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The Importance of the Implementation of the 1C:ERP WE Information System in the Digitization of Organizations

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Abstract: *The purpose of the research work is to indicate the importance of the implementation of information systems in the digitization of business. With the practical application of the 1C:ERP WE information system, this paper will evaluate the efficiency of the work process in the sales sector. Conclusion will be made about the role of the 1C:ERP WE software in the development of the economy as a whole in information technologies and computer sciences. It will also show the importance of information systems in general on business operations, digital transformation, data protection and the role of information technologies.*

Keywords: *1C: ERP WE; information; information systems; business process; analysis*

1. INTRODUCTION

Information technologies and computer sciences play a major role in the growth and development of the economy. The digital economy is a creation of computer science and is key to the progress of both the public and private sectors. The transformation of the economy accelerates work processes, in the form of reduction of paperwork, automation, reduction of manual labor and user satisfaction.

The productivity of the company depends on the business information systems, especially on the implementation of the ERP system. In this paper, the emphasis will be placed on 1C:ERP WE software, whose practical example will point to the advantages of introducing this type of information systems into the company's operations.

The application of information technologies and computer sciences lead to a digital revolution in the business practice of both companies and the economy as a whole. The digital economy has conditioned the rapid growth and development of companies, reduced mass administration, protected logging due to extensive paperwork and accelerated the work process within the organization. The importance of studying computer science for business is of great importance, because it is a way to reach higher quality information solutions, which will contribute to the productivity of the company. In this paper, the statistical methodology and the method of logically oriented reasoning of observational research will be addressed.

The subject of research in this paper is the impact of applying business information systems on the efficiency and effectiveness of enterprise operations, specifically on achieving higher performance and productivity in business practice. It examines the contribution of implementing ERP solutions to the efficiency of accelerated growth and development of business systems.

The aim of the research is to determine the impact of ERP business information solutions on achieving better results in business processes and enhancing the competitiveness of enterprises. This paper focuses on the benefits and justification of investing in business information systems, not only discussing the advantages and rationales for acquiring such systems but also addressing the benefits of deliberate efforts to protect and exploit organizational memory that is otherwise locked away within business information systems.

2. DIGITALIZATION OF BUSINESS

Nowadays, digital transformation in business is causing a lot of interest when it comes to not only business circles, but also research and development institutions. Digital technology is growing and experiencing a very large reorganization in a positive sense, practically without which one cannot imagine business today, both in business and in private life. What is important in digital transformation is the very notion of information. Information is the basic factor of digital transformation. Information

represents the most important and sought-after resource of modern business. Digital transformation brings with it a new way of thinking, a new organizational design and approach to solving problems [1].

The purpose of the existence of any information system is to make information visible and accessible depending on the needs and requirements of users, both those who are in the external environment of the organization and its employees. Therefore, it is necessary that the information system is first of all secured and that there can be no misuse of information that is crucial for business and the execution of key work tasks, and then the speed and accuracy of presenting data and information necessary in a given situation. In order for all of the above to be fulfilled, it is necessary to maintain the System for entering and processing information. Confidentiality, which protects information and its disclosure by unauthorized persons, plays a major role in digital transformation. The most common threats to confidential information are:

- Attackers – those who try to discover AND obtain some protected information.
- Impersonation - misuse of another user's password.
- Unauthorized activity - when the user changes data in the system, copies, deletes, contrary to what he is authorized to do.
- Copying data to unprotected locations - when data is copied to systems with an appropriate level of protection,
- Malicious program – a program that can gain unauthorized access to the system.

Figure 1. shows the six stages of digital transformation.

Figure 1. *Six stages of digital transformation [2]*

Information systems date back to the fifties of the twentieth century, when the introduction of computers and simple application solutions for automating business processes began, and they were mostly used in bookkeeping and inventory management. Improving hardware (computers and equipment) and application solutions used in companies also influenced the development of information systems [3].

For the purpose of building the concept of information system development of an organization, it is necessary to study and understand that organization in its entirety, from the point of view of its form, essence, functions, structure, development and values. Using the analogy of living beings, it is considered that management information systems arise, grow, mature and disappear, and this process is called "life cycle".

In addition to the basic information system mentioned at the beginning, the following information systems are represented in the company "Docus": DocArt.Net, D-Max.Net, DocTrader, 1C:ERP 2.

