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ERP IMPLEMENTATION INDICATORS

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Abstract. *This paper provides an analysis of working with ERP (Enterprise Resource Planning) systems in the world and Serbia, showing the specific issues that shows in the life cycle of ERP system. Comparing these results we are given directions for the development of ERP in Serbia in order to achieve as much capacity utilization of ERP in the company as well as the quality of information that ERP provides.*
Keywords: *ERP in Serbia, cloud.*

1. INTRODUCTION

Most enterprises around the world have already adopted ERP, and beside them small and medium enterprises (SMEs). They find it cost-effective and necessary for competitiveness to follow this trend. Although wide-intensive integration of ERP happens in the last few years, the ERP has a good pedigree software package that has been around since the 70s of the last century [1]. ERP system with the aproach of increasingly powerful cloud and web technologies is experiencing a transformation that more can call evolution. It is no IS, which corresponds to a given query data from the database. Today, it is a system that is able to unite the economy, industry, medicine, sociology, ecology and other aspects of human activity both in their community and the environment. ERP system today can be integrated using mathematical models to predict trends, to assess risks, to make choices, to educate users members, controls processes in real time, users can access it at any time via mobile devices. Only a decade ago, this ERP possibility dreamed its biggest supporters and enthusiasts who had a vision of the development of ERP.

2. ERP IN SERBIA

Make a virtual case, and as a place of events we choose Serbia. We got to test two modern hybrid cars, both have navigation, automatic pilot, telemetry control. Vehicles should be driven the distance between point A and point B through the morning rush hour. The first vehicle drives a driver who is a foreigner and does not know road but knows all the functions of the vehicle, and the other driver knows the road and believes it will win because he has won before in the local rallies.

The final result of this case, is that the first driver reach the goal before the second convincingly without any problems, while others had big problems and even thought about quitting, with constantly commenting that he would be faster with his old car. ERP users have a similar impression of ERP in Serbia.

What is really behind this? According to the European Commission, the backbone of the European economy are SMEs. Serbia has the largest number of employees SMEs, too. Geographic distribution of manufacturing companies has changed in the last 20 years. Large enterprises have been extinguished or slowly dying out, small and medium were formed by taking part in its segment. Most often, it was the same product lines, quite often with the same people and equipment as the large enterprises. Large enterprises were placed in towns, thus employees in addition to achieving tangible wage they have cultural and educational progress where employees are actively involved in social community.

With disappearance of large enterprises, small and medium-sized enterprises are created in rural areas, which were suitable for building new facilities or the adaptation of existing ones because it is agricultural land turned into a building land. Such SMEs exclusively depend on the awareness, vision and good will of the owners to develop their business. However, the owners of these small and medium-sized enterprises often do not have explanations for situations that are happening to their businesses. ERP system is one of those situations. It very often happens that the owners of small and medium-sized enterprises informed themselves from informal sources that there is a system that will handle warehousing issue. They bought the cheapest ERP

that are found on the market, or at someone's recommendation expecting a miracle, also they set the cheapest workers as operators because their informal sources says that "the ERP system is so simple that anyone can work in it." However, the truth is somewhere on the opposite side.

3. ERP IN SERBIA AND WORLDWIDE

Observing at the progress of ERP in modern societies, modern economies, we see that ERP systems are quite advanced from its initial applications. Where Serbia arrived in the implementation of achievements that an ERP system can offer?

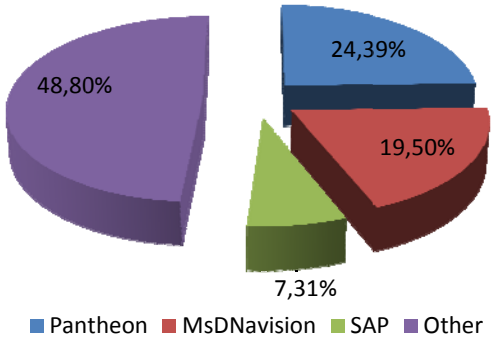

Figure 1. Research 2013 for doctoral studies, the distribution of ERP in Serbia

This issue Department of Industrial Engineering deals since 2012. The survey of 2013 (Figure 1) founded that in Serbia the most popular ERP System with 24.39% is Pantheon, followed by MsDNavision with 19.5%, SAP with 7.31%, and almost half of the respondents have some other ERP usually it is a domestic vendor.

