When it comes to the level of development, this municipality notes the tendency of economic growth and development measured by gross domestic product (GDP) per capita. Namely, in the period 2007-2013, according to the data of the Center for Social Research, GDP per capita is almost doubled (from 4,917.50 to 8,344.83). Data for 2014 show a GDP per capita of 13787 km, which is by 1.7% higher than the average GDP per capita in the Federation of BiH. (Federal Bureau of Development Program BiH, Macroeconomic Indicators by Cantons 2014). The implementation of the project in Breza municipality is expected in 2018, although it started with preparatory phases in April 2017. A sum of 9,000

euros (18,000 KM) is available to citizens. To date, 8 projects have been presented, with the selection and implementation of ideas for allocating separate funds.

The municipality of Istočna Ilidža, according to the 2013 census, has got 15223 inhabitants. GDP per capita in 2017 was 4,651.27, and in 2013 almost unchanged (4,668.47). The same available funds are available to residents of the Municipality of Istočna Ilidža (18,000 KM). Also, the time frame for project planning and implementation is the same (April 2017 - November 2018), but for now, residents of the Municipality of Ilidža have submitted 6 proposals.

The municipality of Kreševo is a smaller municipality by population (according to data in 2014, the number of inhabitants was 5456). GDP per capita in 2007 was 5,325.00, and in 2013 6,217.64 (Center for Social Research). However, according to the Federal Institute for Development Programming, GDP per capita in 2014 amounted to 629 KM, which is by 14.3% less than the average of the Federation of BiH. In the Kreševo municipality, the launch of the participatory budgeting process has very similar baseline settings in terms of the available funds and the time span of the implementation and completion of the project. The same amount of available resources (18,000KM), the number of received proposals, for now is 8, and the period of planning and implementation also from April 2017 to November 2018.

5.5. Slovenia

In Slovenian experience, the municipality of Ankaran can be mentioned, whose plan was reflected in sending a letter of invitation to all households, so that all inhabitants regardless of their age, sex or other belongings participate in the active decision-making on the development of the municipality. In 2016 they received suggestions of around 20% of the total population, while the following year an increase in participation of about 30% was recorded. Principals are also included.

Informal learning in the PB process was developed by self-organized local and district community assemblies in Maribor in 2013 (Gregorčić, & Jelenc Krašovec, 2016). Negative effects of the global financial crisis in correlation with local specific problems motivated the inhabitants of Maribor to protest. By the end of 2012, the residents of Maribor started a struggle for social change in order to initiate changes. After these protests, the results have already become visible.

5.6. Montenegro

In Montenegro, the process of participatory budgeting was first started in the capital - Podgorica, where almost half of the proposals were implemented. Then the municipality of Nikšić started implementing through the project "Your city, your money, your choice". For example, in the municipality of Niksic, participatory budgeting is carried out in the following way: the draft budget by the local self-government units for the next calendar year is being prepared from July to November of the current year. After that, the draft budget is subject to a public hearing, and the adopted budget proposal is directed to the Municipal Assembly. The Municipal Assembly adopts the budget in December of the current year for the next calendar year.

Project in Nikšić "Your city, your money, your choice" is specifically based on a healthy environment and the creation of an efficient local self-government and lasts from 2014 to 2019. The project is in line with the Local Action Plan for Youth (2011-2016) where the main goal is to increase the participation of young people in the decision-making process. Also, the Ozone Environmental Movement, in cooperation with the Center for Democratic Transition, aims to motivate the younger population to get involved in decision-making and the creation of a local budget in order to increase trust. (https://www.cdtmn.org/wp-content/uploads/2017/02/brosura-za-participativno-bud%C5%BEetiranje-2-ver.pdf)

6. CONCLUSION

The point of participatory budgeting is that citizens are not only passive observers (although they could vote in favor of the election of a political representative, perhaps he-she not voted / elected), but to actively participate in the adoption of certain decisions related to the work of local self-government.

Participatory budgeting can be included as one of the criteria (in the program) for certification of municipalities with a favorable business environment. This budgeting system is still unknown to citizens, and it does not enjoy enough confidence in terms of a potential model for improving the quality of life of citizens at the local level.

The aim of this model is to encourage the population to actively participate in deciding on the development of the local community, in particular in the process of deciding on the importance of certain investments, and thus the allocation of public funds and the control of use. In any case, the implementation of the project leads to increasing the confidence of the population towards local institutions. The ability to create a budget represents an important step in improving democratization, and simplifying and accelerating implementation into the work of citizens' ideas.

Benefits for the local population would be reflected in freedom and the ability to express opinions and needs, i.e. influencing decision-making, clarification of the functioning of local self-government, full use of civil rights, involvement in decision-making, and sense of ownership of public funds, responsibility for the functioning of the local community, as well as the provision of timely and adequate information.

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THE EFFICIENCY OF ONLINE CONTENT IN POLITICAL CAMPAIGNS

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Abstract: *In recent years, social media has become an indispensable part of political campaigns, enabling political parties to have a strategic approach to creating digital campaigns. This paper deals with the identification of indicators that show the engagement of the online voter body. The first is the concept of political marketing, as well as the presentation of the modernization of political campaigns and funds through the stages of development. Then, the role of social media in political campaigns has been defined. By identifying the importance of monitoring political campaigns on social media, the paper reviews the existing developed and applied methodologies that determine the effects of political campaigns on the online voter body. Existing research has set a framework for the proposal of new methodologies for measuring the efficiency of engaging the online voter body on social media Facebook and Twitter. The proposed methodology defined in this paper will be a quantitative analysis of the published content of political parties in Serbia as well as the basis for a strategic approach in creating digital campaigns.*

Keywords*: political marketing, social media, real engagement, efficiency*

1. INTRODUCTION

The beginning of the 1990s has marked a growth in use of Internet. The number of social media users in 2010 was 0.97 billion users, and in 2018, 2.62 billion users show the trend of population growth (Statista, 2018b). For this reason, social media has become a fact of life for civil society around the world. As the communication landscape becomes more complex, and more participatory, the networked population is becoming more important and gaining more power since social media gives people the opportunity to access information much more easily. (Okan, et al., 2014). Additionally, social media has also made a significant contribution to the democratization of communications because of the possibility of free sharing of attitudes, opinions and other types of content. As a new space for targeting a specific target audience, it became an indispensable tool in both corporate advertising and political marketing.

Karlsen (2010) argues that the digital era, the era in which communication is established with voters, and that social media is an indispensable part of every political campaign. In addition, Stieglitz & Dang-Xuan (2012) argue that social media is increasingly being used in a political context, and that Twitter and Facebook have the potential to continuously increase political participation, confirming the importance of continuously monitoring the engagement of social media users in the course of political campaigns to adjust messages campaign to the electorate.

But if one looks at the field of political marketing, there is a group of authors who argue that despite the growing popularity of social media and the efforts of civil and political organizations to adopt these services, there is limited empirical research on the effects of using these services on citizens' political attitudes and civic behaviours (Gil de Zúñiga, et al., 2012). The extant body of knowledge is enlarging with the studies covering topics such as the effects of fake news in political campaigns (Allcot & Gentzkow, 2017), the use of specific media, such as Twitter, for a particular campaign (Enli, 2017) or the intermedia agenda in the social media age (Harder, Sevenans & Van Aelst, 2017). Although there are studies dealing with the effect of political campaigns on the electorate and suggesting methodologies that can predict the results of the election (Williams & Gulati, 2008; Tumasjan, et al., 2010; Sang & Bos, 2012; O'Connor, et al., 2010; Barclay, et al., 2014), in Serbia, the field of political marketing has been insufficiently explored and leaves room for further research and monitoring of political campaigns. Empirical studies confirmed that political authorities in Serbia lack of transparency, responsiveness and interactivity with citizens (Milosavljevic, Milanovic & Benkovic, 2017). The confirmation of the Share Foundation's research on the use of social media as a channel for the communication of political parties with the electorate, and at the same time the existence of an online voter body, it is possible to plan better published content and improve the overall strategy of communication of political parties on social networks- media.

