

MODEL FOR THE SELECTION OF ERP SYSTEM AND RECOMMENDATIONS FOR EFFECTIVE APPLICATION

MODEL IZBORA ERP SUSTAVA I PREPORUKE ZA UČINKOVITU PRIMJENU

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Abstract: *One of the prerequisites for a successful access to the EU's IT society, through the i2010 project scheduled for the year 2010, is the computerization of our economy. For increase the productivity of production and the complete program systems to increase productivity in the preparation of production it is necessary to introduce ERP systems that integrate all the relevant information as well as plan and monitor all business processes in the company. The paper offers basic guidelines for the selection and the description of a model for the selection of an effective ERP system for the needs of a concrete economic entity.*

Key words: *ICT, ERP system, a model for the selection of ERP system*

Sažetak: *Za uspješan pristup informatičkom društvu EU, planiranim projektom i2010 do 2010. godine, potrebno je uvođenje informatizacije našeg gospodarstva. Za povećanje produktivnosti u pripremi proizvodnje neophodno je uvesti ERP sustave koji integriraju sve relevantne podatke te planiraju i prate sve poslovne procese u poduzeću. U radu su dane osnovne smjernice za izbor kao i opis modela za izbor učinkovitog ERP sustava za potrebe konkretnog gospodarskog subjekta.*

Ključne riječi: *ICT, ERP sistem, model za odabir ERP sistema*



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1. Introduction

EU i2010 initiative which recognizes ICT as a prerequisite to enhance the overall development of European society through the construction of information society that promotes growth and employment, adopted not only by members but also in Croatia with its Strategy of development of electronic business in the Republic of Croatia for the period 2007-2010.

New information and communication technologies have enabled SMEs to become involved in global competition. It is therefore important for small and medium-sized enterprises to continuously improve their competitive position. For this reason, ERP systems are introduced into small and medium-sized enterprises. ERP market is constantly growing, as companies seek to implement ERP system to increase productivity, profitability and competitiveness on world markets.

Although in recent times large global manufacturers are increasingly directed towards the development of ERP systems for small and medium-sized enterprises, ERP systems are still too costly for them. Given the often unjustifiably high prices of ICT products especially for small and medium-sized enterprises, common failures in the selection of ERP systems present in our economy as well as the significant costs and set-backs in the development of enterprises due to poor choice of ERP system, it is necessary to develop a model for the selection of effective ERP system.

With the fast development of new technologies, widened possibilities and the increased number of suppliers of software, there are many opportunities for the selection of ERP systems. Most ERP systems are similar but also there are core differences between them. The specific features of any ERP system are built into it.

The failure of implementation of projects ERP system happens when the system is not able to match the existing business processes and procedures in the organization, so a decision on the selection of ERP system should be made very carefully.

With respect to the accrued and other necessary adjustments of the new ERP system to the existing special needs of specific companies as well as the present failures in the selection by a large number of our companies, the paper proposes a model for the selection of ERP. This assessment of suppliers of ERP systems would allow their ranking according to the needs of enterprises and at the same time gives an insight into parts of the system that need further development.

2. Proposal model for the selection of ERP system

The objective is to select the ERP system that will have minimal costs and duration of implementation, functionality and flexibility, which means it has the necessary module and the possibility of adjustments, that is user-oriented (simple training and interface handy for ultimate user), that the supplier system provides continuous support (for training and maintenance), and that it is reliable.

One should choose ERP system that suits best the business processes of the organization. Well-known ERP systems of large world producers are standard and organizations must adapt their business to ERP system.

If the selected ERP system does not meet the needs of the organization, implementation of ERP system will be unsuccessful. For the successful implementation of ERP systems managers need to assess how to match ERP system and their business processes. One of the major factors why implementation of ERP system experiences failures is that there are no matches between business processes and elected ERP system (Umble, et al, 2003). In other words, the suppliers of ERP systems usually offer existing solutions (there are IT companies that engage in certain adjustments to the users' needs) whose major part could be completely unuseful to the user.

In addition, there are requirements that do not contain offered ERP system so it is interesting to find out whether the supplier intends to build a requested part into the system for the user. Users must identify their business needs and preferred characteristics of ERP systems. The user lists down his requests by the example of production management given in the table 1.

	SUBSYSTEM	MODULES REQUESTS	REQUESTS
1.	PRODUCTION MANAGEMENT	1.1. BASIC PLAN	a) business plan b) plan of agreed businesses c) plan by working orders d) monitoring the base plan
		1.2 SCHEDULING OF PREPARATION AND PRODUCTION	a) the termination of work preparation b) available capacity c) determination of priorities d) termination of production e) termination f) application of readiness by entering g) amending the plan
		1.3.BUSINESS MONITORING	a) listing the readiness of basic plan b) input of readiness manually c) entry of readiness by bar code d) listing readiness by RF terminals e) display of plans status f) graphic display of plans status g) display of the expected realization h) unfinished production to the level of orders i) unfinished production to the level of production elements j) unfinished production to the level of technology operations

Table 1. Defining the requirements for example Production management

There is not so much literature about the selection of ERP systems (Bueno & Salmeron, 2008). Different criteria for the selection of ERP systems are described in the works (Sprot, 2000), (Majdandžić, 2004), (Wei et al, 2005), (Bueno & Salmeron, 2008).

