ENTERPRISE INFORMATION SYSTEMS

- ERP- Enterprise Resource Planning - Part 1
- What the ERP system is and what activities it ensures
- Significant producers of ERP systems
- Management of the economic process
- HRM
- Asset management and administration of critical assets
- OpenSource ERP

ERP – Enterprise Resource Planning

Literature:

- SODOMKA, Petr, Klčová, Hana. *Information systems in entrepreneurial practice*. 2nd edition (segments 42 and 43) 2. Brno: Computer Press, 2010. ISBN 978-80- 251-2878-7. Pages 147 - 176.

- GÁLA, Libor, Jan POUR and Zuzana ŠEDIVÁ. Business informatics. 2nd edition (segments 42 and 43) 2. Prague: Grada, 2009. ISBN 978-80-247-2615-1. Pages 159 - 184.

- BASL, Josef and Roman BLAŽÍČEK. Enterprise information systems: the enterprise in the information society. In *Management in the information society*. 2nd edition Prague: Grada, 2008. Management in the information society. ISBN 978-80-247-4307-3. Pages 65 - 76.

- TVRDÍKOVÁ, Milena. Application of information technologies in corporate management: tools for improvement of the quality of the information systems. In *Management in the information society*. 1st Ed. Prague: Grada, 2008. ISBN 978-80-247-2728-8. Pages 87 - 94.

ERP – Enterprise Resource Planning

Not all enterprise information systems that are available on the Czech market and are focused on management of business agenda, HRM, logistics and manufacturing can automatically be designated as ERP systems. Many of them lack a wholly fundamental features, necessary scope and depth of functionality or such a technological maturity level for them to be a true integrating platform for the organisation for the purpose of management of business processes. (Sodomka 2010)

ERP – Enterprise Resource Planning

We define the **ERP** category information system as an effective tool, which is capable of covering the planning and management of the major internal processes (resources and their transformation into outputs) at all management levels, from operative to strategic. (Sodomka 2010)

ERP – Enterprise Resource Planning

Enterprise Resource Planning (ERP) means applications that comprise software solutions that are used to manage enterprise data and help plan the entire logistics chain from procurement through the warehouse to issue of material, management of business orders to shipping, including planning of manufacturing itself and the related financial and cost accounting as well as HR management. (Basl 2008)

ERP – Enterprise Resource Planning

ERP is a type of application, respectively, application software, which facilitates the management and co-ordination of all available business resources and activities. The major ERP properties include the capability to automate and integrate key corporate processes, functions and data within the whole company. (Gála 2009)

ERP – Enterprise Resource Planning

The ERP system has five fundamental features:

- Automation and integration of business processes
- Sharing of data, procedures and their standardisation across the whole enterprise
- Creation and provision of information in real time
- Capability to process historical data
- Comprehensive approach to the assertion of the ERP concept