The paucity of the studies on the real effects of online political capmpaigns could partially be attributed to the lack of substantial matrices of indicators for the measurement of the effects of political campaigns in the online arena. The aim of this paper was to identify the key indicators of the engagement of the online voter body by researching existing methodologies. The additional aim of the paper is to propose a new indicator of the efficiency of the engagement of an online voting body that would use political parties in Serbia as a feedback for the formulation of digital communication strategies.

The remainder of the paper is organized as follows. Section 2 delineates current body of knowledge related to the conpcepts of political marketing, and the online channels for communicating political programs, aims and ideologies. Section 3 depicts on the main matrices used to indicate the relevancz of online presence in the sphere of political marketing. Section 4 is reserved for concluding remarks.

2. RELATED WORKS

The concept political marketing, although relatively new, has grown rapidly over the last decade. According to certain authors, while business marketing manages the market of customers, political marketing is governed by the voter market. In this case, the element of the market implies a political market, which further relates to the political public or, more specifically, the citizens as decision makers. Essential determinants of classical marketing, such as needs, desires and demands, have their own substitutes in political marketing. The needs can be replaced by interests, preferences of voters or the political market, while demands represent the interest of the political market for a political program (Škaro, 1999; Rocco, 1993). Nowadays, it attracts scholars from a number of disciplines outside the mainstream marketing field.

Political marketing includes political parties' influence on voters and focuses on influencing individuals in terms of political candidates to reach the maximum number of votes (Okan, et al., 2014; Bongard, et al., 1998; Slavujević, 2007). Political parties started to use marketing tools as part of their election campaign activities (Okan, et al., 2014). Karlsen (2010) claims that the recent decades of new information and communication technologies have influenced the creation of election campaigns. The same author, through three phases of campaign modernization, explains the instruments used in communication with voters. The first journalistic era (pre-modern campaign) is characterized by communication through newspapers, mass meetings and surveys whose main goal was to mobilize voters. The second television era (modern campaign) marks the use of television in campaigns that have been carefully prepared long before the election. Then there is a need of political parties to define the strategy of the election campaign. The third period is the digital era (post-modern campaign) in which communication is established with voters as well as the need for return information in order to adjust the message of the campaign to the audience. In the two-way communication, which marks post-modern campaigns, the possibility of a new type of engagement of the digital polling entity opens up feedback to political parties, thus adapting campaign messages to the digital voter body.

2.1. Social media as a channel in political campaings

One of the marketing channels that political parties use to reach the voters is the social media (Shehata & Strömbäck, 2018). Since the rise of the Internet in the early 1990s, the world's networked population has grown from the low millions to the low billions (Okan, wt al., 2014). The global popularity of social media can be seen by comparing the acceptance of different media by users - the radio took 38 years for 50 million users, 13 for television, for the Internet 4 years, while Facebook had the same number of users in 10 months (Filipović & Kostić Stanković, 2017). Kaplan and Haenlein define social media as "a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0 that allow the creation and exchange of user-generated content" (Stieglitz & Dang-Xuan, 2012).

Marketing on social media can be defined as monitoring and facilitating interaction between customers, participation and exchange through digital media to encourage positive engagement with the company and its brands leading to a commercialized value (Chaffey & Smith, 2013). If a social media strategy is properly applied, marketing on social media can contribute to the success of achieving the goals of the organization. This is supported by facts about the number of social media users with whom it communicates with the implementation of the marketing strategy. Facebook has 2.167 billion users worldwide, Instagram has 800 billion active users and Twitter has 330 billion (Statista, 2018a).

Social media is considered to have made a significant contribution to the democratization of communications, the free sharing of attitudes, opinions and other types of content, through which editorial power is transferred from owners and editors of traditional media to users. Also, social media is a completely new space for the target audience to be targeted, making them an indispensable tool both in corporate advertising and in political marketing. The successful use of social media in US presidential campaign Barack Obama has established Twitter, Facebook, MySpace and other social media as an integral part of the political campaign toolbox (Tumasjan, et al., 2010). Obama used fifteen social media sites to run his campaign. He understood the power of complementing offline work with an online campaign. He systematically linked the online community to offline activities such as fundraising (Effing, et al., 2011). Another positive case was the online campaign of Ségolène Royal during the French elections in 2007. She managed to connect with a massive online crowd (Effing, et al., 2011). One characteristic of this primary election was that their members were highly mobilized (Montero, 2009). On the other hand (Okan, et al. 2014) talked about political communication with voters through online campaigns in Turkey. The results of an analysis of the activities of Turkish political parties in local elections show that social media platforms used in local politics in 2014 - the first three were Youtube, Facebook and Twitter (Okan, et al., 2014).

The first significant use of the Facebook and Twitter platform for communication with the electorate in Serbia occurs during the presidential elections in 2008, when the first forms of planned digital content in political campaigns appear. It was then clear that the main actors in Serbia's political scene understood the notion of democratization as a chance to freely distribute a large amount of content, without using enough opportunity for strategic positioning of parties, promotion of their own ideas and political programs. Although the success of political parties in the elections is influenced by a number of other factors, the role of social media has become increasingly important in recent years. The empirical data (Statista, 2018c) show that the number of social media users in Serbia is constantly increasing and even predicts that the number of social media users will reach 3.5 million individuals by 2022. However, the use of social media as an instrument in political campaigns is an area that has not been sufficiently explored in Serbia, especially from the point of planning, creating and managing content, measuring the effectiveness of recruiting a voter body on social media and influencing election results.

In the continuation of work, a review is made of previous research and studies that were done by measuring the engagement of the online voter body, predicting the election results and identifying users who support a particular political option.

2.2. Measuring the engagement of the electorate on social media

Publication of online content is displayed as an important part of communication with the online business marketing community, which encourages the community to a certain type of activity. One of the early definitions of engagement within brand communities refers to it as " consumer intrinsic motivation to interact and cooperate with members of the community " (Baldus, et al., 2015). This term has been increasingly used in marketing literature. The results of the Ashley & Tuten study (2014) showed a high correlation of the used channels of social media by brands and consumer engagement. The same authors suggest continuous focus of marketing on maintaining social presence through social media in order to encourage consumer engagement. This is supported by research conducted by Cvijikj & Michahelles (2013), analyzing online engagement factors on Facebook brand pages. The results of their research have shown that published content encourages engagement on Facebook pages. These authors especially emphasize the impact of the media type and content type, as well as the time of publication to increase or decrease the level of engagement. The results of their research should help Facebook's moderators in implementing digital communication strategies.

But if one looks at the field of political marketing, there is a group of authors who argues that despite the growing popularity of social media and the efforts of civil and political organizations to adopt these services, there is limited empirical research on the effects of using these services on citizens' political attitudes and civic behaviours (Gil de Zúñiga, et al., 2012). However, there are studies dealing with the effect of political campaigns on the electorate and suggesting the application of methodologies that can predict the results of the election. For example, Williams and Gulati (2008) have found that the number of Facebook supporters can be considered a valid indicator of electoral success. Tumasjan, et al (2010) have created a methodology for monitoring the containing of the names of German political parties and prominent politicians in tweets, as well as analyzing the sentiments of the published content. The results of their research have shown that Twitter is a platform for political deliberation, and as such can be a reflection of the political mood of the electorate, as well as a predictor of the election result. The application of this methodology is also found in the research of Sang & Bos (2012), who, with some adjustments, tried to predict the elections for the Dutch Senate Election 2011. O'Connor, et al. (2010) developed the text analysis of the twitter publication, showing that the publications show the confidence of the electorate and their political opinion, as well as that the text of the analysis can foresee future election results. Chung & Mustafaraj (2011) tested these methodologies (Tumasjan, et al., 2010; O'Connor, et al., 2010) on a new set of data (tweets) from the 2010 US Senate special election in Massachusetts. The same authors found that just counting tweets is not enough to obtain good predictions and measure the effect of sentiment analysis and spam filtering. Barclay, et al. (2014) analyzed content on social media in the run-up to the 2012 US presidential elections and found a correlation between the number of Facebook 'likes' that Obama and Romney recorded on their official Facebook fan pages and the number of votes they secured. Barclay, et al. (2015) asked whether the number of likes on the

Facebook page of the party in the Indian environment could predict the results of the election. The results of the study found a positive correlation of the number of odds the party or leader had on the official Facebook page and the election results.

