

ERP Systems in Croatian Enterprises

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Abstract: Successful implementation of the ERP system enables the management to integrate all business processes and functions, thus increasing the company's competitive advantage in today's turbulent market. Considering potential benefits of ERP system implementation, companies decide to invest significant financial resources and time to implement ERP system. However, there are still a number of projects of ERP system implementation that failed due to various critical success factors, which are quoted in the literature. Since the application of ERP systems is one of the key indicators highlighted by the European Commission under the Digital Agenda for Europe (EU 2020), which sets the European Union's (EU) growth targets by 2020, it is important to make the analysis of the status of the ERP system use in the Republic of Croatia. Given that critical factors of the successful ERP implementation are investigated to a lesser extent in the Republic of Croatia, the aim of this paper is to find out which companies in the Republic of Croatia consider the most important critical success factors, taking into account the specificities of business in relation to the developed countries, and possible differences in attitudes among large companies and medium and small businesses. For this purpose, an online questionnaire survey was carried out and a comparative analysis among large companies and medium and small enterprises was conducted using the Mann-Whitney U test.

Keywords: comparative analysis; critical success factors; ERP implementation; Mann-Whitney U test; questionnaire survey

1 INTRODUCTION

Development of techniques and technology, globalisation, and the increasingly complex business environment require the flow and processing of a huge amount of information (procurement of product parts and materials, spare parts, maintenance, inventory management, finance, human resources, ...) necessary for proper and timely decision making. Enterprise Resource Planning (ERP) is the concept of enterprise management with the aim of integrating business processes and strategic planning of all resources by utilizing information and communication capabilities of new computer systems [1].

The ICT development is decisive for the realisation of the ERP concept. Current ERP systems are information systems that have met this challenge, but two "problems" still need to be solved. The first refers to the selection and compilation of the information technology infrastructure with the necessary software for saving, analysing and distributing information that needs to be accurate and updated. On the other hand, it is necessary to use the information obtained in the planning and decision-making process efficiently and in a timely manner as is achieved through meaningful flow of information. The ES (enterprise system) enables the enterprise to integrate all the data used in the organization [2]. The ERP system is fully integrated software that automates business processes and provides real-time access to information [3].

Implementing an ERP system is a long-term process that implies investing large amounts of financial resources, but it enables enterprises to perform better, efficiently and economically. Quality and efficiency are primarily manifested through better market positioning, and therefore obtaining greater confidence of business entities [4].

The papers on unsuccessful ERP implementation projects can be found in the literature, in which unsuccessful projects mean complete cancelling of ERP implementation project, as well as projects with deadline overrun and exceeding planned expenses [8-11]. According to the above criteria, the share of unsuccessful projects is very high, as stated in the Panorama Consulting Solutions report, 2017 (Panorama Consulting Solutions.

2017 Report on ERP Systems & Enterprise Software, 2017): in the last five years, approximately 59% of companies have exceeded the planned budget, and 65% have had a longer lifetime of ERP implementation project than planned.

Despite this, ERP implementation in the world is still increasing [5, 6, 7, 12, 13, 14, 15, 16]. There are numerous papers published in this area, in which a lot of researchers have focused on the critical factors of ERP implementation [3, 17, 18, 19, 20, 21, 22].

However, very few of them systematically handle the critical success factors (CSFs) that affect the success of ERP implementation in companies in the Republic of Croatia [23, 24].

The main goal of this paper and the research undertaken is to determine the status of ERP system in Croatia and to investigate the opinion of ERP system users on ERP implementation success factors in the Croatian circumstances in order to help companies prevent errors while implementing ERP system. It would be particularly interesting to find out whether there are differences among the small and medium-sized enterprises and large companies as far as the critical success factors are concerned, because they do not have the appropriate resources, expertise and experience to implement ERP system [25].

The article structure is as follows: the review of the literature on ERP implementation and critical success factors (CSF) is discussed in the second section. Section 3 presents the methodology of the research and the analysis of the results is presented in Section 4. The paper ends with the conclusion in Section 5.

2 LITERATURE OVERVIEW

There are numerous researches on the ERP systems that can be divided into three basic groups: ERP system implementation, ERP system benefits and research of cultural differences, as ERP implementation is spread across many countries and regions [26].

A brief overview of literature on ERP is given in the next subsection, followed by a brief overview of CSF literature on the ERP system implementation.

