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THE CURRENT SITUATION AND MAIN TRENDS OF THE ERP APPLICATIONS IN THE CZECH REPUBLIC

Abstract: The article deals with the analysis of the ERP market in the Czech Republic provided annually from 1993 (approx. 50 – 60 products each year). The main attention is given not to the functionality of the ERP but the scope is extended to the expected trends, SWOT analysis of the ERP products and market potential in the Czech Republic. Finally the level of penetration of different ICT applications in the Czech companies and (mainly ERP, SCM, CRM and BI) and trends of future areas of application development discussed.

AKTUALNA SYTUACJA I GŁÓWNE KIERUNKI ROWOJU SYSTEMÓW ERP W CZECHCH

Streszczenie. W artykule przedstawiono analizę badań rynku systemów ERP w Czechach, prowadzonych od 1993 roku (około 50-60 produktów ERP rocznie). Wyniki badań objęły zakres dostosowania rozwoju systemów ERP do oczekiwań klientów, analizę SWOT tych systemów oraz potencjał rynku ERP w Czechach. W podsumowaniu została przedstawione wyniki analiz różnych aplikacji ICT w czeskich przedsiębiorstwach (głównie ERP, SCM, CRM i BI) oraz kierunki rozwoju aplikacji ERP.

1. INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) DEVELOPMENT

Applications of ICT have growth recently, they are necessary and it is hardly imaginable to envision the companies without them. But structures if companies ICT solutions are not simple and the cost for their operation and maintenance has been increasing lately. The history if the ICT using in the Czech Republic is very interesting example of such evolution because this country is good representative of central European country with high developed manufacturing and automotive industry sector. The history of ICT usage could be divided into following stages:

	50-60's	70-80's	90's	present
Main area of ICT application	Scientific and technical computing	Automation of product design and production planning support	Internal company's integration	External companies integration with flexible and innovative business processes

Main metrics of ICT performance	Faster computing	Higher production	Higher sale	Better economical factors of company

Fig. 1. Development stages of ICT in the Czech Republic and main metrics of their performance

It means that the ICT applications have moved from laboratories and design offices in companies used 30 to 40 years ago to notebooks and mobile phones and PDA helping to decisions making of managers. The father development continues, thanks to nano- and biotechnologies, to support of health, safety and education. These all are trends declared by European Union in eEurope concept i2010 and known under a form of eHealth, eLearning, eSecurity, eGovernment.

If somebody would like to analyse this dynamic ICT situation better based on the officially accessed statistical data the situation is only partly covered and the data are for available only for the last 2-3 years generally. The statistics world wide reflects very little the dynamic evolution and influence of ICT in the current society. The comparison the famous approaches represented by OECD, World Economic Forum and Eurostat is good example:

	Eurostat	OECD	World Economic Forum
Total number of statistics indexes	27 +8	15	1 complex index (51 elementary indexes)
Number of indexes suitable for information society evaluation	15	15	12
Structure of "ICT" indexes	Indexes divided into: Policy and Structural indicators	Unstructured indexes	Indexes divided into three main groups:: Environment Readiness Usage
Analyzed areas	Enterprise access to ICT and usage Buying and selling on-line	Indexes mainly oriented on technologies and usage from ICT investment to influence on GDP	Infrastructure Environment Business readiness Business usage

Fig. 2. Comparison of evaluation indexes of Information Society done by different statistical organizations

Similar situation is in the area of the indexes offered by Czech Statistical Office. It offers 24 indexes oriented on the ICT availability, usage and benefits divided into groups for companies, homes and individuals.

One of the useful examples of statistical index of application of Information and communication technology is the area e-business in European countries. It shows not only position of Czech Republic but also very short period of collecting data (data are available only since 2003 and not for all countries).