Analyzing political campaigns in Serbia and the digital content published by political parties, the Share Foundation, during the parliamentary and presidential elections in 2016 and 2017, monitored the activities of political actors on social networks. Monitoring was about measuring the involvement of the online political community in the course of political campaigns, and the aim of the research was to show in which official account the voters were most involved in interaction. This way, it was necessary to identify online users who clearly support a particular political option. The starting point in the research was to identify individual users who interacted with Facebook by announcing political actors, as well as the number of their interactions (likes and comments) from week to week during the campaign. Also, the posts on Facebook were explored, which during the election campaign largely caused the engagement of users. The research found great disproportion between the number of likes and comments. Twitter analysis took into account the relationship between tweets from the official orders of the parties, as well as the interaction of users with them. Their "social network analysis - SNA" method analyzed the links between actors and community structures by following the popular hashtag #izbori2016.

Previous studies show that in certain political systems, social media has become one of the key factors in political campaigns and that it is possible to predict the results of the election by using certain methodologies (Tumasjan, et al., 2010; O'Connor, et al., 2010; Barclay, et al., 2014; Barclay, et al., 2015). Also, studies show that using of the same methodologies in other circumstances and political systems does not have to prove effective for anticipating the effects of political campaigns or engaging in social media (Cvijikj & Michahelles, 2013). A survey by the SHARE Foundation found that publishing content on social media in Serbia contributed to communication between political parties and the digital voting body, but did not show how political parties should plan, create and publish content. The orientation to two-way communication on social networks, the influence on the engagement of the "digital" voter body, and the measurement of the efficiency of engagement, is possible to plan better content and improve the overall strategy of communication of political parties on social networks.

For this reason, the focus of this paper is on analyzing existing indicators of efficiency, as well as on the introduction of new ones that would be used by political parties as feedback for the formulation of digital communication strategies. In this regard, in the continuation of the work, the measurement of the engagement of the digital community as a reaction to the published content by the political parties is explained in greater detail.

3. REAL ENGAGEMENT OF ONLINE COMMUNITY

Marketers recognize the increasing importance of Internet and consumers who are active in online communities (Felix, Rauschnabel & Hinsch, 2017; Dahl, 2018). The survey, which served as a framework for setting up a new methodology and indicators of the effectiveness of published content in political campaigns, takes into account the factors of Online Engagement on Facebook brand pages (Cvijikj & Michahelles 2013). The study analyzes the influencing factors in terms of the characteristics of the content communicated by the company, such as type of media, content type, posting day and time, over the level of online customer engagement measured by the number of likes, comments and shares, and interaction duration for the domain of a Facebook brand page (Cvijikj & Michahelles 2013). In their online engagement model, which relates to the analysis of the number of clicks that represent the reactions, the number of comments and shares of the online community, they are dependent variables.

The specified dependent variables were used as the basis for creating a new indicator of efficiency of the online content in this paper. Given the similarity in the way the online voter body reacts to the published content, the new indicator of online content efficiency refers to Twitter and Facebook.

Efficiency on social networks Facebook and Twitter can be measured by reactions to content, or by engaging online audiences gathered around specific lists and candidates. For the purposes of fully monitoring the flow of campaigns and engagement, the following indicators are required:
1. Total and average daily number of posts,
2. Number of reactions to the posted post / content (facebook reactions, comments and shares, while on Twitter were reactions, comments and retweets), and
3. Average number of followers on a daily basis.

Taking into account the different ways of responding to the published content, a survey was conducted regarding the various levels of engagement on social media. In the opinion of experts, for each type of reaction (reactions, comments and shares/retweets), weight coefficients were identified (0.2, 0.3, 0.5). Reactions Like, Comment and Share on Facebook's social network have been assigned with weightings 0.2, 0.3 and 0.5, respectively. Also, the same weights are assigned for reactions on Twitter, but with the greatest weighting attributed to the "Comment" reaction. In this way, the basis for defining a new indicator of efficiency, real engagement of the auditorium was obtained. The real engagement of the auditorium was calculated for each list according to the formulas:

$$ReF = \sum \text{reacions} \times 0{,}2 + \sum \text{comments} \times 0{,}3 + \sum \text{shares} \times 0{,}5 \text{ [Facebook]} \quad (1)$$

$$ReT = \sum \text{reacions} \times 0{,}2 + \sum \text{retweets} \times 0{,}3 + \sum \text{comments} \times 0{,}5 \text{ [Twitter]} \quad (2)$$

The final indicator for which all lists are reduced to a single measure of comparability, shows the Real engagement of the auditorium by one post (ReA / P), by placing the value of Real engagement of the audiorium in relation to the total number of announcements in the observed period

$$Re1f = \frac{\sum \text{reactions} \times 0{,}2 + \sum \text{comments} \times 0{,}3 + \sum \text{shares} \times 0{,}5}{\sum \text{posts}} \text{ [Facebook]} \quad (3)$$

$$Re1t = \frac{\sum \text{reactions} \times 0{,}2 + \sum \text{retweets} \times 0{,}3 + \sum \text{comments} \times 0{,}5}{\sum \text{posts}} \text{ [Twitter]} \quad (4)$$

One of the important goals of publishing content on social networks is the growth of the online community that follows a certain list (auditorium), but also the inclusion in promoting different reactions (engagement). Depending on the electoral list and candidates, the size of the auditorium is different, but also the reaction to the published content. By using this methodology, the results of the basic set indicators would be available: the total and average number of posts of the observed political party / list, the number of reactions on the published post / content (in the case of Facebook, social networks would be followed: reactions, comments and shares; followed by reactions, comments and retweets) and number of followers on a daily basis. If analysis were to be further elaborated, it would be possible to answer the question about the impact of increasing social networking as well as the online community. Additionally, it would be possible to identify which posts caused the greatest real engagement, with the identification of the exact date / time of publication of the post, whether the volume of announcements influenced the increase of social networkers as well as the presentation of real engagement by published posts according to the number of followers on each individual social network.

4. CONCLUSION

Existing data on the current number, as well as the constant increase in the number of social media users, are indicative of the importance of monitoring the engagement of the online community. Social media as an indispensable part of political campaigns have become the topic of various studies. The aim of this paper is to explore the existing methodologies by identifying the indicators of the engagement of the online voter body as well as the ways in which the engagement is measured. By proposing a new indicator of efficiency of the recruitment of the electorate in Serbia, political parties would be enabled to monitor political campaigns that would serve as feedback for the formulation of digital communication strategies.

The proposed methodology defined in this paper will be a quantitative analysis of the published content of political parties in Serbia on social media such as Twitter and Facebook. Due to the similarity in the way the online voting body can respond to publications, th e methodology can be applied to data collected on the available profiles of political parties on social media Twitter and Facebook. The results of testing and application of the methodology would generate data that would represent a comprehensive monitoring of digital campaigns of political parties and actors, as well as the possibility for strategic planning of campaigns.

It suggests further quantitative analysis of content on other social media, Instagram and Youtube and the development of a methodology that would apply to these two platforms

ACKNOWLEDGEMENTS

This paper has been financially supported by the University of Rijeka for project ZP UNIRI 9/17.

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DIGITAL TRANSFORMATION IN PHARMA INDUSTRY

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Abstract: *The purpose of this article is to explore the digital transformation in pharma industry, as a development of e-submission request for license for placing medicinal product on market (marketing authorization), as a subsystem of e-government. The goal of this paper is to introduce the relationship of e-business in the medicines regulation with other segments of e-government and e-pharmacy in order to improve public health. The methodology for the development of e-services, methods for modeling and analysis of business processes, the reference model of e-business in the medicines regulation are the main scientific contributions of this work. This paper shows a case study which refers to e-services development in the marketing authorization, as one subsystem of the e-government implemented in Medicines and Medical Devices Agency of Serbia, which is a major professional contribution of this work. This research is based and implements on a qualitative case study on the 2015-2017 project "E-Submission in medicines regulation".*

Keywords*: e-pharmacy; e-submission; medicines regulatory authority; e-services e-health;*

1. INTRODUCTION

Electronic business (E-business) is a modern form of business for an organization. The concept of e-business is represented and applicable in all activities and areas (Ivkovic M., Radenkovic B., 1998).