ERP – Enterprise Resource Planning
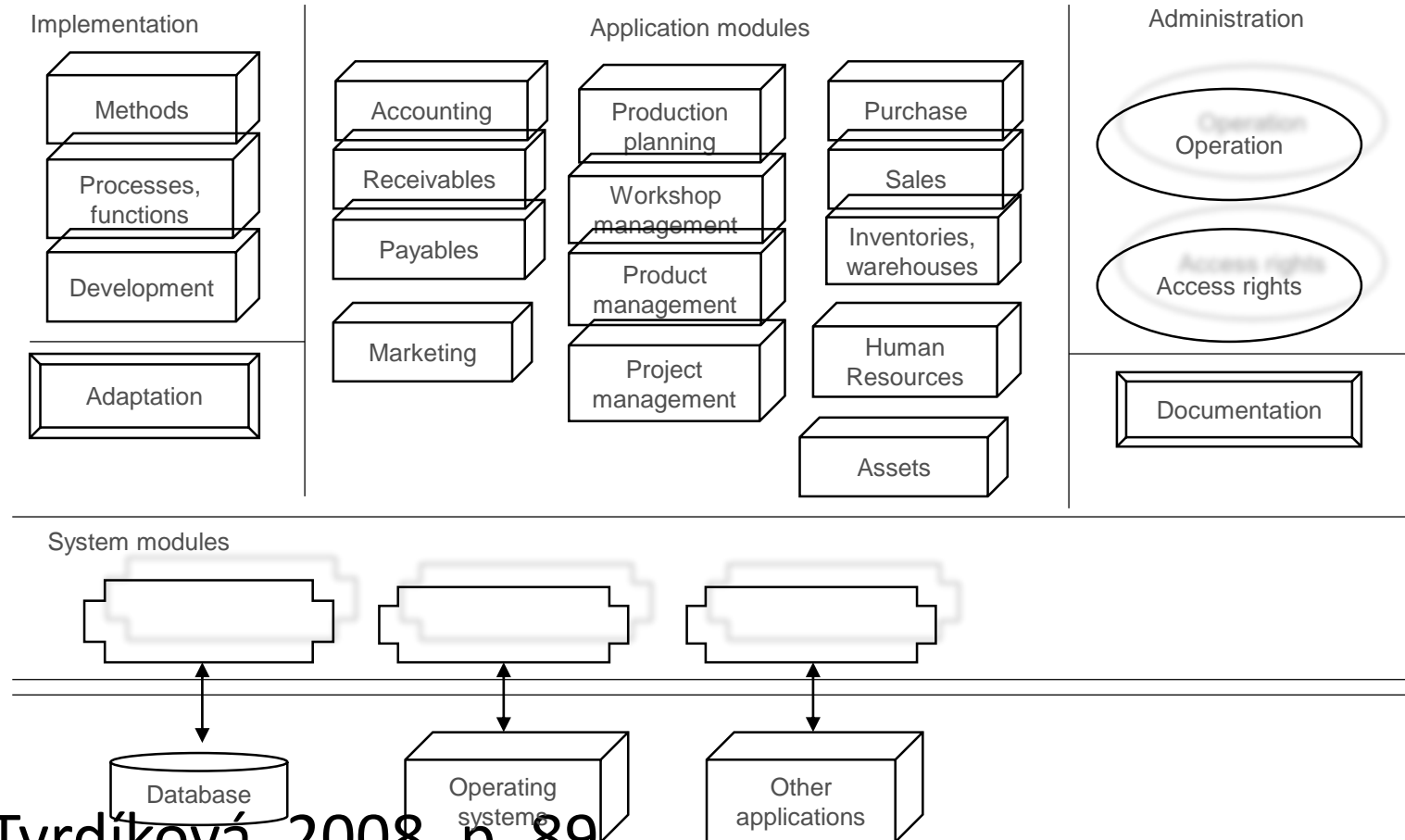
The ERP must:

- Work as a unified functional unit, which provides one version of the truth in all its outputs
- Reflect the flow of information and documents in the company
- Integrate the database across the whole company
- Fulfil the principle that data that exist in the system are not re-acquired in some other agenda
- Allow the creation of user spreadsheets without the participation of the supplier
- Allow parametric modification
- Be open for possible customer modifications
- Be ready for expansion and addition of functionalities and the related increase of the volume and scope of the processed data
- Provide the user with a communication language and appropriate documentation in compliance with the ISO requirements

ERP – Enterprise Resource Planning

Securing the security of the ERP system is based on fulfilment of the following requirements:

- Securing of communication between the server and the client application
- Technical barring of simultaneous editing of individual records by various users
- Tracking of the history of individual records
- Authentication of users - by name and password
- User management
- Option for the system user to directly change the password
- Provision of simple feedback between the users and the system authors
- Option to detect and track as well as report error states in order to ease their solution

ERP – Enterprise Resource Planning

Source: Tvrdíková, 2008, p. 89

ERP – Enterprise Resource Planning

Basic components of ERP:

- Application modules

- Application administration modules

- System modules, interfaces, database administration

- Support modules
    - Adaptation of software
    - Development environment
    - Implementation
    - Documentation

ERP – Enterprise Resource Planning

Classification of ERP systems:

All-in-One - Capability to cover all key processes in the company. High degree of integration. Lower functionality detail, costly customisation.