	% companies receiving orders on-line		% companies purchasing on-line	
	2003	2004	2003	2004
EU-25	..	13	..	27
EU-15	10	15	13	29
Belgium	20	18	22	41
Czech Republic	18	11	22	19
Danmark	18	25	22	28
Estonia	..	8	..	32
Finland	18	17	16	19
France	..	..	..	..
Irland	14	19	24	33
Italy	3	..	4	..
Cypru	..	5	..	14
Latvia	..	1	..	1
Litvenia	..	5	..	13
Luxemburg	13	11	17	34
Hungary	..	6	..	14
Malta	..	..	..	..
Germany	9	18	11	47
Nitherland	17	17	20	22
Poland	..	4	..	9
Portugal	3	6	9	8
Austria	12	12	21	22
Greece	7	6	7	14
Slovakia	..	6	..	3
Slovenia	..	15	..	17
Špain	2	2	3	3
Šweeden	13	20	23	38
Great Britain	20	27	27	50
	2003	2004	2003	2004

Fig. 3. Comparison of e-business application in European countries

Note: Companies with more than 10 employees.

Source: EUROSTAT – New Cronos, Information Society Statistics/Structural Indicators, 1. 11. 2005.

The table shows that the growth of number of e-orders is 50% annually but is still lower than number of number of done on-line purchasing.

2. ANALYSIS OF ERP MARKET

Because there is above mentioned shortage of suitable data described data for ICT development and growth it is positive that the author of this article has analyzed annually the situation of the ICT market on the example of the ERP applications in the Czech Republic since 1993. He has now many data available describing the development of functionality, number of implementations and the tendency to shorten time of implementation of ERP applications as the most significant business applications.

The latest survey was undertaken in January 2006 confirms the current situation and partly explains behavior on the ICT market. The first group of results shows a very high penetration of ERP applications. This is much higher than SCM, CRM or BI application (see below diagrams):

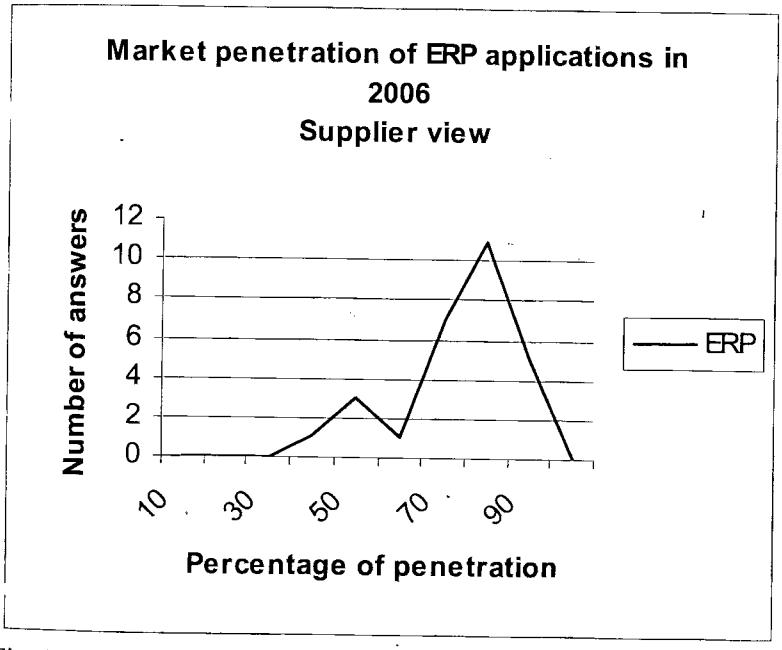

Fig. 4a. Comparison of deferent level of penetration of business ICT applications