2.1 Implementation of the ERP System

There are various definitions of the ERP systems. For some authors, ERP is a meaningful software solution that links all business processes with a unique IT architecture and software to access all relevant information concerning the companies [27]. Others look at ERP as a system for collecting and systematic updating of data and their processing [28]. The most important role of the ERP system as a computer-supported information system is the integration of the enterprise [29, 30].

In any case, ERP implementation means the implementation of the ERP concepts and introduction of the ERP software. Implementing the ERP system is a complex task that requires the involvement of all relevant stakeholders (e.g. management, information system specialists, employees, consultants and partners) [31].

The paper [32] provides an overview of the ERP systems and taxonomy of the ERP research that covers the main topics in this area. The case study on ERP implementation in the industry [33] is focused on the integration and development of the planning process in the ERP systems. The paper also addresses the approach to implementation and the benefits that companies derive from the ERP system implementation from the aspect of the enterprise size [34] as well as implementing the ERP systems to increase the competitive advantage in the market [31, 35], and the guidelines for aligning the ERP implementation with competitive strategy [36]. The ERP implementation is an extensive organisational change and not just a software installation [37]. Therefore the part of the paper is the comparison of the ERP system implementation in the countries in Asia, Europe and the USA with regard to diversity in national cultures and the need to adapt the generic systems to the specifics of a particular country [26].

2.2 Critical Success Factors

Despite all the benefits that an enterprise can achieve by implementing the ERP system, it has been shown that the implementation is not always successful [37]. For this reason, researches are focused on critical success factors and there is the extensive relevant literature dealing with this problem, but mainly with the focus on large enterprises and developed countries. Fewer researches deal with both developing countries and small and medium-sized enterprises. CSFs have an impact on the success of the ERP implementation and numerous authors have identified the factors considered critical to the success of the ERP implementation. CSF is studied by many authors, mostly before and during implementation, but rarely in the post-implementation phase [38].

One of the first surveys of critical success factors in implementing the ERP systems in small and medium-sized enterprises (SMEs) on Canadian companies' examples is described in the paper [39]. Their findings have confirmed the results of earlier researches that significant CSFs include management support, discipline process, qualified consultants, project management and user training. When comparing the ERP system implementation in the countries of Asia, Europe and the USA with regard to diversity in national cultures and the need to adapt the generic systems

to the specifics of a particular country [26] the authors of the paper [40] found that these differences affect the success of ERP implementation.

Within the scope of their research, the authors of the paper [41] focus on human resources as one of the key success factors of the ERP implementation. The paper presents an overview of the critical success factors that affect the success of the ERP implementation, mentioned in the literature, and emphasize the organisational culture as a particularly important critical success factor. Consultant competences and absorption capacity are identified as critical success factors that affect knowledge transfer during the ERP implementation [42]. The paper [15] gives a comprehensive overview of previously identified CSFs in the implementation of the ERP systems according to the frequency of occurrence in the existing relevant literature.

The choice of a supplier of the ERP system is also a critical significant factor in the ERP implementation [43, 44]. Authors of the paper propose the framework for implementing the ERP system that takes into account the CSF priorities for SMEs.

As it can be seen in the literature review, most of the researches deal with an individual CSF, and a smaller number of published papers deal comprehensively with CSF [15, 16]. The authors of the paper [15] have chosen the most important ones according to the frequency of CSF occurrences. They have selected 13 CSFs for the ERP implementation by reviewing 200 relevant articles. CSFs cannot be viewed independently because they interact with each other [15, 16].

As the ERP application is one of the many key indicators highlighted by the European Commission under the Digital Agenda for Europe-one of the seven pillars of the Europe 2020 strategy defining the targets for the growth of the European Union (EU) by 2020, it is important to analyse the state of application of the ERP systems in the Republic of Croatia.

3 METHODOLOGY RESEARCH

In the first phase of the research, a comprehensive overview of the relevant scientific literature on the ERP system implementation and CSF is made. The literature review includes scientific papers in journals that are presented in relevant databases (Web of Science (WoS), Science Direct, Emerald, Elsevier, ...).

