Supporting decision making process through effective operating business intelligence tools

Summary: Nowadays, the IT technology is the most important key to success and is fundamental for correct functioning of any enterprise. This article presents an analysis of possibilities of Business Intelligence class tools supporting the decision making process in enterprises as well as increasing the efficiency of functioning of enterprises.

Introduction

Functioning of businesses today means making many decisions that is very difficult and at the same time very complex process in the continuously changing, turbulent and very competitive environment. Businesses wanting to maintain or to strengthen their position on the market, should appreciate the importance of the role of information in the management process.

The growing importance of the information, the excess of data, the globalization of the economy and very fast changes in the environment force enterprises to look for and to implement modern support systems for making right decisions, based on the facts, which can be translated into effective business management. This objective can be achieved by providing each employee with the information with the appropriate scope, in due form and in the appropriate time. A key element of this approach is immediate access to all data on activities of the enterprise.¹

Today, the support systems for decision making represent a new and very intensively developing software area, which takes care for the problems of modern enterprises and is well known as Business Intelligence (BI). Decision support systems are the tools that contribute to the increase in computerization of the management, minimize the risk of making wrong decisions and simplify taking strategic decisions in enterprises.

The Business Intelligence is a management concept, which allows organizing information in order to streamline business processes. This infrastructure is created by the tools of collecting, cleaning, combining and analysing data and then by the tools of providing the processed information in order to make quick and accurate managerial decisions.²

It is possible to define systems of the Intelligence Business Class as user-oriented processes associated with collection, exploration, interpretation and analysis of the data, which aim at streamlining and improving the decision-making process. The Business Intelligence systems can be treated as a combination of processes, tools and technologies, whose main task is to support managers by making decisions.³

The information provided by the BI system enables to control essential parameters concerning functioning of the enterprise and its environment. They facilitate making appropriate and right decisions. It is through streamlining the decision-making process, improvement of the quality of expert opinions, forecasting scenarios, development of good business practices that these systems contribute to the increase in the efficiency of the organization and thus to increase in its value.⁴

The aim of this paper is to present an analysis of possibilities of the tools of the Business Intelligence

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¹ Wyrębek H.: Znaczenie aplikacji Business Intelligence w zarządzaniu przedsiębiorstwem, Zeszyty Naukowe Uniwersytetu Przyrodniczo-Humanistycznego (The importance of Business Intelligence applications in the business administration, Scientific Papers of the University of Natural and Humanistic Sciences No. 88, series: Administration and Management, Siedlce 2011, p. 67-82
² Wyrębek H.: Znaczenie aplikacji Business Intelligence w zarządzaniu przedsiębiorstwem, Zeszyty Naukowe Uniwersytetu Przyrodniczo-Humanistycznego (The importance of Business Intelligence applications in the business administration, Scientific Papers of the University of Natural and Humanistic Sciences No. 88, series: Administration and Management, Siedlce 2011, p. 67-82
⁴ Olszak C.M.: Tworzenie i wykorzystywanie systemów Business Intelligence na potrzeby współczesnej organizacji.
Class supporting making decisions in enterprises and presenting potential advantages resulting from the implementation of the systems increasing the efficiency of functioning of enterprises contributing to the possibility of obtaining competitive advantages at the same time.

**Business Intelligence – measurable value added of enterprises.**

Nowadays, it is the modern IT technology that is one of the most effective tools for companies to achieve satisfactory results. Thanks to it, it is possible to accelerate the flow of goods, to minimize costs, to save at every stage of distribution and to synchronize work at strategic positions. The modern technology contributes also to better transfer of the information used for better satisfying the needs of customers, for keeping better contact amongst suppliers and recipients and for increasing profits and business growth.\(^5\)

It is making right decisions and taking appropriate actions by employees in due time that causes that the enterprise wins in the market and becomes more competitive. However, it should be noted that without an efficient tool for increasing planning and implementing actions in the enterprise, the decision-making is very difficult and sometimes it is even impossible. The tool enhancing possibilities of taking appropriate current and strategic decisions and simultaneously facilitating better understanding of the situations occurring is the Intelligence Business.\(^6\) The systems of the Intelligence Business Class create a broad category of applications and technologies intended for collecting, analysing and providing data.\(^7\) Business Intelligence Applications include decision support systems among others such as DSS (Decision Support Systems), query and reporting systems (Q&R), online analytical processing systems (OLAP) and static analysis, forecasting and data mining systems (Data Mining)\(^8\). Current Business Intelligence systems provide the organization with the possibility of the fast and effective use of information and of transforming it into useful knowledge, which lets achieve business goals.\(^9\)

The Intelligence Business systems are a kind of combination of data, information, processes, tools and technologies for intelligent data analysis. The features of the BI systems that determine the formation of analytical skills in organizations include above all:\(^10\)

- the possibility of conducting diverse analyses and forecasts (sharing of planning tools, of multi-module scorecards, automatic e-mails, warning information transfer),
- the possibility of data mining, support for multiple users in the company and beyond it,
- the openness and the compliance with company and market standards being connected with it,.
- the support for distributed data resources,
- the rapidity of providing potential users with information and high data readability (application of data visualization techniques).