Medicines regulation is a process encompassing various activities that aim to ensure the safety, efficacy and quality of medicines, as well as the appropriateness and accuracy of product information. Medicines regulation is public policy that restricts private sector activities to attain social goal set by a given country (Pejovic G, Filipovic J, Tasic Lj, Marinskovic V., 2016)

The development of e-business in the medicines regulation, as one segment of e-government, envisages interactive electronic services tailored to the needs of citizens, government units, state administration, regulatory and educational institutions and businesses. Methodology for the development of e-services on the e-government portal and demonstration a study of the application of this method in the part of medicines and medical devices is very important for e-health and e-government development (Stojadinovic T, Radonjic V, Radenkovic, 2010).

The purpose of the research is analysis that encompasses application of e-business in medicines and medical devices regulation and the application of the method in development of e-services and e-submission in medicines regulatory authorities. This testing of e-readiness of the pharmaceutical industry for the project of e-submission that was implemented in November 2016 is the beginning of improvement e-services as the base of e-pharmacy development in Republic of Serbia (RS). The significance of this paper is that it is one of the first on e-services initiatives in RS.

This chapter will show previous the definitions of e-business, e-health, e-pharmacy and e-government, too.

E-business is based on more modern work organization adapted to the use of information communication technologies (ICT), internet usage in the performance of most business transactions, organization and implementation of information systems (IS), implementation of electronic signature and using cryptographic protection mechanisms. In the context of business operations relationships are established between companies and enterprises, enterprises and customers, buyers and customers and the rest, thus we can distinguish between the different business models.

E-Government uses the application of information technology to improve: efficiency, productivity, transparency and accountability of the Government in dealing with: citizens, businesses, industry, government units and private officials. E-government can be seen from the online access to services to tools for the construction and reconstruction of democracy (Gonnet P, 2001).

E-pharmacy as a segment of e-health is the application of electronic commerce in the pharmaceutical industry, which encompasses on the one hand the business of companies in the pharmaceutical industry and pharmacies. Increased use of information technologies and the Internet provides powerful tools and makes them available to citizens, government agencies, and pharmaceutical industry around the world. As a result, there are changes in organizations, as well as in relationships between businesses, citizens and state authorities.

2. METHODS

This chapter will show the methodology of developing software in e-government and previous research on e-services. Software design methods are specific strategies that propose and provide a set of notations which are used with the method as a description of the process that should be used when monitoring methods and a set of guidelines for the use of the method (Budgen D, 2004).

Some of the methods of design software are: object-oriented design, functionally-oriented design, design-oriented data structures and design based on components.

This section will describe the methods, methodologies and software development models, which are used in e-government. Particular attention will be devoted to the life cycle of software and business intelligence, and SOA (Service Oriented Architecture) and BPM (Business Process Modeling). These methods of the life cycle will be devoted to a single method of software development process.

The integrated framework, which will be displayed and used in this paper, is based on the use of RUP (Rational Unified Process) methodology and agile methodologies, business intelligence (BI) with the principles of data mining and data warehousing, BPML (Business Process Modeling Language) and UML (Unified Modeling Language) - notation and reengineering business processes. The main principles are incremental and iterative development, active participation of users, based on the development of models, testing and cooperation.

The paper consolidated methods, techniques, standards and process models in the field of e-business and access to quality analysis, modeling and design of the portal system of the Serbian authorities. Software Life Cycle Processes (SLCP) can be perceived through its processes, i.e. activities that make this process as well as through its models, methods and strategies. SLCP are defined by a number of reasons, including increasing product quality, facilitating human understanding and communication, support process improvement, and support management processes. Methods for SLCP can be said to describe the process of software development through its individual operations or processes.

BI is a set of tools and applications that enable the creation of a system for the collection, analysis and dissemination of business information, with the aim of making better business decisions (Quinn Kevin, 2007). In SOA programming is based on the process approach and represents a higher step in the development of software engineering. SOA describes the concepts, architecture and procedural framework to ensure cost effective development, integration and maintenance of IS. SOA does not represent a radically new architecture, but rather the evolution of the well-known distributed architecture and integration methods.

BPM refers to the design, management and execution of the business process, and its strength lies in the unification and expansion of existing process oriented techniques and technologies.

3. A CASE STUDY – TESTING THE METHODS OF DEVELOPING SOFTWARE IN E-GOVERNMENT ON EUROPEAN MEDICINES REGULATORY AUTHORITIES'

This research is based on a qualitative case study on the 2015-2017 project "E-Submission in medicines regulation". The project holder is the Medicines and Medical Devices Agency of Serbia (ALIMS). The project includes several actors: project team of Agency, a project manager, manager of Agency as a member of team, Office of Information Technology and Electronic Government in RS in the Prime Minister's Office formed 27.07.2017 (Directorate of Electronic Government until 27.07.2017). The results of the research can be applied in any European medicines regulatory authority.

3.1. Research Approach

The aim of the research is to develop a national platform in RS for the development of e-pharmacy, which enables the integration of regulatory bodies in the medicines and medical devices regulation and institutions of the pharmaceutical industry. The data studied in this paper are focused on the data of the institutions that first began using the e-services of the Agency on the government portal of RS. Among the various roles and interviewed respondents are the directors of the pharmaceutical industry institutions, information technology directors in the institutions of the pharmaceutical industry, responsible persons for submitting requests for obtaining a license for medicinal products and medical devices in the institutions of the industry, civil servants, and directors of state institutions. At the national level, the Project Electronic Application Submission of Client Support supports the development of the government portal in RS, which will enable the improvement of services to the pharmaceutical industry and citizens and contribute to the economic development of the country. The project is in line with the Electronic Administration Development Strategy and the Action Plan for the implementation of the Open Access Initiative. The project contributes to better implementation of the Public Administration and Public Health Reform Strategy and provides closer approximation to the best European and global practice in the field of good governance.

This chapter will show analysis and application of e-business in the medicines and medical devices regulation and the application of the method in development of e-services and e-submission in ALIMS from the previous chapter.

3.2. Analysis and application methods for E-business development in the medicines and medical devices regulation

This subchapter shows analysis that encompasses application of e-business in the medicines and medical devices regulation and the application in RS. For medicines and medical devices regulation, e-business is used for collecting, recording, storing and securing data, and information about medicines is a source of necessary information for the daily work of doctors, pharmacists and other health workers. The development of e-business in the medicines regulation, as one segment of e-government of RS provides interactive e-services tailored to the needs of citizens, public authorities, regulatory and educational institutions and industry (producers, importers, representations, health care and pharmaceutical institutions). The goal of this approach is the integration of e-government and the segment relating to the medicines regulation, ensuring the efficiency of process of modeling and model implementation, which should result in models that must be explicit, understandable, modular and can be effectively amended and supplemented, distributed and placed on a variety of computing platforms and operating systems in e-government (Stojadinovic T, Vanevski I, Radovanovic Lj, 2016).