In the second phase, a survey method is used to analyse the state of the ERP systems application in Croatia. A questionnaire that was sent via e-mail is used as an instrument of research. Based on the extensive review of the literature, the questionnaire contains 12 questions about the ERP system implementation, the current status of the company, basic organisation and respondent information, motivation for the ERP system introduction, system upgrading needs and improvements. The respondents did not have to answer the question about the company they come from which ensured their confidentiality. Closed questions with dichotomous responses are used in the questionnaire. Intensity responses (Likert's ordinal scale with five gradients used by respondents to rate the degree to which they agree or disagree with a statement (1-I disagree, ..., 2-I agree)), and multiple choice questions are

offered in the questionnaire. In the next phase of the survey, a cover letter was sent via e-mail to a number of companies in the Republic of Croatia with a questionnaire request in order to gain an insight into problems related to the ERP system implementation in Croatian companies. The cover letter provides an URL with link to the online questionnaire so that the respondents submitted their answers online. The survey was conducted for over 2 months (January and February 2016). The companies were selected according to the company list published in Privredni vjesnik for 2014 (Privredni vjesnik, 400 Najvećih hrvatskih tvrtki u 2014./ 400 Largest Croatian Companies in 2014, August 2015 LXII, no. 3888). In choosing the companies, the intention was to cover the whole of Croatia, all sectors and sizes of companies. All counties in the Republic of Croatia were covered and a non-probabilistic (quota) sample was made. The invitation to fill in the online questionnaire was sent to the selected manufacturing and service companies from the mentioned list that had the highest total revenue in 2014. 300 Croatian companies were asked to complete the survey about ERP systems in Croatian companies, critical factors and their impact on the system implementation. A month later, a reminder to increase the response rate was sent. The total number of completed questionnaires is 74, thus the overall response rate is 24.67%, which is common for this type of survey of the ERP implementation [14, 19, 42]. Of the total number of completed questionnaires, 37% of respondents have not introduced and do not plan to introduce the ERP system or introducing the ERP system is in progress.

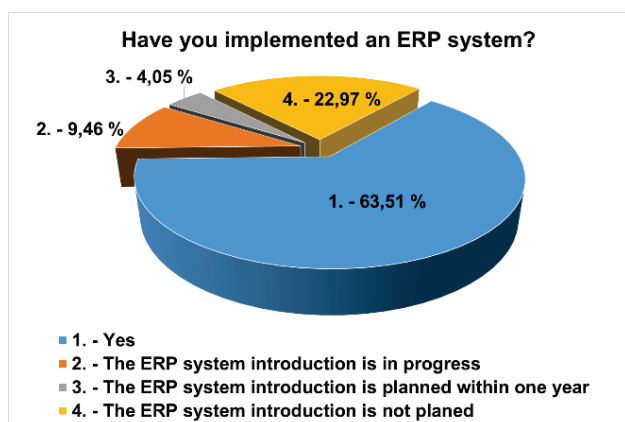


Figure 1 Status of the ERP system application in enterprises in the Republic of Croatia

The data collected by the survey were analysed by Tibco Statistica 13.3. using the methods of descriptive statistics. The Mann-Whitney U test was applied for the analysis of the questions, in which the 5-point Likert scale was used, since it is a non-probabilistic sample. First, the coding of variables was done, and then the attitudes of large (LE) and small and medium enterprises (SMEs) were compared.

4 SURVEY RESULTS AND DISCUSSION

In the first sub-section, general data on companies responding to the survey are processed, and in the second subsection critical success factors for the ERP system implementation in companies in Croatia are analysed.

4.1 Analysis of the General Information from the Questionnaire

Seventy-four companies, of which 38 large companies (250 and more employees) and 36 small and medium-sized companies responded to the questionnaire. Manufacturing and service industries are represented. According to the survey results, Fig. 1 shows the state of the ERP system implementation in Croatian companies, and Fig. 2 shows the share of companies participating in the survey according to the industry area.