The Doc.Art.Net information system is a solution for securities trading. The user is enabled to monitor a number of different records such as:

- Records of the principal,
- Records of orders with the form of the order book prescribed by law - Records of securities, both domestic and foreign,
- Records of transactions and concluded sales contracts,
- Records and calculation of calculations based on completed transactions,
- Records of required and executed payments according to transactions and orders.

All of these are standard features that should be provided by any such information system, namely order book management, client account management and support for foreign securities and currencies.

The business information system that provides complete computer support for the company is the D-Max.Net system. This system is primarily intended for small and medium-sized companies, as a result of many years of development and application of experience in this field.

This system provides great security and reliability. It is designed to enable and satisfy user requirements with its ease of use. Many years of experience in application development contributed to the fact that the user interface is "intuitive" and very easy to use. Each function is very similar to the previous one that we already know how to use.

Each user action is followed by a corresponding logical response from the program. If the given activity is an ongoing process, the user will have visual information about it. These mentioned functionalities have the effect of shortening the time required for user training, but also comfortable work for the user in the later use of the application.

When starting the program, the program asks the operator to log in with his username and password. This means that any manipulation of data in the database will carry with it information about which

operator made the data changes, which is important for data security. The program enables the creation and printing of various documents and reports that follow the calculation of debts, the calculation and crediting of interest, the calculation and posting of lawsuits, the posting of settlements. D-Max.Net is a business system that actively monitors user requests.

The DocTrader information system stands out for its rich reporting capabilities, security mechanism and regulation of the right to use individual parts of the System, installation and operation in branches or outposts, additionally elaborated standardization system and various additional systems for communication with external systems.

This system is the central storage, information and communication system of the application. It is the central database of the application where all the data related to the processes occurring within the company are stored and it is based on Microsoft SQL Server 2005 RDBMS. This part of the application also undertakes successful communication processes either via the Internet/RAS, LAN or some other type of mobile device.

The client components of the System are implemented with Microsoft tools of the latest generation, VS.NET 2008. Such a modern tool enables the use of client components of the System independently of the device platform on which the component is located. The development of the application was realized with the concept of three-layer architecture. This concept enables the separation of the business logic of the System from other segments: the database and the user interface. In this way, corrections to business logic and business rules can be implemented very easily and quickly.

The most famous 1C solution is 1C:ERP2 - ERP system that has been implemented in over 25 thousand companies. It is designed for the automation of management and accounting in companies of various industries, activities and types of financing. This information system gives the opportunity to find solutions for complex automation of production, trade and service companies, products for financial management of large, small and medium-sized companies, accounting, payroll, human resources, various industrial and specialized solutions developed by the 1C company. The system architecture of this software ensures openness of application solutions, high functionality and flexibility, scalability from one to several hundreds of users, from the smallest to very large organizations and business structures. All the mentioned advantages bring this software great popularity in a large number of countries. Docus doo proudly points out that it is a partner of 1C solutions for Serbia and the region.

Each system represents a whole, a complex that is imbued with connections, information and relationships, which must be interconnected. The first place for every business system is information that can be of primary or secondary importance for it. What is important is that information passes through all levels of decision-making. For this purpose, it is very important to have a well-developed and improved information system, which, when used and controlled and thanks to the training of personnel, will first of all save time as a non-renewable resource, and then other material and non-material resources in the business system.

Information flows together with places where information is created, collected, stored, processed and with which information is directly used represent the information system of that System. The specifics of the information system are reflected in the following.

- To form an organizational function, at least one set of information is required, and usually several such sets participate,
- Each organizational function is accompanied by an appropriate set of information,
- One set of information participates in the formation of several organizational functions,
- The basic characteristic of information systems is that people participate in the creation, processing and transmission, which significantly affects its functioning.

What is common to all production systems is that their functioning can be divided into three basic activities - processes, namely: process, setting tasks and business goals (goal function), the process of managing the production system with the aim of realizing production tasks and goals (management function) and the process of realizing business goals. In figure 2, a schematic view is given.