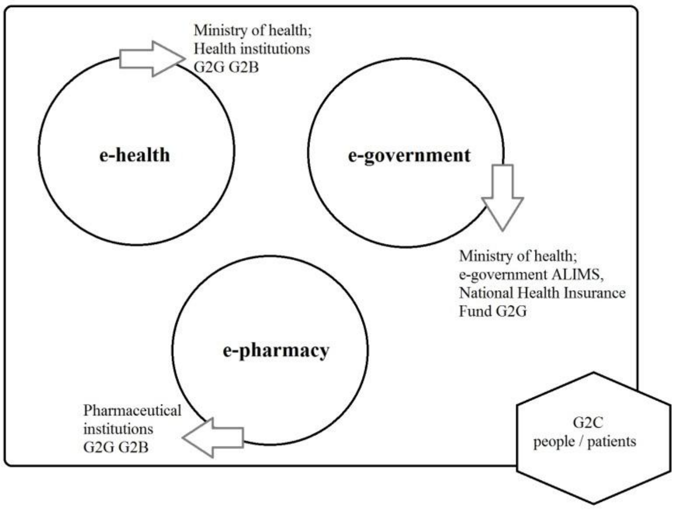

Figure 1: Models of e-business between eHealth, eGovernment and ePharmacy

E-business in the medicines regulation is one of the segments of the development of e-government in RS. Without e-business in the medicines regulation it is impossible to develop e-health and e-pharmacy. Providing information on medicines is one of the e-services in the medicines regulation. Information about medicines is coming from routine sources, specific non-routine, library sources and research sources. Information on medicines, which must be precise and authoritative data are necessary for the daily work of doctors, pharmacists and other health workers in general and special branches of medicine, pharmacists in the production, medicines and pharmacies, as well as other professionals involved in health care, regulatory bodies. Integration of business in the medicines and medical devices regulation, government, health and ePharmacy in RS (Figure 1) uses e-business models to better communication, better management of documents and records in public administration, the pharmaceutical industry and the health system, as well as the achievement of measures directly connected to savings in dealing with several aspects (time - efficiency, money - economy). Networking of institutions in the field of information on medicines and medical devices affects how efficiently the business of ALIMS and health institutions, patients or the pharmaceutical industry is, which leads to a significant reduction in total costs and time saving. ALIMS was ready from the start to participate in the initiative to open data and thus enable that information on medicines and medical devices, and integration with other data, to get more value and become useful to other state bodies and institutions.

4. RESULTS AND DISCUSSION

In this chapter, the results of the case study will be presented, as well as the preparatory phase of launching e-services development initiative in RS. This chapter will show concluding analysis and finding that encompasses application of e-business in the medicines and medical devices regulation and the application of the method in development of e-services and e-submission in ALIMS from the previous chapters.

4.1. Results of the preparatory phase – Application of the methods

ALIMS is a public agency in RS, authorized (among other) to issue marketing authorizations, decide on their variations, renewals for human and veterinary medicine, as well as the registration of marketing authorizations for medical devices, quality control of medicines and medical devices that meet the requirements for efficiency, quality and safety. Transparency of the work is reflected through the portal of ALIMS where they meet all the criteria of functionality, defining the guidelines for making Web presentations of the state administration.

ALIMS participates in the development of eGovernment portal RS. The functional area of e-services is enabled on the primary web page of the ALIMS site and contains a list of all names of e-services published on the portal of e-government.

The latest e-services "Downloading registry of medicines and medical devices" is set in 2015. State agencies and legal entities can retrieve the registry of medicines for use in human and veterinary medicine, as well as a registry of medical devices for which the ALIMS issued a marketing authorization, with the use of a qualified digital certificate.

The aim of this service is to download data on medicines and medical devices in digital, machine-readable formats that can be used for further work and use in other state bodies and legal entities, especially in the context of the development of the e-Health of RS.

Register of medicines and medical devices in the form of e-Service enable downloading of the codebook data on medicines and medical devices from the ALIMS database that are updated on a daily basis.

Data on medicines and medical devices that ALIMS handed over to the state institution and legal entities on the eGovernment portal are available for those with qualified electronic certificate, which allows authentication in order to ensure data protection using existing protection mechanisms. This way of downloading data is also conducting and updating records on persons who retrieve data, as well as the institutions that are interested in this information. The download process data is very simple.

E-Government portal, once logged in by using a digital certificate, displays information about the owner of the digital certificate that has to state a reason for downloading data.
This way ALIMS achieves more benefits for almost all sectors of society: new business and economic opportunities - turning data into economic systems at all levels and new innovative solutions - combining data from multiple sources, which then creates new values. At the end of 2016 ALIMS has started a new project that will enable the integration of ALIMS and pharmaceutical industry, and includes e-submission request of clients in the pharmaceutical industry on the easiest way by selecting the appropriate eServices and completing the application form, which was given the opportunity to submit the attached documentation in electronic form with certain requirements. The basic idea of this project is to enable clients wishing to apply electronically. The vision of the project is to develop application forms for eGovernment portal where customers will be able to electronically fill patterns i.e. customer requirements and deliver them electronically with all the accompanying documentation. The project titled "eSubmission" began in the middle of 2016, with the plan to be completed by the end of August 2016. The project includes the development of about 60 eServices ALIMS and allows the pharmaceutical industry to operate without physical arrival at the location ALIMS by applying for the appropriate electronic service ALIMS. This is reached by using a digital certificate, which provides training and leads to the pharmaceutical industry when it comes to the development and application of informational technologies and provides additional support for the development of the same in RS. For the future of e-government and e-business in the medicines regulation in RS it is important to use the experience of other countries, with consideration of their successes and failures, as well as adapting these knowledge characteristics of socio-economic environment in RS. Equally important is the cooperation with the Ministry of Health and the Government of RS, because in this way there is a solution that information subsystem of e-business in the medicines regulation integrates into the overall IS of e-government of Serbia leading into single architecture, which can be reached by working together and forming an agreement of all

stakeholders, starting from the government, through the non-governmental sector, academic institutions, to the citizens themselves. Figure 2 shows model and life cycle of the process. SOA is implemented using WS as follows:

- WS that enables the transfer of all customer requirements with the appropriate electronic services from eGovernment portal to the internal ALIMS network (external eGovernment portal to DMZ at ALIMS),
- WS that enables the transmission of the same client requests and integration with electronic document management system of ALIMS (DMZ at ALIMS to internal, production EDMS at ALIMS).

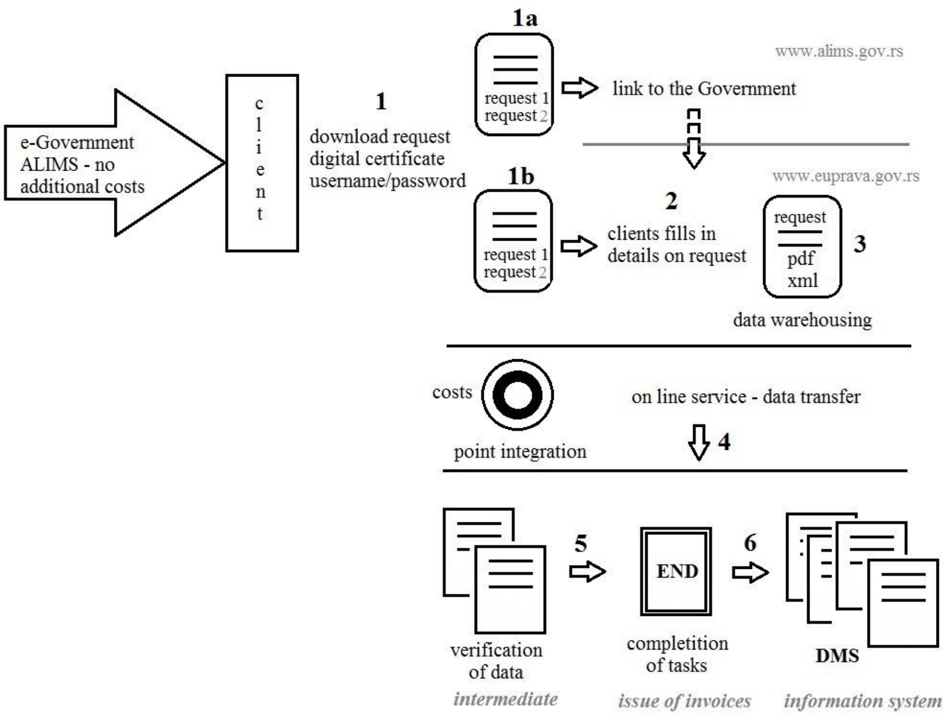

Figure 2: Model and life cycle process

The life cycle process is:

1. Requests for clients are located on the ALIMS site linked with the eGovernment portal. Link on each request is transferred to the appropriate eGovernment services portal (1a) .The client only with a valid digital certificate has the ability to fill the requests (on the eGovernment portal).
2. Client selects appropriate eService and fills request directly using the application, which is located on the eGovernment portal.
3. Data is stored with the request in the database on the eGovernment portal, which can be accessed by the authorized person. The document, which is formed as a client request must contain the e-signature, and is in pdf and xml format.
4. Online WS on the eGovernment portal then transfers the request to the defined system integration point, which is server located in the DMZ at ALIMS Server in the DMZ at ALIMS automatically passes the requests to the internal EDMS (Electronic Document Management System).
5. In the system EDMS data verification is done by the colleagues that work on Acceptance of client requests.
6. After verification, acceptance and ending task, there shall be issued a pro-forma invoice to the client and confirmation of receipt, which are sent by e-mail or otherwise electronically or physically considering the fact that the client has to come and bring the documentation also.
7. Flow in the process takes place in ALIMS IS-EDMS

List of e-services is divided into three segments: human medicines, veterinary medicines and medical devices, in the following way with total of 62 forms used (Table 1). There are 23 e-services for human medicines, 25 e-services for veterinary medicines and 14 e-services for medical devices.