In many cases, while optimizing the existing way of functioning of enterprises, it is possible to lead to fundamental redesign of the business model, in which computer systems create crucial value added, through subtle combination of IT technologies and organizational solutions.\(^11\) The value added is one of the most

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5 Rut J., Kulińska E.: Implementacja technik informatycznych w logistycznym funkcjonowaniu przedsiębiorstw (The implementation of the IT technology in logistic functioning of enterprises). Logistyka No. 6/2011.


9 Wyrębek H.: Znaczenie aplikacji Business Intelligence w zarządzaniu przedsiębiorstwem, Zeszyty Naukowe Uniwersytetu Przyrodniczo-Humanistycznego (The importance of Business Intelligence applications in the business administration, Scientific Papers of the University of Natural and Humanistic Sciences No. 88, series: Administration and Management, Siedlce 2011


important categories, which can be included in the evaluation of productivity and efficiency of enterprises\textsuperscript{12}. The organization of tasks in terms of the structure of processes constitutes the central foundation of the system, process-orientated shaping activities in any enterprise taking care of creation and realization of value added\textsuperscript{13}. It is nowadays that huge changes occurring in the market environment and the intense technological progress contribute to definite amendments of the organisation of activities of many enterprises as well as to the implementation of innovative computer systems – among others systems of the Business Intelligence Class. At the present, computer systems largely create measurable value added for enterprises through modern, integrated and advanced technological solutions and simultaneously they meet new expectations and requirements of the market.

Therefore, it is easy to notice that modern IT solutions are vital to correct functioning of businesses. Currently, computer systems are necessary to obtain a competitive edge of any enterprise, to conduct correct processes in enterprises, to maintain an adequate level of customer service and to reduce operating costs of companies\textsuperscript{14,15}

**Characterization of the company Altab S.A.**

The company Altab S.A. has been operating in the IT industry since 1998; it deals with consulting and implementation of IT projects for small and medium-sized enterprises. The core business of Altab includes consulting and implementation services addressed to all companies facing the choice and implementation of computer systems supporting the business administration in the small and medium-sized business sector. It is for this purpose that the company looks for solutions, which meet the needs of customers, are modern, user-friendly, universal, and standard and can be quickly implemented. Since 2004 the company Altab has been a partner of SAP – the undisputed global IT market leader. Since 2005 it has been running the only one Service Centre of the SAP Business One in Poland. Altab is constantly expanding its offer with innovative business solutions in the field of the IT resource management for enterprises. The Programming Department of Altab develops new functionalities for SAP Business One and creates applications dedicated to business\textsuperscript{16}.

The number of customers using the software distributed by Altab is very large – under the permanent service of Altab there are over 3000 users of the SAP Business One. Altab guarantees continuous development of the applications and the highest quality of the services certified by the ISO 9001:2008 certificate to its customers. The high quality of the services of the company Altab is confirmed by numerous certificates and awards; among others by SAP Gold Partner, Microsoft Partner Network, IBM Business Partner, Innowacyjność w wykorzystaniu Aplikacji Mobilnych (Innovation in the Use of Mobile Applications), Skrzydła biznesu w 2012 roku (Wings of the business in 2012), the Best Revenue Contributor Partner in 2012, Business Analytics in 2012. (The study on the basis of materials and documentation provided by the Altab Company).

**SAVIIM Business Intelligence of the Altab Company.**

The dynamic technological development and the growing requirements of Customers contributed to the creation of the SAVIIM Business Intelligence software of the ALTAB Company. It was with use of modern technologies and support of the quality management system implemented in Altab that it was possible to create a platform integrating information coming from different sources of the computerized area of the organization. The platform combines the information in a logical and functional whole, on the basis of which it is possible to make appropriate business decisions as well as confidently manage the organization. The suggested solutio

\textsuperscript{13} Kuliońska E.: Udział procesów logistycznych w tworzeniu wartości dodanej (The share of logistics processes in the creation of value-added), Logistics No. 4 interpretability/ 2011.
\textsuperscript{14} Jabłooski W. J., Bartkiewicz W.: "Systemy informatyczne zarządzania" (Computer systems for management) Klasyfikacja i charakterystyka systemów (Classification and characteristics of systems) Wydawnictwo Kujawsko-Pomorskiej Szkoły Wyższej, Bydgoszcz 2006.
\textsuperscript{16} www.altab.pl/o-firmie (available on 14.05.2013)
enables multidimensional reporting and controlling analyses of the Business Intelligence Class. Due to the fact mentioned above, it is possible to use it as an internal platform for the information exchange (intranet), supporting such processes as the quality management or the change management, as well as the employee evaluation system as a result of the implementation of the key performance indicators in the enterprise (KPI). On the other hand, it is through the implementation of indicator reports and comparative analyses with an integrated system of warning lights and alerts that this platform can act as a so-called "early warning system" systematically monitoring the financial condition of the enterprise and reporting threats. Moreover, according to the latest trends, the reports are presented in a clear and easy readable graphic form. Their main advantage is the interactivity, which allows for analyses of the "what if" type, which enable examining the consequences of the decisions made thanks to the simulation of the adopted data model. This platform provides many browsing possibilities and many possibilities of publication of reports. The platform can be used both for stationary equipment as well as portable devices (Tablets, iPads, iPhons). Quick access to graphical copies of contracts or invoices, smart content search (OCR technology), automatic classification of documents and automatic posting save the time and the money of the enterprise. Due to the mobility of this application searching, it is possible to search, annotate and approve documents from all locations. SAVIIM also gives the possibility to share documents with other co-workers (thus preventing the circulation of their old versions), to approve and to verify remotely their correctness before posting and allows for fast organization and simple management of the electronic archive of internal and external documents of the company. The SAVIIM platform allows also bringing the potential of the ERP system used in the enterprise. Thanks to the adaptation of the system to the individual needs of the given business and streamlining the segregation and the circulation of the information, it is possible to increase significantly the effectiveness of business processes and to reduce unnecessary costs. (The study on the basis of materials and documentation provided by the Altab Company).