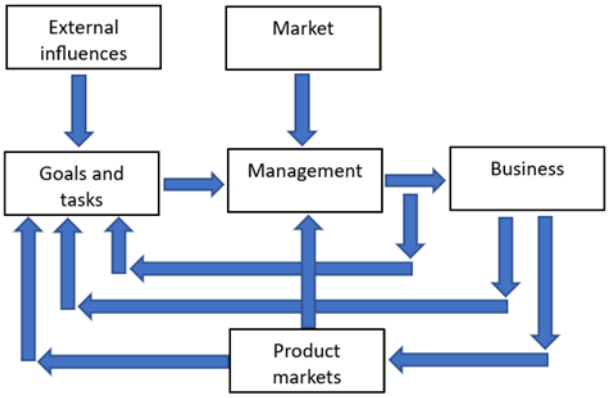

Figure 2. *Basic functions of the business system*

3. B2B BUSINESS MODEL IN THE FIELD OF INFORMATION TECHNOLOGIES

The need to increase the performance of business processes within the organization conditioned the implementation of one of the ERP systems. Accordingly, the B2B business model allows companies to reach the desired information system that will digitize their business. Elem, an IT company that provides and implements implementation, as well as training users of an ERP system, is oriented towards other companies that need software, which represents a B2B business model. The business model can be defined as: "Business-to-business" transactions are common in a typical supply chain, as companies purchase components and products such as other raw materials for use in manufacturing processes.

For example, the company DOCUS D.O.O. offers several business solutions, i.e. information systems, which enable companies to speed up business processes, that is, their implementation results in cooperation between two companies. By recognizing the needs of other businesses, a strategy and business steps for acquiring clients based on the B2B business model are created. Figure 3. will show the B2B business model on the example of an e-commerce solution.

Figure 3. *Schematic representation of the B2B business model of eCommerce solutions in correlation with other software [4]*

Business-to-business transactions are conducted through various categories of websites, including the following:

- Company websites. This is the simplest model of B2B transactions. The company uses its own website to sell goods and services directly to its business customers. Sometimes a company's website uses a secure extranet to give customers exclusive access to product catalogs or price lists.
- Procurement exchanges and product procurement. These online exchanges allow a company's purchasing agent to purchase supplies or raw materials from multiple suppliers, submit requests for proposals (RFPs), and, in some cases, make product bids. Also known as e-procurement sites, these exchanges can serve a range of industries and be tailored to niche markets.
- Specialized or vertical industry portals. These portals provide niche and vertical markets with a more targeted approach than sourcing sites. They can also support buying and selling, and provide information, product listings, newsgroups and other functions for industries such as healthcare, banking and transportation.
- Broker sites. These sites act as intermediaries between service providers and potential customers who need their services, such as leasing equipment or services.
- Informational sites. Sometimes known as infobrokers, these sites provide industry-specific information to companies and their employees. Information sites include specialized search sites and those of trade and industry standards organizations.

In a B2B collaboration, one business, often called a seller, sells products or services to another business. Typically, a sales team or department conducts these transactions, rather than an entire company or individual. Occasionally, one person on the buyer's side completes a transaction that supports the company's business goals. In contrast, some B2B transactions involve the use of products by the entire company, such as office furniture, computers, and software licenses.

For larger or more complex purchasing decisions, the procurement committee manages the B2B product selection and decision-making process. These committees usually include the following staff:

- A business decision maker, such as the person responsible for the budget.
- Technical decision maker who evaluates the capabilities of potential products.
- Influencers, such as individual users and employees who provide input on how the product will be used.

Every business must buy products and services from other businesses to start, operate and grow. B2B trade supports these activities. The company uses B2B suppliers to procure products and services, such as the raw materials they need for production, office space, office furniture, computer hardware and software. Food that companies store in their kitchens and signage on their office buildings are also examples of products and services purchased from suppliers.

B2B suppliers are more likely to engage in long-term business relationships with their customers compared to B2C companies. B2C transactions often involve ad hoc purchases from individual consumers, while B2B suppliers can expect more frequent and predictable purchases of goods and services by businesses. Many B2B vendors sell specialized and customized products tailored to

specific business needs. According to the authors Elhajjar, S., Yacoub, L., & Ouaida: "The digital transformation of sales work" means that both simple and repetitive tasks and highly complex cognitive activities are taken over by technologies based on artificial intelligence [4].