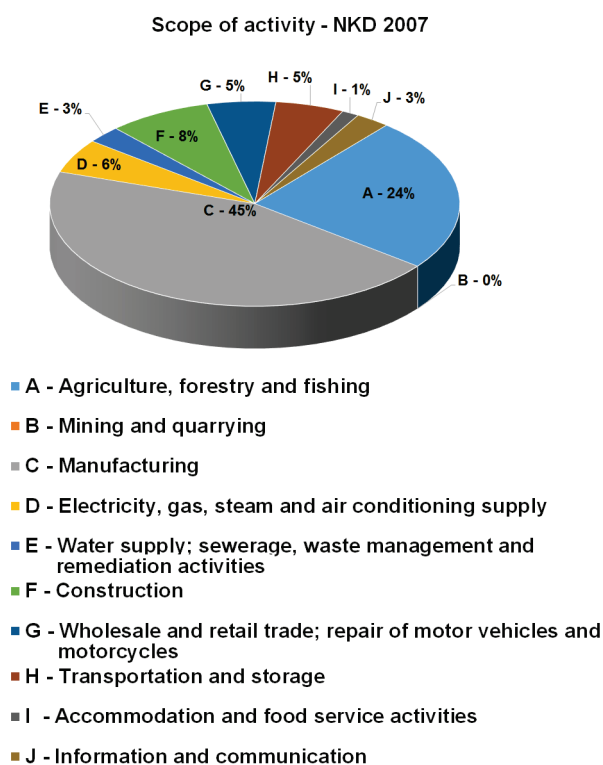


Figure 2 The share of companies participating in the survey per scope of activity (according to NCEA - NKD 2007)

63.51% of the companies introduced the ERP system, while up to 22.97% of companies are not planning to introduce ERP systems.

According to the results of the survey conducted in the Republic of Croatia, ERP systems of domestic and foreign suppliers are equally used. From foreign suppliers, the most frequently used system is SAP.

Several modules have been implemented to cover as many as possible departments in the company. The modules most often implemented are those that encompass common data, i.e. 96.08%, and accounting modules in 96.08% of cases.

In most cases, it was necessary to customize the system, even in 70.59% of companies. Customizations were conducted for several reasons, such as improved reporting (58.82%), for better display usefulness rate (11.76%), for product integration with other systems (41.18%), for functionality improvements (64.71%), and system customization to the existing business processes in 80.39% of companies.

As shown, most of the changes occurred due to the adapting the ERP system to business processes, and this is one of the reasons why a number of companies do not plan

to introduce the ERP systems because the market solutions do not meet their business needs.

In the case of enterprises with ERP system implemented, the process (74.51%) lasted from 7 to 24 months in most cases (7 - 12 months 47.06% and 12 to 24 months 27.45%). Since 80.39% of surveyed enterprises use the system for more than two years, their experience is relevant to the results of the survey conducted.

4.2 Analysis of Critical Success Factors of the ERP System Implementation

The aim of this survey is to investigate the attitudes of SMEs and large companies on the critical success factors in implementing ERP systems, how CSFs are ranked in terms of their importance, and whether there are significant differences in the attitudes of SMEs and large enterprises to CSF. The instrument consists of 26 items (CSF1 to CSF26) which the participants of the survey were asked to evaluate. The degree of agreement with the statement that a particular particle (listed critical success factor) is of great importance in the ERP system implementation using the 5-point Likert type scale. The participants expressed their opinion with a single partial choice with one of the following options: 1-I strongly disagree; 2-I disagree; 3-I neither agree nor disagree; 4-I agree; 5-I strongly agree.

Table 1 Indicators of the scale internal validity

| Variable | Valid N: 51, Cronbach alpha: 0.920071 | |
|----------|---------------------------------------|------------------|
| | Item-Total Correl. | Alpha if deleted |
| CSF1 | 0.540572 | 0.917035 |
| CSF2 | 0.487516 | 0.917976 |
| CSF3 | 0.403914 | 0.919109 |
| CSF4 | 0.571525 | 0.916449 |
| CSF5 | 0.571010 | 0.916506 |
| CSF6 | 0.640517 | 0.915144 |
| CSF7 | 0.205424 | 0.922236 |
| CSF8 | 0.276947 | 0.920417 |
| CSF9 | 0.412690 | 0.918879 |
| CSF10 | 0.709463 | 0.914004 |
| CSF11 | 0.359789 | 0.920028 |
| CSF12 | 0.373739 | 0.919442 |
| CSF13 | 0.596032 | 0.916629 |
| CSF14 | 0.506710 | 0.917532 |
| CSF15 | 0.494102 | 0.917751 |
| CSF16 | 0.702328 | 0.913840 |
| CSF17 | 0.540357 | 0.917100 |
| CSF18 | 0.543834 | 0.916923 |
| CSF19 | 0.615973 | 0.915993 |
| CSF20 | 0.535864 | 0.917069 |
| CSF21 | 0.563039 | 0.916687 |
| CSF22 | 0.729904 | 0.913757 |
| CSF23 | 0.595439 | 0.916006 |
| CSF24 | 0.745302 | 0.913496 |
| CSF25 | 0.650181 | 0.914969 |
| CSF26 | 0.415392 | 0.919378 |

The CSF (5-point Likert scale) response analysis was performed using the Mann-Whitney U test.