Best-of-Breed - Focus on specific processes. Does not cover all the key processes. Top detailed functionality. Necessity for integration with other solutions.

Lite ERP - lite ERP versions for the SME market. Lower price, quick implementation. Limited functionality, number of users, expansion options.

ERP – Enterprise Resource Planning

Significant producers of ERP systems:

Source: www.systemonline.cz

Výpis: Vše A B C D E F G H CH I J K L M N O P Q R S T U V W X Y Z

Název produktu	Výrobce	Dodavatel
▲ ▼	▲ ▼	▲ ▼
abas ERP Distribution	ABAS AG	ABAS AG
abas ERP Production	ABAS AG	ABAS AG
ABRA G3	ABRA Software a.s.	ABRA Software a.s.
ABRA G4	ABRA Software a.s.	ABRA Software a.s.
ACC	Accord, spol. s r.o.	Accord, spol. s r.o.
ALTEC Aplikace	ALTEC a.s.	ALTEC a.s.
Altus Vario	Altus software s.r.o.	Altus software s.r.o.
AQUILA A2	AQUILA TS s.r.o.	AQUILA TS s.r.o.
AR-RIS	Saul IS spol. s r.o.	Saul IS spol. s r.o.
Arowana Projecta	AQUASOFT spol. s r.o.	AQUASOFT spol. s r.o.
AZ.PRO	PROSPEKS-IT, a.s.	PROSPEKS-IT, a.s.
BEEP TWIST INSPIRE	Beep s.r.o.	Beep s.r.o.

ERP – Enterprise Resource Planning

Significant producers of ERP systems:

Abra, Altus Vario, Byznys, Microsoft Dynamics AX, JD Edwards EnterpriseOne by Oracle, BMD, Helios - Asseco Solutions, Epicor, EXACT Software, Karat, Premier, ABRA, K2, SAP,……

ERP – Enterprise Resource Planning

Typical enterprise process solution areas:

- Financial Accounting

- Management Accounting

- Financial Controlling

- Human Resources Management - HRM, payroll, personnel affairs

- Asset management and administration of critical assets

- Production Planning and Control

- Logistics and supply chain management

- Customer Relationship Management

- Management information systems

ERP – Enterprise Resource Planning

Typical enterprise process solution areas ERP II:

- BI - Business Intelligence
- PDM - Product Data Management
- PLM - Product Lifecycle Management
- SRM - Supplier Relationship Management - Analogy of CRM
- ERM - Employee Relationship Management

ERP – Enterprise Resource Planning

Economic process management area:

- Financial Accounting - the main task is to provide credible information about the economic situation and business operations of the company in the form of financial reports

- Management Accounting and Financial Controlling - the main task is to provide the necessary information particularly to the managers for the purpose of management and evaluation of the company at all levels.

ERP – Enterprise Resource Planning

Financial Accounting:

- General Ledger - accounting, ledger, closing financial statement, VAT, foreign currencies

- Receivables and payables - payment terms, prepayments, dunning letters,

- Cash - issue of cash receipts, cash book.

- Electronic banking - generation of payment orders, posting of bank statements, interconnection with the banks - Multicash, Gemini, ABO.

- Financial accounting spreadsheets

ERP – Enterprise Resource Planning

Management Accounting:

- Cost/Centre Accounting - cost dimensions, orders, projects
- Calculation - plan calculation, operative calculation, resulting calculation, absorptive calculation - ABC costing, variable calculation - cover contributions
- Budgeting - planning for dimensions, income statement plan for the dimensions
- Management Accounting Spreadsheets

ERP – Enterprise Resource Planning

Financial Controlling:

- Planning income statement, planning balance sheet, planning CF

- Decision-making tasks - Net Present Value - NPV, Internal Rate of Return - IRR, payback period