B2B companies operate in many industries and markets. Here are some notable examples:

- Financial services. Banks, accounting firms and other financial service providers offer commercial lending, payment processing, commercial tax preparation, investment banking and similar services to business customers.
- Technology. Hardware, software and cloud services are vital to almost every business, and business users often have unique technology needs. Examples include CRM software, data center infrastructure, and cloud-based human resource management.
- Office supplies. Businesses rely on these suppliers to purchase large quantities of items such as paper, ink cartridges, and file storage.
- Manufacturing. Unlike other sectors, manufacturing is almost entirely a B2B market. Manufacturers sell materials, components and parts to other businesses who, in turn, use them to create new products. For example, semiconductor manufacturers' primary customers are companies that use chips to make computers, printers, cell phones, and other more advanced products.
- Marketing and advertising. Marketing and advertising agencies mainly serve business clients, making B2B commerce a cornerstone of their business model.

4. ANALYSIS OF BUSINESS PROCESS EFFICIENCY IMPLEMENTATION OF 1C:ERP WE INFORMATION SYSTEMS

The widespread use of various business information systems has led many companies to rely heavily on these systems for their operations. Furthermore, these systems have evolved from auxiliary tools of control to integral components of company operations. Business administration faces the challenge and need for systems that meet today's criteria, particularly systems designed to be informational, administrative, and operational. However, business information systems are not uniform, making IT support for business operations a crucial area of interest. For the informatization process to be effective, a company must examine how business information systems can help streamline business processes, allocate resources cost-effectively, and align digital workflows with actual business processes.

Despite the growing number of articles explaining the principles of e-business and providing case studies, there is much less understanding of the exact strategic advantages of business information systems and what companies need to do to achieve efficiency and effectiveness. Therefore, by presenting a role-oriented business information model for effective and efficient business coordination, the intention is to focus on analyzing the impact of business information systems on business processes.

Business efficiency refers to operations structured in such a way that resources are utilized in a manner that allows the venture to meet its objectives when designed with and managed by business processes and organizations.

In the twenty-first century, no company can function without an information system. The development of ERP has led to the need for implementation in companies, regardless of the activity and size of the organization. accordingly, for research purposes, the 1C:ERP WE information system will be analyzed on the example of a business process in the sales sector, where an insight will be gained into the performance and results that the aforementioned cloud software provides to companies. Accordingly, 1C:ERP can be defined as a flexible ERP solution that enables companies to respond to the digital challenges of today's business, grow faster and lead their markets [5].

Figure 4. will show data on the quality of the implementation of the 1C:ERP WE program in the company's operations.

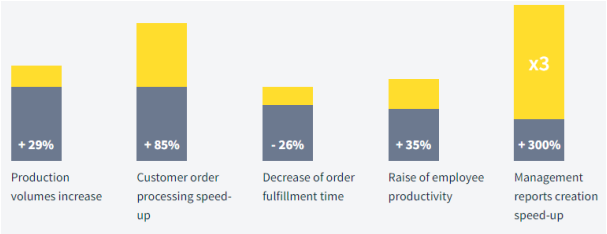

Figure 4. *Present benefits of 1C:ERP WE program [5]*

It can be said that the performance improvements are reflected in the following segments:

- Increased volume of production,
- Forming the processing of customer orders,
- Reduction of order fulfillment time,
- Raising the level of productivity among employees,
- Quick creation of management reports.

The greatest growth in performance during the implementation of 1C:ERP WE software was recorded in the segment of faster creation of management reports by as much as 300%. In the further analysis, the effectiveness of the implementation of the 1C:ERP WE software in the Sales module will be examined. Figure 5. represents the interface of the program [6].

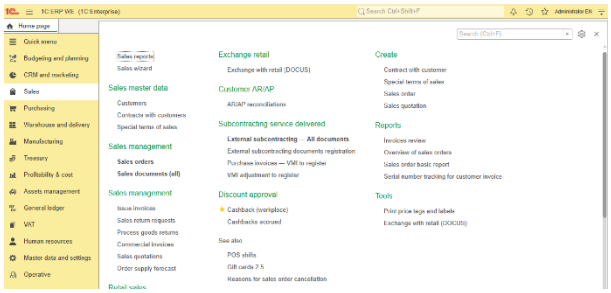

Figure 5. *Interface 1C:ERP WE in the Sale modules[6]*

User interaction is only one of the advantages of the program. In addition, the software is suitable for implementation both in the private and public sector, regardless of the activity and size of the organization. Figure 6 will show the creation of a sales order where you will see some of the advantages of the software.