First, the coding of the variables was performed, and then, for comparison of the attitudes of small and medium and large enterprises, the Mann-Whitney U Test comparing two independent samples (SME and LE) was applied significance of the level $p = 0.01$. The research hypothesis is that there are no statistically significant differences in the attitudes of small and medium-sized enterprises and large companies about the critical success factors. For determining the internal scale validity,

Cronbach's reliability coefficient, Alpha-if-deleted indicator and item-to-total correlation were applied (Tab. 1).

The values of the Cronbach alpha coefficients indicate that the scale used has a satisfactory level of reliability. Namely, the internal consistency (Cronbach's alpha) is 0.92, and the value of Cronbach's reliability coefficient is greater than 0.70 which means high reliability [45] to see if there are statements that reduce the reliability of a given scale or do not show a strong correlation with the corresponding measurement scale. The value of the Cronbach alpha coefficient, and thus the reliability of the scale, would be slightly increased by the removal of CSF7 and CSF8 factors, but it is only a slight increase in the Cronbach alpha values so CSF7 and CSF8 are retained in further analysis.

Tab. 2 shows the results of Mann-Whitney U Test, which compares the attitudes on the critical success factors of small and medium-sized enterprises with large companies. The Mann-Whitney U Test analysis was made with the significance level $p = 0.01$.

Larger number of respondents rated all the CSFs mentioned in the questionnaire as significant with a high level of agreement (5-I strongly agree and 4-I agree).

According to the data in Tab. 2, it can be concluded that there is no statistically significant difference in the attitudes of large enterprises and small and medium enterprises about critical success factors or in the implementation of the ERP system (hypothesis H0 is accepted, with significance level $p = 0.01$) As shown in Fig. 3, large companies and small and medium enterprises have identical views on the critical success factors: user-friendly user interface and operations (ease of operation, ease of learning (guideline, online help)); data conversion; continuous support from system manufacturers (warranties, consultants' services, trainings, speed of problem solving); organisational culture; low level of general computer literacy; and weak institutional support for enterprise informatisation.

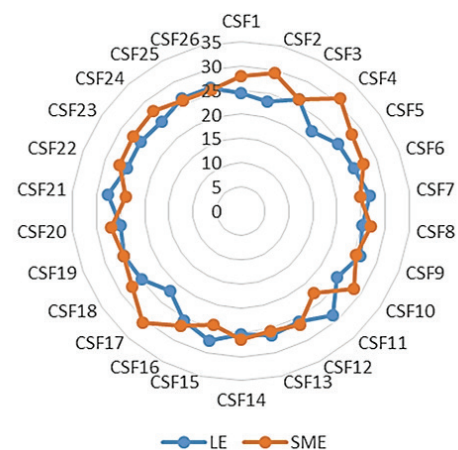


Figure 3 Polar graph for mean ranks of CSF (large companies and small and medium enterprises)

Most of the critical success factors are considered more significant by small and medium-sized enterprises than by large enterprises. Large enterprises, compared to small and medium-sized enterprises, rated higher only the following critical factors: business process reengineering,

reputation of software manufacturer (finance, market share), top-management support and lack of methodologies for evaluation and selection of ERP system. But there is no

statistically significant difference between the views of SMEs and large companies.

Table 2 The results of Mann-Whitney U Test, used to compare the attitudes on the critical success factors of small and medium-sized enterprises with large companies