A good example of application of this project is open data about medicines and medical devices in human and veterinary medicine registred by the agency, whose main activity is the control of medicines and the placing of medicines on the market. ALIMS was among the first to adopt the concept of open data and thus contribute to the achievement of benefits for the economy in general, economic entities, state authorities, scientific community and other segments of the society in RS. The registers of human and veterinary medicine and medical devices are presented in the forms of structured, open data formats and are presented as electronic services on the national portal of eGovernment. This data, which ALIMS made open additional enhanced through services such as the search for registered medicines and medical devices and issued certificates that exist from before, help monitor and respond to an adverse reaction to drugs and medical devices and identify fake medical products, and significantly make it easier for businesses in this area to do all this in order to achieve better health of the citizens of RS. Based on open data sets for medicines and medical devices, some web applications and mobile applications have already been developed as Mediately databases of medicines.

Table 1. List of e-services in medicines and medical devices regulation

Medical product/ Name of eServices	Human medicines (23)	Veterinary medicines (25)	Medical devices (14)
	Application for marketing authorization (6)	Application for marketing authorization (6)	Application for registering in the Register of med. devices (1)
	Application for the import of unregistered medicines (2)	Application for the import of unregistered medicines (4)	Application for import of unregistered medical (2)
	Application for the approval of clinical trials (4),	Application for the approval of clinical trials (4),	Application for authorization or notification of clinical test(1)
	Application for the SPC, PIL and Labeling (3)	Application for the SPC, PIL and Labeling (3)	Application for promotional material (1)
	Application for approval of promotional materials for the medicines (1)	Application for approval of promotional materials for the medicines (1)	Application for issuing an expert opinion (1)
	Application for issuing the technical opinion (1)	Application for issuing the technical opinion (1)	Application for the categorization (1)
	Application for reporting doubts about the quality (1)	Application for reporting doubts about the quality (1)	Application for reporting adverse reactions (5)
	Application for the quality control (1),	Application for the quality control (1),	Application for reporting doubts about the quality or deviations from the standard qualuty (1)
	Application for supplementary documentation (1)	Application for supplementary documentation (1)	Application for quality control (1)
	Application for the suspension of request (1)	Application for the suspension of request (1)	
	Application For partial suspension of the request or changes the marketing authorization grouped variation request (1)	Application For partial suspension of the request or changes the marketing authorization grouped variation request (1)	

4.2. Performamce analysis and results

The survey relating to the testing of e-readiness of the pharmaceutical industry for the project of e-submission was implemented in November 2016 before the beginning of the project. The questionnaire was sent to all pharmaceutical institutions with a term of one month for an answer. Of the total number of participants, the survey was completed by 52% of participants. Most of the participants are familiar with the concept of electronic storage of data / documents and with the guidelines on the subject of filing documents. The Agency's intention to move to an electronic system of communication was supported the most. The proposal to organize workshops and conferences on this subject in order to inform and educate the clients on time, in order to better and more successful transition to the new system of application was also well supported.

Figure 3 shows some of questions and the results of that survey.

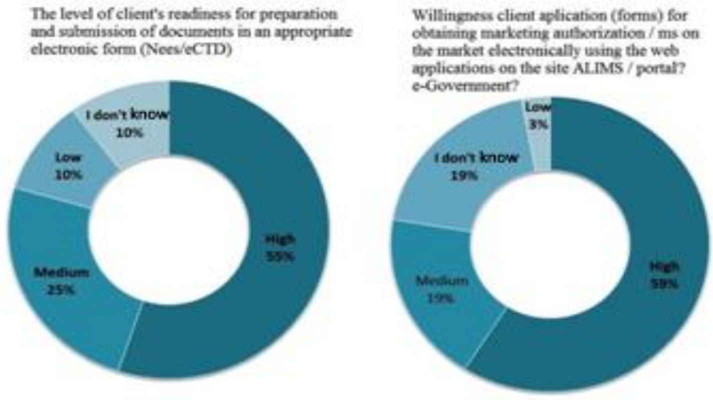

Figure 3: The testing of e-readiness of the pharmaceutical industry in RS

5. CONCLUSION

This study confirms several benefits and challenges described in previous studies regarding e-services as described above.

This is interesting, because at this moment there are few studies on e-services initiatives, especially in Serbia, where initiative e-government development has been launched and in its infancy. What this study highlights and contributes to, in addition to confirming the above studies, are the main lessons in terms of: The importance of actors who drive and realize initiatives, and the ability to overcome challenges, as well as the issue of private and public actors, together with the way a certain division of work is made when e-services or applications based are developed as part of a channel strategy.

The methodology for the development of e-services, methods for modeling and analysis of business processes and reference model of e-business in the medicines regulation as one of the subsystems of e-government process met model in the context of e-government, life cycle business system design on the e-government network web portal and e-business in the medicines regulation, are the main scientific contributions of this work. Developing web software for e-business development in the medicines regulation, as subsystem of the e-government implemented in ALIMS are the main professional contributions of this paper. Improving e-business in the medicines regulation, as a subsystem of e-government would have to aim: the development of interfaces and support for model specification systems through interaction with citizens, the economy, healthcare, pharmaceuticals and other public authorities, support the adopted modelling standards, integration of e-business in the medicines regulation, the e-government, e-health and e-pharmacy in RS, application of methods and techniques of life cycle business model which are presented in the thesis, agile methods and application of SOA, BI, and BMP. The "e-filling clients' requests ALIMS" will enable the integration of ALIMS with pharmaceutical industry and provide electronic submission of customer requirements and questions, thus achieving significant savings for ALIMS as for the pharmaceutical industry in the RS. In this way ALIMS fulfils its mission - to promote and improve the health of people and animals, as well as to contribute to the realization of the fundamental human right to access to quality, safe and effective medicines and medical devices. The development of e-business in the medicines regulation, as a subsystem of e-government of RS, provides a unique environment for communication, better information about medicines, education via Internet for health workers, as well as the more efficient operations in the healthcare and pharmaceutical industries and the realization of the concept of e-government in segment which regulates medicines and medical devices areas.

Based on the research in this paper, it can be concluded that e-services guarantees greater transparency of the work of state bodies, stimulates efficiency in government and beyond, and enables citizens, companies and organizations to use public information several times for different purposes. E-services strengthen entrepreneurship, influencing the development of innovative products and services, providing alternatives for decision-making in management, planning and science, and contributing to the creation of a knowledge-based economy.

Analysis and research conducted in the case study described in this paper point to the conclusion that the goal of the state should be that e-services of state farmers receive a useful value through the mixing of datasets in related institutions, the data of which are of great importance.

The useful value of the data has been increased during the combination of data, which leads to the direct benefit of the public, the economy and the institutions themselves, State bodies of RS. In all the above ways, the state fulfils its mission - to promote and improve the business of all sectors, as well as to contribute to the achievement of the basic human right to access quality, accurate and efficient information.