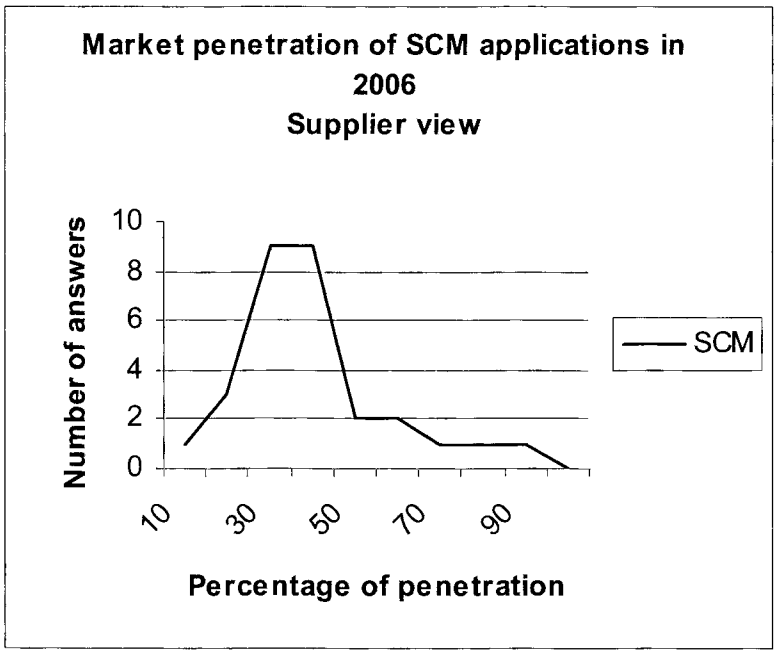

Fig. 4b. Comparison of deferent level of penetration of business ICT applications

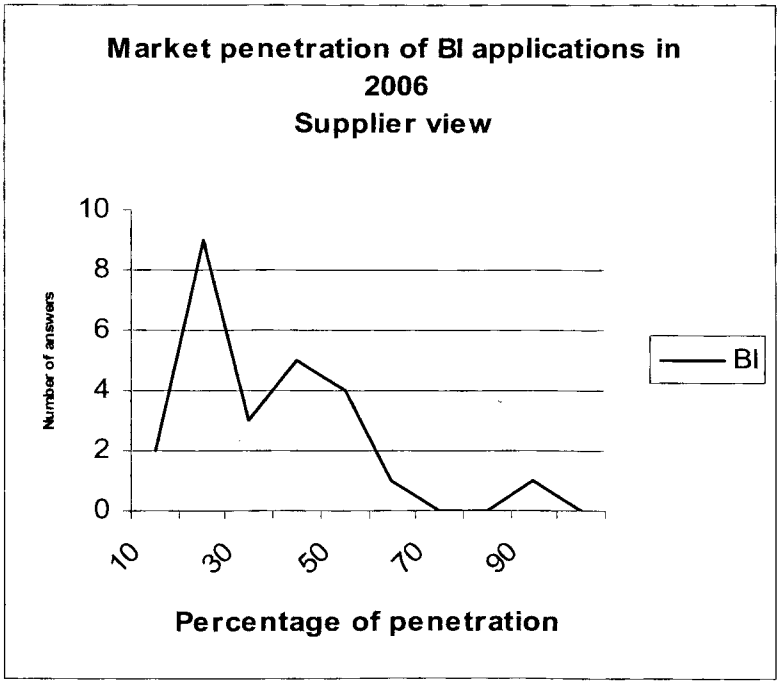

Fig. 4c. Comparison of deferent level of penetration of business ICT applications

It has influence on the behavior of the ICT, resp. ERP delivering firms. They (aprox. 60 delivering firms analyzed annually) expect the high development in the year 2006 generally. The development is expected not only in new user interface but also new functionality, new algorithm are expected. The ERP are very conservative because only 11 percent is expected to innovate significantly.