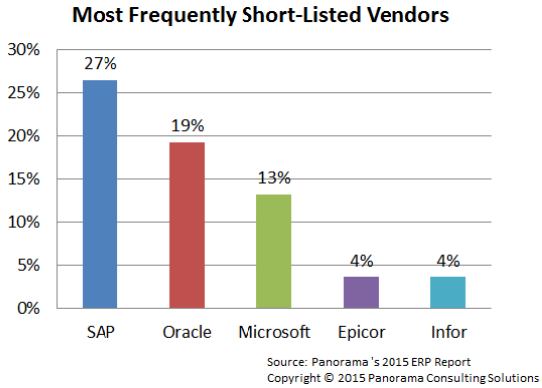

Figure 2. Distribution of ERP in the world [3]

A recent survey conducted by the consulting company *Panorama Consulting Solution* in 2015 (Figure 2.), the most common ERP in the world, with 27% is SAP, Oracle 19%, Microsoft 13%, 4% Epicor, Infor 4%.

However, not all implementations of ERP systems in the world are successful. Figure 3 shows that 58% were successful implementations, 21% failed, and 21% neutral or those where respondents are not confident in the success of the implementation.

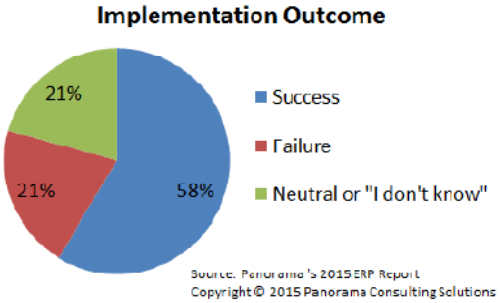

Figure 3. Implementation outcome in the world [3]

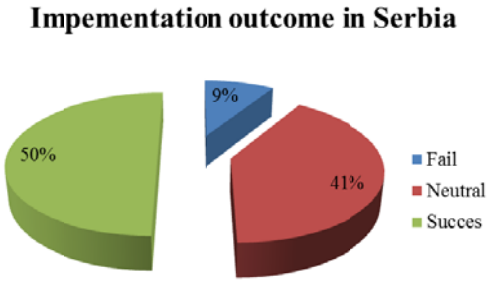

Figure 4. Implementation outcome in Serbia

According to research by the Department of Industrial Engineering (Figure 4) in Serbia successful implementation was 50%, neutral 41% and 9% failed.

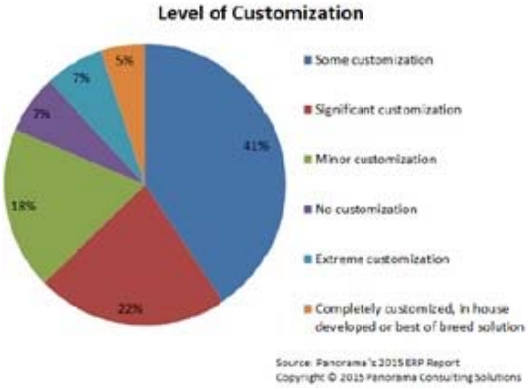

Figure 5. Level of ERP customization in the world [3]

On Figure 5. we can see how much ERP customize in the world, and Figure 6 in Serbia. When implementing, the practice has shown, that it is necessary to perform a specific customization of ERP to comply with the organization.

Figure 5 shows that significant and very small customization represent 63% of customization while Figure 6 shows that extreme, significant, above

expect, more then average and average makes 69% customization in Serbia.

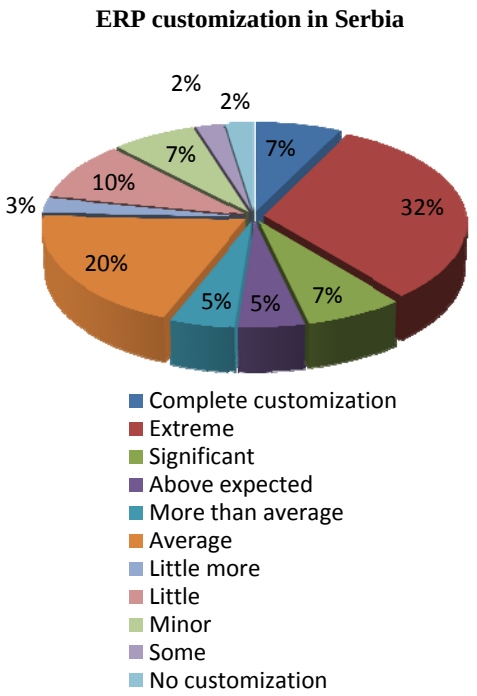

Figure 6. Level of ERP customiazation in Serbia

4. EXAMPLE OF APPLYING CLOUD IN SERBIA AND WORLDWIDE

To show how much we follow world market trends we compared the company in Serbia that use cloud services to enterprises in the world. Companies in Serbia that use the Internet and cloud service in any form of business are 3.80% (Figure 7), while the world just for the hosted and off-site use of cloud, ERP software uses 11% (Figure 8).