- Analyses

- Reporting according to the IFRS, GAAP

ERP – Enterprise Resource Planning
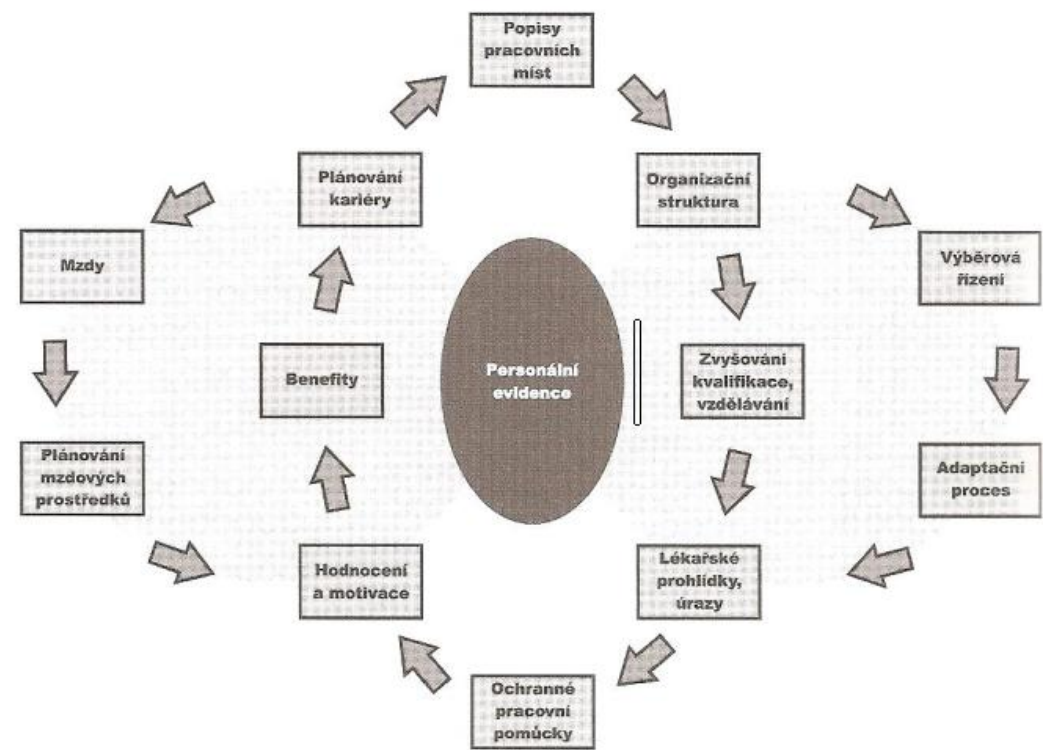
HRM - Human Resource Management:

- Payroll agenda - calculation of wages and salaries, monthly closing financial statement, incapacity to work, social security administration portal, bank orders, annual tax clearing, payroll spreadsheets

- HR Management - evidence of the employees' basic data, legal documents, health protection, education, career growth, employee selection process

ERP – Enterprise Resource Planning

HRM - Human Resource Management:

- Education and training of employees:

- Monitoring of qualification requirements

- Planning of educational events

- Evidence and evaluation of educational programs including costs

- Evidence of the validity of licences, certificates and qualification documents

- Administration of the tutors

- Administration of self-study courses

ERP – Enterprise Resource Planning

OBRÁZEK 38 Řízení lidských zdrojů jako součást ERP koncepce (70)

	Career planning		Organisational structure	
				Tenders
	Benefits	Personnel records	Improvement of qualifications	
				Adaptation process
	Assessment and motivation		Medical examinations, injuries	
		Personal Protective Equipment		

Source: Sodomka, 2010, p. 162

ERP – Enterprise Resource Planning

EAM - Enterprise Asset Management - Asset management and administration of critical assets:

- Fixed asset management and accounting
- Increments, depreciation, retirement, inventory
- Planning and monitoring of assets under construction
- Monitoring of the asset lifecycle
- Asset spreadsheets

ERP – Enterprise Resource Planning

ERP - open source x commercial

- Open source (for instance, Compiere)

- Free source code available

- Option to change the usage of the SW according to the future needs

ERP – Enterprise Resource Planning

ERP open source

Disadvantages of the open source solution:

- Instability in time

- Unclear development concept

- Risk of project incompleteness

- <u>Commercial solutions are largely focused on the implementation phase.</u>