

MODERN TRENDS IN INFORMATION SYSTEMS FOR MANAGING DATA IN ORGANIZATION

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Abstract: Business management in competition environment needs to develop IT infrastructure in organization. ERP systems help managers to decide basic problems. Collaboration and communication between organizations in business environment need modern decisions for business software.

Key words: ERP, business software, VAAA

1. INTRODUCTION

The modern methods for effective business management are a key question for managers of organisations in Bulgaria. Management process includes planning, motivation, coordination, control and regulation. Managers need information for decision making. Information need to be collected, entered, summarized and formatted. The practice from recent years shows the strategic priorities in business – planning resources of the company using ERP (Enterprise Resource Planning) systems, managing the relationships with customer using CRM (Customer Relationship Management) system, managing the supply chain using SCM (Supply Chain management) system.

2. ERP SYSTEMS FOR BUSINESS IMPROVEMENT

ERP systems own functionality, designed according best practices in each activity field for the business of the company. ERP system provides ready-made decisions for problems in the organization. The system exploits common database and communication environment and owns a set of functional tools. ERP system operates for all aspects for company management. It supplies information about business procedures for the staff in all branches of the company. The data entered for one registered in the system operation is delivered in all departments using the data without extra processing.

ERP system helps to managers to improve information access, to initiate new business processes and to improve current processes, to reduce staff, to decrease units kept in stock, to speed activity performance. What is impossible to wait from ERP system? The system doesn't replace managers to control the business in organization, also can't decide problems in the business model or problems with staff.

Using Internet technologies more companies develop their activities like e-business. The corporative information systems introduce new opportunities for data exchange using appropriate communication protocols and document formats. The result is increasing the communication effectiveness, avoiding over again manual entering of data, decreasing the risk of errors. Appears new organizational a managerial environment. According Gartner definition the term ERP II means Enterprise Resource and Relationship Processing. The explanation is that corporative information resources already are used for internal goals and for development the relationship and collaboration with other organizations. (Fig. 1)

	ERP	ERP II
Goal	Optimizing the organization	Profit in chain of connected organizations and doing e-commerce
Area	Production and distribution	All industry sectors
Functions	Production, sales, distribution, financial transactions	Interoperational, specific processes
Processes	Internal, hidden	External, connected
Architectures	Closed without using web	Opened, composed, web-oriented
Data	Generated and used in the system	Internal and external

Figure 1.

3. ANALYSIS OF USING BUSINESS SOFTWARE IN BULGARIA

The survey provided from IDG in February 2006 shows data for using corporate software in Bulgarian companies. The result is that more than 50% of companies support information system for automation the business process in organization. Figure 2 shows the result form survey.

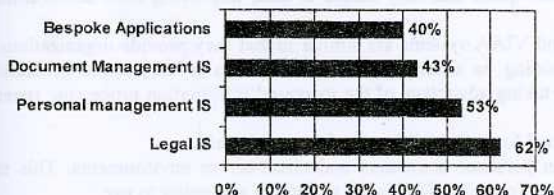


Figure 2

The research of functionality of the IS for management the company presents various results. The most interest is for systems for managing the customer relationship, systems for project management, systems managing the production.

The facts indicate:

- The requirements of business users to functions of information system tend to broader functional range (Figure 3).
- Small and middle companies in Bulgaria have interest to realize ERP systems.

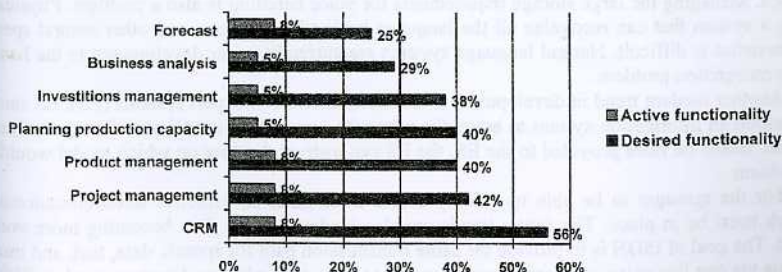


Figure 3.

The forecast for suppliers of business software for Bulgaria is strong competition in next years. The struggle is for new clients and for keeping current clients.

4. TRENDS FOR MODERN INFORMATION SYSTEMS

The organization needs are increasing continuously. A single information system could not satisfy these needs. The popular new vision is for developing corporate information environment like a network where the interaction between various systems is important. The developers of ERP systems construct their decisions to be opened products and integrated with decisions of their competitors. Systems developed according this conception is marked as Collaborative ERP.

Collaborative ERP systems give the opportunity for fast replacement of out of date applications and remote use of IT services. For Bulgarian companies remote use of IT services is not yet a priority.

One new solution used in business software is visual information access and analysis (VIAA) systems. These systems are based on personal computers and make use of Windows, open systems computing, and object-oriented programming. The systems are easier to build, use and maintain and less expensive than existing systems. VIAA systems provide access to company and external information through visual screens that combine text, numerical data, graphical data, and images. The visual screens provide users quick and easy access to data, improving their decision-making capabilities.

The business software and VIAA systems are similar in that they provide organizations with fast access to information residing on databases. A VIAA system is the second generation of business information systems, taking advantage of the increased information processing speed and capability.

VIAA systems are designed for use by all levels of company staff.

VIAA systems reside on personal computers and client-server environments. This makes VIAA systems less expensive, easier to develop, easier to deploy, and easier to use.

VIAA systems operate in an open environment. Users can get products from different software suppliers to form a complete solution. This allows the most suitable components to be integrated into a customized product based on individual user's needs.

VIAA systems enable users to instantly access real-time data. Dynamic data exchange through Microsoft Windows allows VIAA applications to automatically change when the underlying data or images change. This provides users with fast access to the most up-to-date data available.

The inclusion of voice input capabilities is another new trend in business applications. Voice input reduces the data entry time and errors committed by the manager. Voice input and output add flexibility to the system and provide understanding and comprehension of the information. The current state of speech recognition system technology has limited the use of voice input as an interface. Managing the large storage requirements for voice handling is also a problem. Physically storing a system that can recognize all the language instruction, accents, and other natural speech characteristics is difficult. Natural language systems are currently under development to handle speech recognition problem.

Another modern trend in development of business software is expert systems (ES). ES can be used within an information system to assist the user with appropriate model selection to analyze a problem. Based on rules provided to the ES, the ES can instruct the user on which model would fit the problem.

For the manager to be able to quickly access these data, an effective telecommunications network must be in place. The future trends are also leading toward data becoming more voice-related. The goal of ISDN is to provide the same transmission path for speech, data, text, and image contents via one line using standard communication sockets and only one directory number. This is entirely digital system. ISDN allows the manager to talk to the computer (on-site) and have output

(e.g. stockholder reports) sent to other users (e.g. board members) for approval. The benefits of voice and nonvoice data being integrated into one network should expand the manager's capabilities and at the same time reduce the time and effort to perform day-to-day activities.

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