**SPUMA – the electronic document management**

It is currently that the key goals of the business administration are data visualization, advanced reports and fast access to information. As it was already mentioned above, the SAVIIM is a system being used for controlling analyses of the Business Intelligence Class, which supports significantly decision-making process through careful and individualized data analyses provided by all sorts of computer systems of the enterprise and through enabling the data collection, the information management and multidimensional reporting. A crucial element of the SAVIIM system is the tool for the organization of the document flow in the enterprise. This tool is SPUMA - the professional support system for supporting processing and the organization of external and internal documents of the company. This application does not require any installation because it is run from a standard web browser. Due to this property, the work is not dependant on any specific workstation, but it can be carried out from many locations. The possibility of the remote work allows for easy viewing, commenting and authorizing documents. Thanks to it the process of the circulation and acceptance of documents in the organization is faster and more functional. The electronic archiving of documents along with the functions of the remote authorization seems to be the most sought functionalities amongst Customers at present. Moreover, the SPUMA offers customizable workflow paths for documents and information objects (e.g.: of invoices, applications, claims, contracts, incoming and outgoing mail) to the specific requirements of the organization. Due to this property, the software will work in every enterprise, especially if the structure of the company is geographically dispersed. It should be also emphasized that the main benefit is the integration of the SPUMA with the ERP system; including the SAP Business One. This make it possible to attach files (scans) to purchase orders or other objects in the ERP system, printing them or combining the documents with taking the existing hierarchy of documents into account and defining new annexes on next stages. Moreover, it is on the basis of a scan of a document that it is possible to transfer the chosen information to individual fields of the chosen objects in ERP; for example on the basis of a scan of a purchase invoice it is possible to generate a purchase order, where the invoice number, the date, the business partner or its description will be filled automatically. This reduces the time for preparation of documents in the ERP system (The study on the basis of materials and documentation provided by Altab).
Substantial benefits resulting from the use of the Business Intelligence tools

There are many benefits resulting from the use of the Business Intelligence tools in any organization; it is possible to list here for example among others: supporting the decision making process, the efficient management of document flow, the access to the document base through www, the possibility of the remote authorization of the access to documents, the creation of internal forms, the improvement of the information flow amongst branches of the company, on-going monitoring of the company's financial condition or approving documents from any location. The measurable effects are also reflected among others in the enterprise productivity growth, the increase in the effectiveness of processes in almost all areas of the activity of the company, the reduction of costs, the improvement in the communication amongst units of the enterprise, the minimization of the risk of mistakes in the course of processing large data sets as well as the respond speed to changes of financial conditions in the enterprise. Moreover, another advantages obtained are the reduction of the time needed for creation of reports of different kind, the user-friendly and intuitive interface and the possibility of exporting data sets to files in a freely chosen format. (Study on the basis of materials and documentation provided by the Altab Company).

Summary

Currently, these are only the enterprises, in which the management processes are competently organised and optimized and the advanced computer systems are implemented that can meet the requirements of the market and challenge the competition. The Business Intelligence Tools give the organization the possibility of the fast and effective use of the information as well as translating them into useful knowledge, which allows for making right decisions and achieving business goals. The implementation of the tools of the Business Intelligence Class contributes to the increase in the effectiveness of processes carried out in the enterprises. It should be emphasized that the advanced computer systems introduced in enterprises at present constitute the essential and refined way for solving problems of all kinds and guarantee proper operations of enterprises. The Business Intelligence tools are powerful and they allow for organizing information in order to streamline the business process as well as support other systems and strategic initiatives of enterprises. The success of enterprises largely depends on the maximum use of the possibilities provided by the existing computer systems. Thanks of the modern IT technology; the enterprises have a transformation possibility enabling a broad spectrum of actions.

DECISION SUPPORT THROUGH THE EFFECTIVE OPERATION OF BUSINESS INTELLIGENCE TOOLS

Abstract: Nowadays, information technology is the most important key to success and is essential for the proper functioning of the company. This paper presents analysis capabilities of Business Intelligence tools supporting decision making in enterprises as well as increasing the efficiency of the enterprises.

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