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Procedia Economics and Finance 26 (2015) 300 – 305

Procedia Economics and Finance

www.elsevier.com/locate/procedia

4th World Conference on Business, Economics and Management, WCBEM

Possibility of improving efficiency within business intelligence systems in companies

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Abstract

Management and decision-making in modern companies currently significantly affect information collected and distributed to managers through a variety of information and communication technology (ICT). The amount of information is growing due to modern technologies, their constant development and improvement in companies. This large amount of information companies has to be processed and therefore complex information systems such as Business Intelligence (BI) system are used more often. These systems are designed to support deciding of leading workers in the company. They are very difficult and expensive with regard to information infrastructure, technical equipment and staff of the company. To ensure efficient use of these expensive systems it is essential to provide constant mapping and implementing the new trends in the development and use of the systems. This paper describes the possibility of improving efficiency within business intelligence systems in companies.

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Peer-review under responsibility of Academic World Research and Education Center

Keywords: Business Intelligence, Big Data, benefits, management, decision-making, information system, SAP, efficiency, technologies, mobile devices, integration, implementation.

1. Introduction

Processes in the management, decision-making in modern factories are constantly depending on the available and relevant information. To obtain relevant information companies often use complex information systems Business Intelligence. This solution enables companies to analyze the generated amount of available data that are available to

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Peer-review under responsibility of Academic World Research and Education Center
doi:10.1016/S2212-5671(15)00856-4

managers and analysts in particular the structure and form. The outputs of the analysis of these data are reports with relevant information value for managers, which also serve as inputs into decision-making and management processes of the company. The continuous development of information and communication technology across all industries in the world, caused by the emergence of new trends and possibilities for improving the effectiveness of Business Intelligence solutions in the form of various processes, models, applications, integration etc. Because of the complexity of Business Intelligence systems and their use in the company in the future, it is therefore appropriate to seek solutions for the development of such systems in the form of new software solutions, integration of new technologies and the like. In this way, companies can ultimately achieve overall cost reductions, elimination of downtime, gain competitive advantage, increase the skills of employees, to discover new business opportunities and many other advantages.

2. Business Intelligence

Business Intelligence systems can be defined as systems that provide collection, storage and updating structured data from various sources (Negash, 2004). The system allows the managers to work with dynamically changing data, analyze them and understand what ultimately leads to acceleration of obtaining relevant information and its effective use in the processes of governance and decision-making in the company (Den Hamer, 2005, Nofal et al., 2013) . Business Intelligence can also be understood as a process comprising a systematic series of actions defined on the basis of the specific information needs of managers, in order to achieve competitive advantage (Pirttimaki, 2007). Tyson (1986) defines as a Business Intelligence system focused on the collection, processing and presentation of data about customers, competitors, technology, markets, products and environments.

Business Intelligence solutions are currently used mainly by large and medium-sized companies. These businesses generate the amount of structured data from which acquire, through various methods and analyzes the necessary information to support business process management. The data are generated in the company of the most common operating systems and are stored in a certain database structure, ready for processing. The complexity of Business Intelligence solutions, mainly based on the availability of a variety of automated and analytical tools and functions necessary for data processing. These tools are the most common: ETL, OLAP, Data Mining, Reporting, and the like. (Bourman, Dogen, 2009; Jenco, 2011; Novotny et all, 2005).

Business Intelligence systems are a particular application in small and medium-sized companies that generate large amounts of data. These companies are Business Intelligence used especially in terms of automation of routine processes (finance, production etc.). Under the generated data in the present processes can be performed with a time resolution of the analysis. In this way, we can predict the emergence of a phenomenon and make decisions to minimize its impact on businesses. (Harmanova, 2013)

For the central role of Business Intelligence solutions we consider decision support, using specific tools and data analysis obtained by distributing relevant information management company. Business Intelligence systems can be applied in virtually all business processes in business practice.

In the sphere of large companies on the Slovak market, applies the tools and techniques of Business Intelligence solutions also ZSSK, Inc. Supplier of business intelligence solutions for ZSSK SAP Slovakia. The system BI modules are current SAP ERP system, specifically to the modules FI (Financial Accounting) and CO (Controlling). The basic structure of a database system consists of a data warehouse SAP BW (Business Warehouse). Individual modules of the system integrate SAP BO (Business Object), which serves as the presentation layer of the data warehouse. Thanks to the Business Intelligence company has an overview of all the data in the data warehouse. The data in the data warehouse can then analyze the sales force through OLAP technology and distribute the results of analyzes in the form of reports to other users of the system for processing, or managers for decision-making purposes (ZSSK's internal documents).

Currently, the BI system in ZSSK is mainly used for the production and processing of standard reports available from structured data. Therefore, can be the potential of a business intelligence system not used in every way. (ZSSK's internal documents; Koman, Siantova, 2015).

Business Intelligence solutions are costly for companies, especially because of the high demands on ICT security. We consider the main cause for the implementation of these solutions, especially in large companies that have sufficient resources and the necessary ICT infrastructure. In the event that the company wants to use business

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