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THE ROLE OF OUTSOURCING IN IMPLEMENTATION OF PUBLIC-PRIVATE PARTNERSHIP CONCEPTS

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Abstract: *This paper aims to point out the potential of outsourcing as an organizational form in the implementation of concepts related to public-private partnership in business financing. This type of connection between processes of outsourcing and public-private partnership enables, within a frame of a unique business strategy of restructuring of large business systems, public-private partnerships a further development of independent entities, according to the regulations of project financing. This connection showcases outsourcing as a model of change of organizational structure, and public-private partnership as a model of business optimization and a path to sustainable development of large business systems. Business partnership in the economy sector of public services presents an important direction of sustainable growth strategy, which, at least as a model, synthesizes and reconciles the goals of profit and welfare. With that in mind, it can be said that the goal of this paper is to indicate that a business result is always a synthetic expression of business efficiency, and in public business systems it is also reflected in the quality of public services.*

Keywords: *outsourcing*, *public-private partnership, restructuring*

1. INTRODUCTION

In the current processes of corporatization of large business systems in Serbia, favorable organizational preconditions are emerging in regards to the implementation of public-private partnership, as an important opportunity for narrowing the gap between exponentially growing needs for system modernization and the lacking financial resources for the said modernization processes. Public business systems cannot be financed only from the state budged anymore, especially considering that the current condition of public finances in Serbia is characterized by a long-term struggle of Government with budget deficit and high external debt, with the help and control from the World Bank (WB) and International Monetary Fund (IMF). Annual budget expenses of Serbia only for subsidies of the current business operations of state railways are 120 million euro, which covers only about 40% of the current annual business expenses of the Railways. Besides that, the state, as a bondsman, is constantly settling the arriving annuities in repayment of credits taken by the Railways which amount to no less than 800 million euros. Additionally, the state considerably helps with the Railways' debt repayment which amount to about 600 million euro. And, above all, the state is undertaking large direct investments in the current projects of technical modernization of railway infrastructure, which 5-7 billion euro.

The reform of state railways in Serbia has begone as a reform of its organizational structure. With that purpose, in 2015, a status change of *allocation and establishment* has been performed, which is a unique case in the current economic practice. Through this type of outsourcing, *Serbian Railways AD* have transformed from a united, functionally organized joint-stock company (with the state being the single shareholder) into three legally and economically independent, but technologically connected railway companies (railway infrastructure management, cargo transport, and passenger transport). The intention is to make the new railway entities more economically efficient and competitive. This would be achieved by increasing their service quality and market share, which would lead to companies being able to cover their current annual expenses through their own income.

The processes of outsourcing in Serbian Railways are far from complete. The current corporate restructuring can be realized as a series of outsourcing processes in many of the core and non-core activities of the Railways. The existing and the expected processes of outsourcing are extremely suitable for the application of the concept of public-private partnership which allows that partner projects a further development of independent entities, according to the regulations of project financing (Benković, 2014). In outsourcing processes, which should commence in the immediate future, favorable conditions are being made with the goal of securing considerable financial resources from the private sector. The processes will be carried out through public-private partnerships and aim to lesser the burden on the state budget and, therefore, lower the credit debt of the state.

If we begin with the notion that the processes of outsourcing in large business systems like railways are an important precondition for the development and implementation of public-private partnership projects, it is necessary to identify and plan for the possibilities of outsourcing and public-private partnerships in the next phases of organizational reform of the Railways. It would be interesting to see which areas of the Railways are suitable for the partnership between public and private sectors, what is the scope of financial resources which would come out from this partnership, and what are the results of public-private partnership model usage in developed European countries, in the region, and especially in railway companies. The expected effects are suggesting that these processes should be the reason and the goal of every current and future corporatization of each of the 200 public and public-communal companies in Serbia.

Beginning with the above mentioned, there is a need to theoretically define and round off the characteristics of outsourcing and public-private partnership, especially in regards to their economic essence.

2. THEORETICAL CONTEXT OF IMPLEMENTATION OF PUBLIC-PRIVATE PARTNERSHIP

Theoretical explanation behind the usage of public-private partnership concept is derived from setting up a *make or buy* dilemma, which is in its essence a question of outsourcing. Specifically, it is a question of business specialization and it leads to public-private partnership as the most complex known expression of business specialization.

Reactions to demand and opportunities which come from business surrounding of an organization can no longer come down to increased production or lowered prices, because those factors are not effective enough. Instead, organizations need to invest their complete resources. Reactions need to be quick, complete, and, most importantly, faster than competition. In addition to faster changes, this leads to another, by now unrecognized characteristic of modern business – organization flexibility. The need for a permanent reallocation of resources leads to permanent changes in organizational structures, and other way around. The modern literature which explores the phenomenon calls it the *outsourcing process.* The ability of organizations to change their structure (resource-wise and management-wise) is a showcase of their success in adapting to demands of the environment. The authors of strategic outsourcing claim that organization flexibility is becoming an indication of business success, and organizational structure is emerging as the most important strategic resource in modern business.

Outsourcing is an economic-legal process in which an organization, by reallocating activities and processes outside of its organizational boundaries, (1) secures additional external resources to make the mentioned activity more economical and efficient externally than internally, and (2) creates a possibility to reallocate the freed resources into organization's core competence. Therefore, the usage of external resources is immanent to market economy, it begins with the inception of the concept of a market and develops alongside civilization. With that in mind, outsourcing is the result and the cause of specialization in production and business, and it has been developing throughout history into infinite forms. The essence of outsourcing process is in the transfer of responsibility and risk for the outsourced work to another business-legal entity, which implies that outsourcing organization takes over the job of organization and financing of the outsourced process and the risk that comes with it.

Flexibility of an organization is imposed as a measure of success especially in endeavors of large public business systems, such as railways. Their conglomerate structure with many different in-house processes and a functional system of vertical management represent a challenge in achieving competitive abilities in conditions of open transport market in European Union. The changes to the organization structure of large business systems are a necessary precondition to their business efficiency and existence. It is possible to conduct these changes by reallocating processes from a business system structure to another, preexisting or new, business entities, which would perform these activities more efficiently. Outsourcing processes in large business systems are, therefore, the processes of change to their organizational structure in direction of increasing organizational flexibility. By taking this direction, the organization also increase their competitive ability. The last two sentences sublime the essence of the current restructuring of large business systems in Serbia and the region. Beginning with the early '90, all major European railway companies have entered this process.

Changes to the organizational structures of large public systems through outsourcing of majority of business processes (BPO) have lead to changes in structure and efficiency of their always-limited business resources. The especially important changes are made to financial structure, because of the increase in personal resources as the share of overall business resources of a public system. Additionally, dedicated external expenditures from the budget are decreasing. By focusing the personal financial resources, as well as dedicated budget resources, an important change is being made to the quality of financial streams and to the efficiency of usage of the limited financial resources. This proves the direct effect of changes to organizational structures of large business systems on changes to structures and quality of used financial resources in the direction of increasing the level of their efficiency.

In modern conditions, outsourcing is a permanent process which is characterized by the long-term relations of the organization and the external supplier. By time, this long-term relationship can transform into a partnership, where the partners can make mutual strategic plans, co-finance specific projects and share the risks. This is not possible to achieve through short and occasional business relations with the supplier. If the outsourcing is short-term and one-time, it is basically relegated to a simple market transaction with limited effects. Long-term relationship is the main difference between outsourcing and regular procurement. (Drljača, 2010; Popović, Jaško & Prokić, 2010, Larsson & Malmquist). Procurement is a short-term market transaction, while outsourcing is a long-term business arrangement based on partnership which is characterized by risk-sharing between an organization and its outsourcing partner. Even though every outsourcing endeavor leads to some changes to organizational structure, the short-term outsourcing is directed towards solving the expenses of a single business or function, while the long-term outsourcing is, at the same time, an important instrument of restructuring. In other words, it is primarily strategically directed towards reconfiguration of the complete business process.

On the other hand, outsourcing neither equivalent to the sale of a part of the organization, but a process of reallocation of activities which are still of vital importance to the organization. Their conduction is redirected to an external supplier, based on the estimate that the supplier can conduct the activities more efficient and economical. Even if an organization is allocating functions and activities to another company, there is no typical sales transfer, which implies that outsourcing is not a sale (Popović N, Jaško O, Prokić S.,2010, according Larsson&Malmquist).

