ARTICLE SUMMARY EXAMPLE

Before

ERP SYSTEM

ERP (Enterprise Resource Planning) can be defined as a concept and as a system. The term refers to the integration of business processes within and outside the organization, as well as standardization of business in terms of best practices. On the other hand, ERP as a system represents a technological infrastructure designed to provide the necessary functional capability to incorporate the ERP concept into reality (Nazemi et al., 2012, p. 1000). It turns out that the ERP system is actually a technological manifestation of the ERP concept i.e. that for the realization of its functions is the decisive development of information technology. It can be said that ERP systems are not possible without the sophisticated IT infrastructure. In literature and practice, the ERP system refers to the industrial term for a highly integrated application software suite that supports the work of an integrated information system in practice, and has been designed with two basic goals: - supporting business processes in aiming for greater efficiency in performing certain business activities and business system as a whole - providing the necessary information bases for successful management of complex business systems. From the above goals, we can conclude that ERP supports the organizational system at the operational and strategic level. At operational level, it helps to coordinate all business processes to achieve the greatest efficiency in their performance. At the strategic level, it provides all the information needed to manage the system and implement organizational changes needed to survive and develop an organization. What ERP system allows to meet these two basic goals is its main feature - data integration. Data Integration implies that all relevant information and information is available at any location, at any time, to anyone who needs it and is based on the existence of a unique database. ERP systems over a single database override spatial and functional barriers and barriers between levels of management. The scope of integration achieved by today's ERP systems has developed gradually over time. Kalakota and Robinson (2001) state that this development or evolution can be divided into four phases:

1. Manufacturing Integration - Production-Oriented Information Systems appeared in the 1970s and were known as MRP Systems (Manufacturing Resource Planning). Their purpose was to support the production process - planning and managing material production resources. Over the years the concept of these systems has been elaborated, and in the 1980s an expanded version was developed, called MRP II. The latter system made it possible to plan all the resources needed to produce - not just material as MRP but also financial and human.

2. Enterprise Integration - At the beginning of the 1990s, the need to link all functions to the organization and to support all internal business processes, not just production, has arisen. For this purpose, the MRP II system was further enhanced - modules such as finance, storage, distribution, quality control, and human resources management were added, all integrated. The goal of the integration was to use technology to develop process standardization among different business units to improve efficiency and generate a greater return on investing. Such an improved MRP II system is called ERP system (enterprise resource planning).

3. Customer-centric Integration - The ERP system expanded further in the late 90s of the last century, including modules such as sales, marketing and e-business. The aforementioned system extension is known under the popular CRM (Customer Relationship Management), used to track customer needs, to manage relationships with them, and to support production and sales by order or customer request.
4. Inter-enterprise Integration - Global trends that have emerged at the beginning of the new millennium (globalization, internationalization, standardization and so on) have led to the interconnection of more and more companies, which is why information systems epithet "world". This means that at this stage the scope of ERP system integration begins to expand to the entire value chain of the company - its customers, suppliers and distribution partners. This ERP system extension is called SRM (Supplier Relationship Management). Its goal, through supply chain management and sales, is to provide decision support to reduce inventory, improve strategic pricing, improve the cycle, and increase customer satisfaction. To achieve this, integration of internal business activities with process and customer and supplier information is needed. This is achieved by building an ERP system on an internet platform. This web platform, intranet and extranet technology, besides allowing communication and data exchange between geographically remote business units of companies and their partners, provides direct support in e-business. As the main interface of such a system, there are web portals that allow employees access to all applications and related system information from any location that has Internet access. The accelerated development of ERP in this direction led to the emergence of ERP II, which provides support for new areas of business management - partnerships with other business systems, tracking and managing customer relations, redesigning business processes, contemporary cost management concepts and a host of others.

By analysing the development of the scope of integration of the ERP system, it is noticeable that the boundary of the functions and processes involved in integration was gradually shifted (Kurbel, 2013). While at the beginning of the integration only concerned a narrow range of manufacturing processes, today's ERP systems successfully integrate not only all business processes within the company but also the business processes of all of its partners. In this way, business operations are greatly facilitated, since there is a much greater amount of relevant information available for making any decision. ERP systems cover all business segments, unlike older systems that were limited to key business functions and activities so that some information that was relevant to the management processes was not covered. It follows from the above that the ERP system enables the idea of an integrated information system of an enterprise to be realized in practice. So it's no surprise that it was realized as a software model of a business information system. Given that the latter is complex, the consequence is that ERP systems are also complex software systems. In order to overcome this complexity, the hierarchical decomposition principles are applied in its structuring. On the highest level of hierarchy is the entire IT system that encompasses all software solutions for the business information system and is referred to as the EAS (Enterprise Application Suite). The second level of hierarchy consists of a basic ERP system (transactional reporting system)

that provides operational functionality and an additional ERP functionality (data warehouse, analytical data processing, data mining, supply chain management, customer relationship management, accounting activity concept, e-learning and access to information through the implementation of Internet technologies such as web, intranet, and extranet). The third level of decomposition refers to the ERP system modules that correspond to the functional subsystems of the business information system (module of production, marketing and sales module, finance module and accounting, human resources module). The modules are further decomposed into applications that relate to the minimal, functionally rounded whole of the ERP system that can be independently applied.

References

Nazemi, E., Tarokh, M. J., Djavanshir, G. R. (2012), ERP: a literature survey, The International Journal of Advanced Manufacturing, vol. 61, pp. 999 - 1000.

Kalakota, R., Robinson, M., & Kalakota, R. (2001). E-business 2.0: Roadmap for success. Boston, MA: Addison - Wesley.

Kurbel, K. E. (2013), Enterprise Resource Planning and Supply Chain Management, Berlin Heidelberg: Springe - Verlag.