| Critical success factors | Variable | Mann-Whitney U Test By variable Enterprise type Marked tests are significant at $p < .01000$ | | | | | | |
|---|----------|--|--------------|----------|----------|-----------------|--------------------|-----------------|
| | | Rank Sum LE | Rank Sum SME | <i>U</i> | <i>Z</i> | <i>p</i> -value | <i>Z</i> -adjusted | <i>p</i> -value |
| Total expenses (price, maintenance costs, consultants' costs) | CSF1 | 684,0000 | 642,0000 | 278,0000 | -0,82345 | 0,410255 | -0,85311 | 0,393601 |
| Implementation period | CSF2 | 649,0000 | 677,0000 | 243,0000 | -1,48599 | 0,137283 | -1,56003 | 0,118754 |
| System functionality (module completeness, proper function, security) | CSF3 | 726,5000 | 599,5000 | 320,5000 | -0,01893 | 0,984897 | -0,02641 | 0,978931 |
| User-friendly user interface and operations (ease of operation, ease of learning) | CSF4 | 614,0000 | 712,0000 | 208,0000 | -2,14853 | 0,031672 | -2,24044 | 0,025063 |
| System flexibility (upgradeability, ease of integration, easy upgrade) | CSF5 | 684,00 | 642,00 | 278,00 | -0,82345 | 0,410255 | -0,89991 | 0,368169 |
| Development of required software upgrades, testing and troubleshooting | CSF6 | 701,00 | 625,00 | 295,00 | -0,50164 | 0,615921 | -0,54341 | 0,586847 |
| Reengineering of business processes | CSF7 | 753,50 | 572,5000 | 296,5000 | 0,47324 | 0,636039 | 0,49428 | 0,621109 |
| High system reliability (stability, data backup, data recovery) | CSF8 | 705,0000 | 621,0000 | 299,0000 | -0,42592 | 0,670166 | -0,51379 | 0,607397 |
| Quality of information (reports) | CSF9 | 739,5000 | 586,5000 | 310,5000 | 0,20823 | 0,835051 | 0,26014 | 0,794758 |
| Data conversion | CSF10 | 675,5000 | 650,5000 | 269,5000 | -0,98435 | 0,324944 | -1,03255 | 0,301817 |
| Software manufacturer's reputation (finance, market share) | CSF11 | 804,5000 | 521,5000 | 245,5000 | 1,43866 | 0,150247 | 1,54121 | 0,123267 |
| The manufacturer provides good technical capabilities (technical support, experience in implementation) | CSF12 | 719,5000 | 606,5000 | 313,5000 | -0,15144 | 0,879630 | -0,17435 | 0,861594 |
| Continuous system manufacturer support (warranties, consultants' Services, trainings, troubleshooting rate) | CSF13 | 740,5000 | 585,5000 | 309,5000 | 0,22716 | 0,820301 | 0,27252 | 0,785222 |
| Consultants' services | CSF14 | 714,5000 | 611,5000 | 308,5000 | -0,24609 | 0,805615 | -0,25836 | 0,796128 |
| Top-management support | CSF15 | 770,5000 | 555,5000 | 279,5000 | 0,79505 | 0,426584 | 0,97207 | 0,331019 |
| Inadequate management's knowledge of on the role and importance of ERP systems | CSF16 | 714,0000 | 612,0000 | 308,0000 | -0,25555 | 0,798297 | -0,26455 | 0,791355 |
| Lack of methodologies for evaluation and selection of ERP systems | CSF17 | 618,5000 | 707,5000 | 212,5000 | -2,06335 | 0,039080 | -2,12803 | 0,033336 |
| Project management | CSF18 | 695,5000 | 630,5000 | 289,5000 | -0,60575 | 0,544679 | -0,64954 | 0,515992 |
| The project team's expertise | CSF19 | 728,0000 | 598,0000 | 322,0000 | 0,00946 | 0,992448 | 0,01056 | 0,991574 |
| Organizational culture | CSF20 | 704,0000 | 622,0000 | 298,0000 | -0,44485 | 0,656428 | -0,48242 | 0,629509 |
| Communication within the organization | CSF21 | 777,0000 | 549,0000 | 273,0000 | 0,91810 | 0,358570 | 1,03603 | 0,300190 |
| Training and educating the user | CSF22 | 707,5000 | 618,5000 | 301,5000 | -0,37860 | 0,704988 | -0,42723 | 0,669213 |
| User involvement (level of initiative, knowledge, and employee's desire to increase the level of inf.) | CSF23 | 704,5000 | 621,5000 | 298,5000 | -0,43539 | 0,663283 | -0,47141 | 0,637345 |
| User acceptance | CSF24 | 694,5000 | 631,5000 | 288,5000 | -0,62468 | 0,532179 | -0,68330 | 0,494418 |
| Low level of the users' general computer literacy | CSF25 | 735,5000 | 590,5000 | 314,5000 | 0,13251 | 0,894582 | 0,13736 | 0,890742 |
| Lack of institutional support for enterprise computerization | CSF26 | 735,0000 | 591,0000 | 315,0000 | 0,12304 | 0,902073 | 0,12671 | 0,899169 |