Figure 1 shows the model of choosing ERP system suggested by the authors.

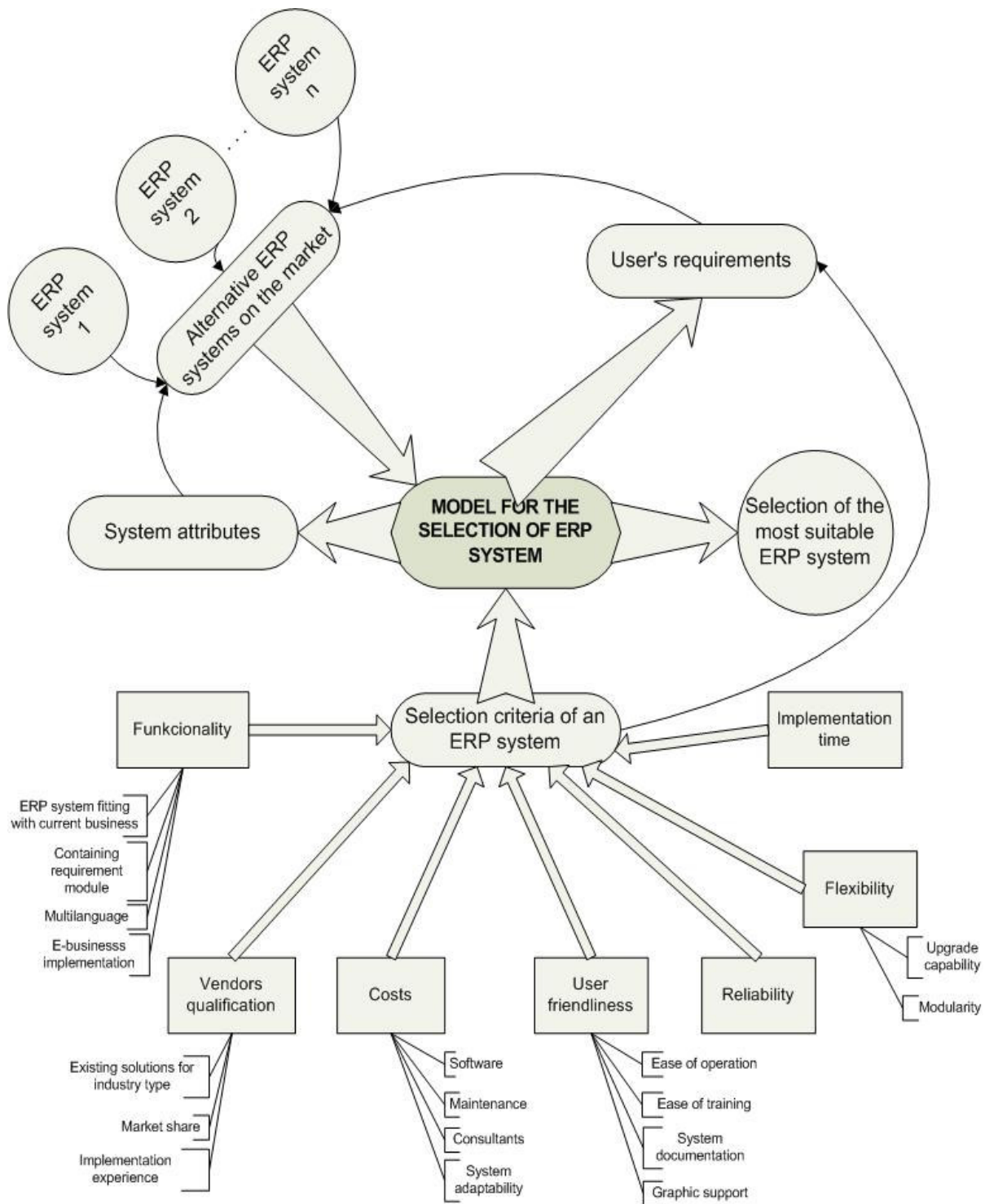


Figure 1. Model selection of ERP system

The authors propose a model of selecting ERP system using the following criteria for the assessment of benefits:

- functionality,
- qualification of vendors,
- costs,
- user friendliness,

- implementation time,
- flexibility,
- reliability.

These criteria include elements that have influence on the selection of ERP systems: ERP system fitting with the existing business processes, the capability to adaptability and updating, e-commerce implementation, qualification of vendors, modularity, being well-documented, ease to operation and learn, support for maintenance and maintenance costs, consultancy support.

3. Conclusion

As a preparation for entry into the EU information society and ability to communicate with economic subjects during the cooperation on joint projects it is essential that our economics subjects successfully introduce and use ERP systems. The selection of ERP system is not an easy task given the current chaos in the ERP system market in which domestic vendors hold 47%, SAP 30% and other world vendors 23% of the market, and multiple repeated errors in the course of their implementation into a large number of companies. The paper has suggested a conceptual model of selecting ERP system based on defined criteria for evaluation.

On the basis of conceptual models it s being planned to define in the future a mathematical model in which each criterion would be assessed by a weight factor which would enable a quality ranking of the offered ERP system.

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