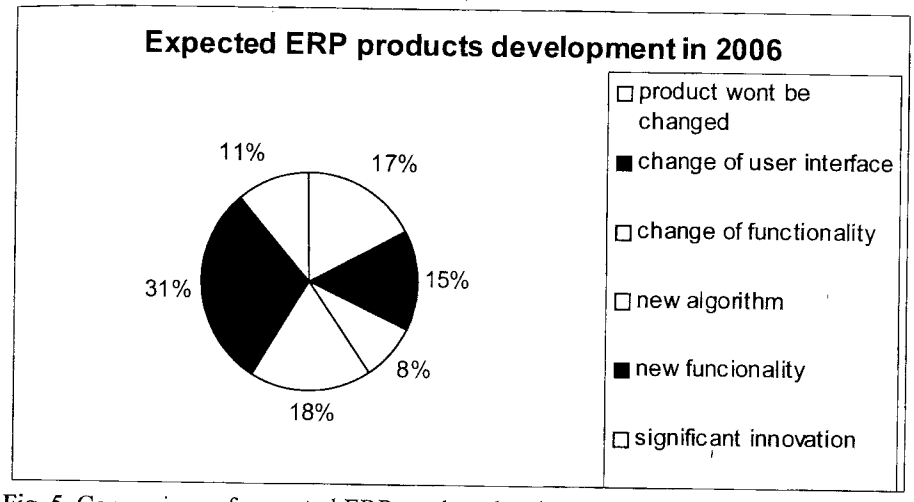

Fig. 5. Comparison of expected ERP product development on the Czech market in 2006

- innovation degrees are used are taken from this approach
- the traditional methods like capability maturity model and COBIT, e.g. approach known in IT management since late 80's, form the second part.

The both approaches, e.g. complex integration of ERP into business processes on the one hand and the innovation levels on the other are basis for the innovation of ICT application.

This innovation map is now combined with the benefit and effectivnes of ICT. As the research is in this area in the beginning stage it is interesting to make conclusion of this article with result of latest research. One of the analyzed problem has been usage of suitable method. The application of the most known methods like Total Cost of Ownership, Balanced Scorecard, Economic Value Added is on the following figure.

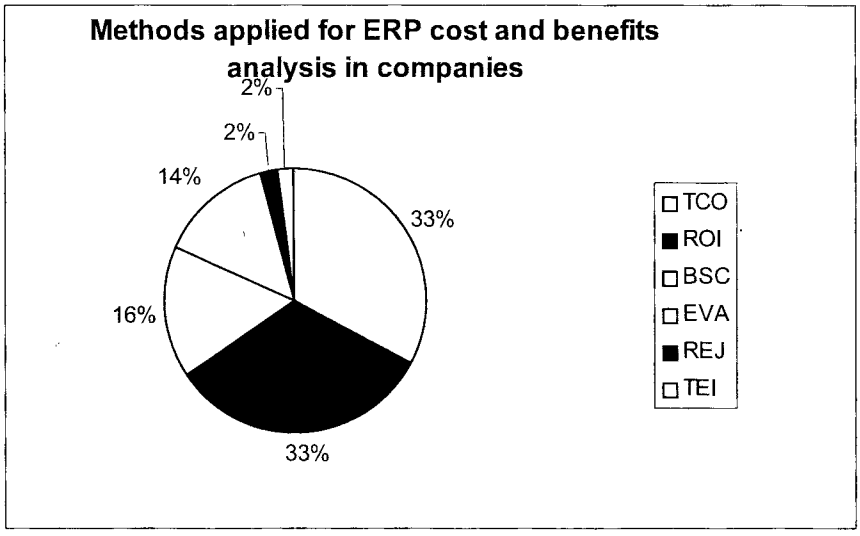

Fig. 7. Comparison of expected ERP product development on the Czech market in 2006

3. CONCLUSION

Companies have invested billions of dollars collectively in enterprise resource planning (ERP) systems with the objective of attaining an important business promise — complete enterprise integration. For companies faced with incompatible information systems and inconsistent operating practices, ERP has been a dream come true. ERP presents companies with the opportunity to standardize and automate business processes throughout the organizations, thus increasing productivity and reducing cycle time. Although ERP systems have delivered value, it is becoming clear that the ERP model, which wraps organizational processes into one end-to-end application, may no longer be sufficient for today's fast-moving, extended enterprises. With the rapid growth of the Internet, the business environment has changed dramatically. The world has become a global marketplace

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