Beginning with the linguistic meaning of the English term *out source – external source,* some authors do not look at outsourcing as separation of processes and activities from an organization. On the contrary, it is an endeavor in which an organization searches, occasionally or long-term, an additional engagement of lacking resources from other, external sources. (Paravastu, 2007; Cheon,1995) Modern business theories are recommending outsourcing of all non-core business activities. All of the modern theories are based on economic theory of competitiveness and transfer pricing theory. (Paravastu, 2007).

From the point of outsourcing process in large business systems, the important resource theories are those which emphasize the importance of business environment for procurement and maintenance of resources. This is caused by the sensibility of public systems to business environment and the large number of stakeholders, where the main actors are the state and its institutions, international financial organizations which monitor the development of public infrastructure, as well as the users of the public services. This makes the research of business environment based on stakeholder interests and possibilities of special importance to organization. In that sense, large business systems are directed toward defining the strategies for procurement of critical business resources from the environment, which also influences the decisions about outsourcing. These theories conclude that the outsourcing strategy is a good instrument for procurement of external resources.
A special branch of research could be the research of optimal resource reallocation in public sector, especially in large business systems. This is of great importance, because the transition of public sector, which comprises a huge economic and developmental potential, represents a general movement direction in all of the world’s countries. These transitional processes are not focused on property, but on efficiency, as the integral expression of quality in economic, productional, financial, social, and cultural sphere of society, which can be quantified through the level of user satisfaction, risk lowering, the height of profits or loss lowering, market share increase, and other parameters. In that sense, orientation towards efficiency represents a general civilizational trend, which is characterized by outsourcing, as one of the best tools for its optimization in business practice (Bendor-Samuel, 2010).

Orientation towards efficiency in public sector is not so much a question of ownership, so the transition of public companies in not so much a question of privatization (Ković, 2018). Where and when is privatization the most important can only testify of rudimentary transition processes. Large business systems in the ownership sphere should certainly transition towards becoming stock companies with many shareholders, which leads to lower risks to all stakeholders (state, shareholders, company, users). These factors make this model of organization the carrier of economic success in the most developed countries in the world. Therefore, the transition of public systems is focused on the measures of change of their slow and rigid organizational structures to increased flexibility, which is achieved through outsourcing as a method of change of the organizational structure.

These changes in the organization of public companies not only lead to reallocation of their limited resources, but also to creation of the conditions for procurement of external resources, primarily from the private sector, including the banks. When it comes to the large business systems, outsourcing is not just a strategic measure of change in their organizational structure, nor just a tool for reallocation of their existing resources, but also what is perhaps the most important precondition for the procurement free external resources. This third dimension of outsourcing process in the public sector is a precondition for the usage of different models of public-private partnership (Ković, 2018).

3. THE ROLE OF OUTSOURCING IN IMPLEMENTATION OF PUBLIC-PRIVATE PARTNERSHIP

Outsourcing of processes always means the clearing a part of organization's own resources, and the efficiency of usage of these resources is achieved by focusing on the core competences. However, the realization of outsourcing projects also includes the engagement of external resources, which makes the choice of the outsourcing partner a key decision, especially from the aspect of risk management. Business and financial ratings of outsourcing partners guarantee not only the safety in the delivery of the outsourced components, but also showcase their ability in financing the outsourcing projects. This leads to creation of public-private partnerships on a long-term basis, as a form of project financing. Restructuring strategy of large business systems is directed toward public-private partnership as the strategy of sustainable development of many outsourced business processes which contribute to the quality of the public service.

Public-private partnership can be an interesting model of public sector transition specifically because of the risk distribution on the basis of the best management (Yescomb, 2010). That is caused by public companies measuring their business success through the level of user satisfaction, and not through the accomplished margin of profit. In realistic business practices this is achieved through increased quality of services, which includes longevity and reliability, which is possible to achieve in conditions of good risk security. In that sense, public-private partnership can perhaps be a model which enables risk optimization, as well as competitiveness maintenance, presented through satisfaction cased by getting value for money. (Sredojević, 2010; Juričić, 2011).

If outsourcing can be interpreted as a business strategy, then public-private partnership can be used as one of the specific business models for procurement of additional financial resources from external sources. Outsourcing relationship can encompass nearly all businesses and business processes in nearly any activity, and public-private partnership is achieved mostly in the domain of public services. Outsourcing is certainly a wider concept, and encompasses long-term or short-term relationship of business entities, regardless whether they belong to public or private sector. From that angle, outsourcing can be presented as a mutual relationship between private and private, public and public, as well as public and private subject.

Outsourcing does not necessarily imply public-private partnership, but public-private partnership does imply outsourcing (Ković, 2018). Outsourcing of public services usually, but not explicitly, implies a relationship between public and private entity. Accordingly, outsourcing of public services represents an economic basis and a structural precondition for the set-up of models of public-private project. Based on the previous discussion, it can be defined that the public-private partnership is a practical model of a long-term outsourcing relationship, in which the outsourcing supplier and the outsourcing subject are specific (Ković, 2018).

Therefore, the model of public-private partnership is based on the long-term outsourcing of a basic activity of public sector (Ković, 2018). Unusual complexity and multidisciplinary characteristics of the public-private partnership model, from the economic aspect (costs and benefit analysis), financial aspect (financing and risks), commercial aspect (procurement and delivery), organizational aspect (management and interorganizational relationships), legal aspect (contracting, procedures), and social aspect (social and economic sensibility, control), requires for the past studies and decisions regarding outsourcing to include the complete public-private partnership project, which besides infrastructure development also encompasses public service activities.

Public-private partnerships can emerge through two types of outsourcing as a consequence of dual attribute of public business systems (Ković, 2018).

First, the large systems as market entities have motives for outsourcing of different non-core activities which they perform inefficiently or which are performed more efficiently by other companies. Two methods of procurement of additional resources of external financing are possible, and they can emerge through outsourcing of businesses and processes which are performed internally in modern public systems (Ković, 2018):

1) Business system management, aiming to lower costs, can decide upon reallocating various supporting and mutual standardized activities, which are not public services (accounting, security, cleaning, object maintenance, marketing, PR, and others). Alongside, most of these jobs are not in direct connection to the quality of public service. Considering the large number of these activities and as a consequence of economy of scope, a considerable resource freeing is possible. Today, Serbian Railways spend 20 million euros annually on these mutual activities, which is, for example, the estimated cost of development of main Logistics center in Batajnica.

2) Aiming to increase the efficiency in conducting important logistical activities which affect the quality of public service, but are not public services themselves, like railroad maintenance, train and locomotives maintenance, procurement of specific railroad materials, management of a railway company can decide to outsource these activities to specialized organizations. Through these outsourcing projects, a considerable amount of financial resources can be freed, because Serbian Railways spend more than 50 million euros annually on public procurement of maintenance services.
These projects can be considered as public-private partnership projects, even though the subject of outsourcing is not a public service.
Second, large systems as public services providers can, through public-private partnership projects, conduct outsourcing of basic activities or specific parts of basic activities (i.e. urban and suburban railway passenger transport, cargo transport, and others). Since the current annual incomes which arise from public services are used as a "cover" for financing in the scope public-private partnership project, the scope of these project can roughly define the scope of public-private partnership project. Considering the annual income from cargo transport in Serbia amounts to around 100 million euro, and that the duration of public-private partnership project is around 20 years, it can be derived that the complete guarantee potential of the Railways can be around two billion euros, counting only the income from cargo transport in the project period. This rough statistic showcases that it is possible to raise interest of private partners for public-private partnership projects in railways.

4. CONCLUSION

From restructuring processes of large business systems arises a number of projects suitable for various forms of public and private partnerships. This is in relation both to projects which emerged from organizational outsourcing and to project of financing of transport and other infrastructure development. This situation opens a space for research of public-private partnership project portfolio management in large business systems, from the aspect of finances optimization.
It would not be pretentious to say that the financial optimization of public-private partnership portfolio projects is a separate economic and multi-aspect discipline. It can be claimed considering the scope and the uniqueness of the subject, as well as its huge influence on society, because the economic and societal development depend on the success of transition of large business systems. Therefore, it is not a coincidence that the most developed countries of Western Europe have been putting business and research emphasis on restructuring of large systems in the last three decades.

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