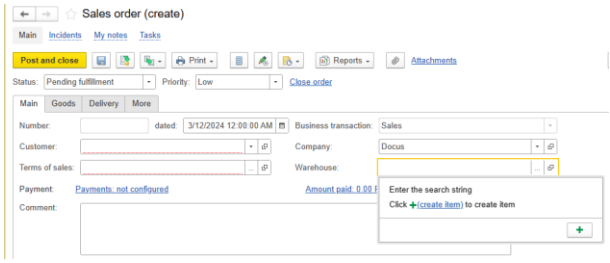

Figure 6. *Practice examle creating sale order on 1C:ERP WE software, [6]*

The creation of the sales order is automated, it is a simple data filling, which speeds up the business process, without the need for redundant paperwork. This enables digitization of the organization's operations. Figure 7. shows the business process on the merchandise card.

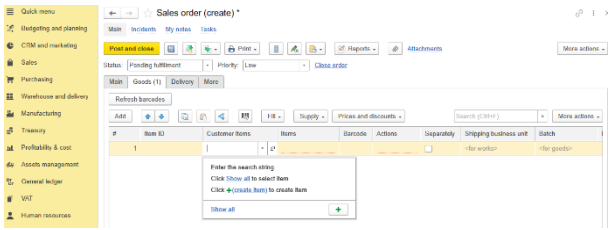

Figure 7. *Fill in Goods*

The selection of goods will be made possible by choosing an option from the drop-down menu, the items are automatically selected, which can be seen in Fig. 5, as well as a simple entry of the barcode using the "Refresh barcode" option. All segments on the Goods tab have an automated business process, which makes business more efficient, and therefore better performance and work results, as errors in data entry are eliminated. Accordingly, Figure 8. defines the upcoming step of delivery of the sales order.

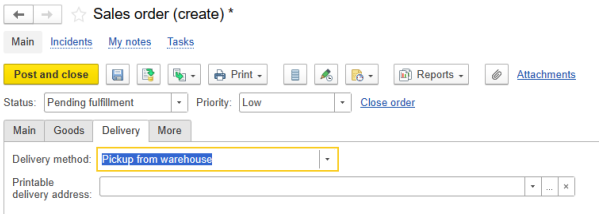

Figure 8. *Delivery of Sale order*

With a simple selection from the drop-down menu, the "Delivery" data is filled in, which significantly facilitates and speeds up the work for users. After considering the steps and advantages of the 1C:ERP WE information system, it is important to note that DOCUS D.O.O. Čačak creates a version of the software in the Serbian language for the needs of the domestic market.

5. CONCLUSION

The application of business information systems has significantly improved efficiency and productivity in operations. In an era where the volume of knowledge is rapidly increasing, business information systems are increasingly viewed as tools for leveraging knowledge and contributing to the organization's survival.

Organizational memory is defined as a database/record of experiences that is available within an organization for reuse. Business information systems, as a component of organizational memory, are conceptualized as cybernetic devices that facilitate decision-making and the collection, sharing, and reuse of knowledge. To prevent the benefits of business information systems from diminishing over time, an increasing number of companies have embraced the ideal of a learning organization and have begun to devise methods for protecting and exploiting organizational memory. Additionally, by examining how knowledge is conceptualized, captured, indexed, stored, retrieved, and distributed, and how internet search engines and business information systems operate, the potential of business information systems as tools for leveraging knowledge as a basis for competitive success is assessed.

According to all of the above, after a short analysis it can be determined that the 1C:ERP WE software program digitizes the operations of organizations, makes business processes more efficient and increases the productivity of performing work tasks. In addition to the mentioned software, other mentioned softwares, which are products of the company "Docus", have a large and significant role in the work of modern organizations and in general of every individual who deals with computer science.

At the very end, it can be concluded that without timely and verified information, good software and an information system that ensures security and

data protection, there is no quality product, and what is understood to exist in a quantitative and qualitative sense is the human factor.

The importance of the introduction of a business information system is first of all reflected in the effectiveness and efficiency of the work of employees, leading to the achievement of good business results. First, the possibility of human factor error is minimized, the process of performing work tasks is accelerated, which directly affects the improvement of the company's performance. In addition, it can be stated that the automation of business processes would not be possible without the implementation of information systems, such as 1C:ERP WE, which affects both the competitiveness and development of the company, as well as the competitiveness and development of the economy as a whole.

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