Table 3 Mean ranks and assigned ranks according to mean ranks

| Code | Critical success factors | Large companies | | SMEs | |
|-------|---|-----------------|----------------|------------|----------------|
| | | Mean ranks | Assigned ranks | Mean ranks | Assigned ranks |
| CSF1 | Total expenses (price, maintenance costs, consultants' costs) | 24,43 | 21 | 27,91 | 5 |
| CSF2 | Implementation period | 23,18 | 24 | 29,43 | 3 |
| CSF3 | System functionality (module completeness, proper function, security) | 25,95 | 10 | 26,07 | 17 |
| CSF4 | User-friendly user interface and operations (ease of operation, ease of learning) | 21,93 | 26 | 30,96 | 1 |
| CSF5 | System flexibility (upgradeability, ease of integration, easy upgrade) | 24,43 | 22 | 27,91 | 6 |
| CSF6 | Development of required software upgrades, testing and troubleshooting | 25,04 | 18 | 27,17 | 9 |
| CSF7 | Reengineering of business processes | 26,91 | 4 | 24,89 | 23 |
| CSF8 | High system reliability (stability, data backup, data recovery) | 25,18 | 15 | 27,00 | 12 |
| CSF9 | Quality of information (reports) | 26,41 | 6 | 25,50 | 21 |
| CSF10 | Data conversion | 24,13 | 23 | 28,28 | 4 |
| CSF11 | Software manufacturer's reputation (finance, market share) | 28,73 | 1 | 22,67 | 26 |
| CSF12 | The manufacturer provides good technical capabilities (technical support, experience in implementation) | 25,70 | 11 | 26,37 | 16 |
| CSF13 | Continuous system manufacturer support (warranties, consultants' Services, trainings, troubleshooting rate) | 26,45 | 5 | 25,46 | 22 |
| CSF14 | Consultants' services | 25,52 | 12 | 26,59 | 15 |
| CSF15 | Top-management support | 27,52 | 3 | 24,15 | 24 |
| CSF16 | Inadequate management's knowledge of on the role and importance of ERP systems | 25,50 | 13 | 26,61 | 14 |
| CSF17 | Lack of methodologies for evaluation and selection of ERP systems | 22,09 | 25 | 30,76 | 2 |
| CSF18 | Project management | 24,84 | 19 | 27,41 | 8 |
| CSF19 | The project team's expertise | 26,00 | 9 | 26,00 | 18 |
| CSF20 | Organizational culture | 25,14 | 17 | 27,04 | 10 |
| CSF21 | Communication within the organization | 27,75 | 2 | 23,87 | 25 |
| CSF22 | Training and educating the user | 25,27 | 14 | 26,89 | 13 |
| CSF23 | User involvement (level of initiative, knowledge, and employee's desire to increase the level of inf.) | 25,16 | 16 | 27,02 | 11 |
| CSF24 | User acceptance | 24,80 | 20 | 27,46 | 7 |
| CSF25 | Low level of the users' general computer literacy | 26,27 | 7 | 25,67 | 20 |
| CSF26 | Lack of institutional support for enterprise computerization | 26,25 | 8 | 25,70 | 19 |

According to the analysis of the survey results of the attitudes of SMEs and the large companies on the critical success factors, the list of critical success factors for SMEs and large enterprises is presented in Tab. 2.

5 CONCLUSION

The ERP system implementation with the aim of increasing competitiveness is extremely important for the Croatian economy. Due to complexity of the implementation of the ERP system and the risk of the project implementation caused by various factors, it is important to understand the impact of the critical success factors that can lead to successful implementation of the ERP system. The results of the research have shown that, although there is no statistically significant difference in the companies' attitudes towards the critical success factors of the ERP implementation, small and medium-sized enterprises rank critical success factors differently compared to large companies. In small and medium-sized enterprises, the most important critical success factors are user-friendly interface and operation, lack of methodology for evaluation and selection of ERP systems, and the duration of implementation, which are, at the same time, the least significant critical success factors according to the large companies.

The drawback of the research is a non-probabilistic sample, but although the results of this research cannot be generalised because of it/this a non-probabilistic sample, it may still be useful to researchers and practitioners to gain insight into the issues of the ERP implementation in companies in Croatia.

In future studies, it would be useful to extend a set of critical success factors and involve more people from the same enterprises to participate in research.

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