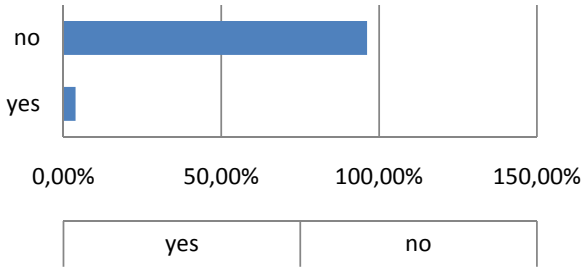

Figure 7. Serbian companies that use cloud in 2014, the source of the Serbian Republic Agency for Statistics [2]

The reasons for such little use of cloud in Serbia, the respondents stated that the high cost of these services 24%, security risk 21%, lack of knowledge about cloud 19%, law insecurity 14% (Figure 9).

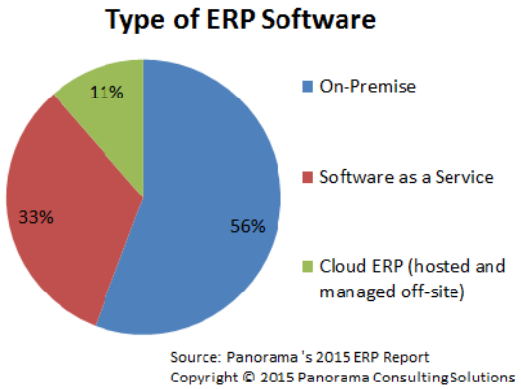

Figure 8. Type of ERP software in cloud in the world [3]

As reasons for non-implementing ERP in cloud respondents cited lack of information about services provided by the cloud 40%, other reasons 30%, security risk 20%, the risk of data loss by 10% (Figure 10).

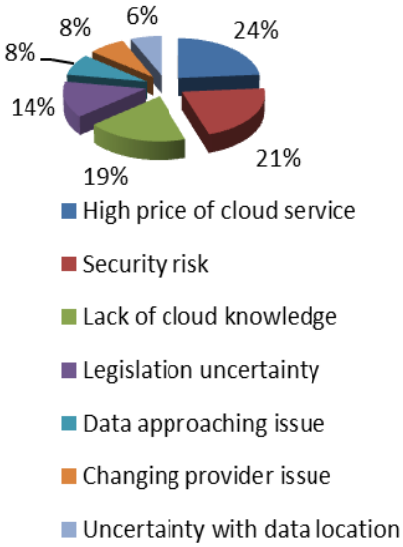

Figure 9. Reasons for not using Cloud in Serbia, source Serbian Republic Agency for Statistics [2]

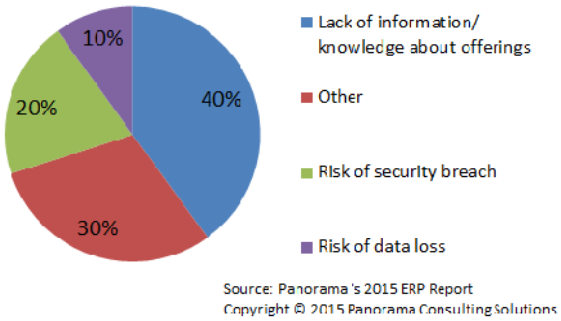

Figure 10. Reasons for not Implementing ERP in Cloud [3]

5. CONCLUSION

Comparing presented results of those surveys it is clear that the Serbian market in the segment of ERP applying greatly differs from the world market. Market size (7.5 million people), determines the need for ERP (Figure 1). The price and quantity of data to be processed are defines Serbian buyer to ERP to smaller local vendors rather then large and robust ERP system. The success of the implemented ERP (Figure 4) indicates that a large number of enterprises are not sure of the success of the implementation. This shows the insufficient use of the ERP system potential.

Analyzed level of ERP customize, indicates that the Serbian organization not ready to accept technological innovation in business such as ERP.

The comparative analysis of using cloud in Serbia and the world, beside the price, which represents the biggest barrier to Serbian companies, lack of knowledge about the cloud is an indication that modern technologies are advancing rapidly and that Serbian companies have to invest in employees training and in the education of owners to keep up with world technologies and survive on the market. Since the use of ERP in the cloud observing the world situation at the beginning (Figure 8.), there are chances to reach this gap. To achieve this, it is necessary to eliminate the reasons relating to knowledge of the cloud, bring new laws and resolve infrastructural problems.

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