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# **E-business Environment in the Global Information Society**

**Dominik Vymětal, Petr Suchánek**

## **Abstract**

In today's digital 21<sup>st</sup> century, almost all businesses face intense competition from competitors all around the globe. There are no borders and business area for the all companies is almost unlimited. As the main supports of mentioned fact are globalization and ICT's development. Influences such as globalization, increased popularity of outsourcing and offshoring have recently combined to produce an environment where ICT graduates need to have up-to-date and industry-relevant knowledge and skills, so that they can be successful in this highly competitive environment. Development of e-business and e-commerce make possible the companies to enter to the global markets. Fundamental prerequisite of the successful company in the global market is well-made corporate strategy and correct source information. Of high account condition of an entry to global markets is an adjustment of the information system to global information and business system management standards. The statistics gained from the Czech market shows, that in spite of enormous Internet proliferation the ratio of e-sales is lower than the ratio of e-purchases. Some possible reasons for these phenomena are discussed at the end of this paper.

**Key words:** e-business, e-commerce, global information society, information and communication technology, IT security, IT standards, business strategy, enterprise resource planning, customer relationship management.

## **Introduction**

Business environment can be defined as a set of political, economic, social and technological (PEST) forces that are largely out of control and influence of a business and that can potentially have both a positive and a negative impact on the business. [Wood, 2000] As break-through year in European and world's business and e-business environment development can be considered year 1990. This year is in many connections marked as a year of significant political changes in many, especially the European countries. Political changes made possible to change national attitudes, change attitudes towards national feeling, extend business environment, change priorities, gain experiences from more developed countries, gain specialist from more developed countries, the university education abroad.

In term of economic development, large sense had and has a support of private business activities. The encouragement of private business activities has been an important element in the economic transformation of Central and Eastern Europe (CEE). Research results show that small business development in CEE countries has been influenced to a great extent by macroeconomic factors such as inflation rates, price stability, interest rates, credit conditions, capital inflows and outflows, and the availability of economic inputs (capital, labor, material, and technology). [Fogel, 2001]

New global policy and economic order of the single governments allow the opening and development of new markets. Expansion of business environment brought new needs of the looking for modern ways of legislature, logistics, business models and last but not least communication. In all developed countries, there are heavy investments accomplished by private and public sectors, rapid development in infrastructure and services and governmental

initiatives. These changes actuated new business forces that need ICT as an infrastructure to support them. In this paper we try to show some of them.

The paper is structured in two parts. In the first part, main areas and relationships of the Global information society and e-business and e-commerce are described and relevant information sources provided. To support our observations and conclusions some statistics relevant to e-business and e-commerce development especially in the Czech Republic are shown in the second part. It can be generally stated that the new business potentials should be supported by communication infrastructure supporting Internet marketing, business and communication tasks. To support our assertions we will present some statistic data concerning Czech Republic.

### **ICT as support of the e-business development**

The ICT revolution and information society development can be considered as major driving forces of rapid development that can be observed nowadays. The ICT development results in significant cost reduction, accompanied by rapid increase in power and capacity (Moore's law), convergence between computers and pervasive proliferation of ICTs in all sectors.

Information technology development can be seen as one of the important information society aspects. The information society is a society in which the creation, distribution, diffusion, use, integration and manipulation of information represent significant economic, political, and cultural activities. In information society, information participates in economic growth and expressively contributes to easement of human life. Today information, together with capital, labor and material pertains to fundamental classical economic sources. The importance of information is increasing all the time.

The new ways of communication turned into being fundamental support of development in all branches of a social life. As the main communication medium Internet broke through.

**Table 1** – Internet users in some European countries (neighboring the Czech Republic and Poland).

<b>State</b>	<b>Population (2008)</b>	<b>Internet Users (2004)</b>	<b>Internet Users, (2008)</b>	<b>Population (Penetration) %</b>	<b>% Users Europe</b>
Czech Republic	10 446 157	2 700 000	4 991 300	47,8	1,3
Slovakia	5 455 407	700 000	2 705 882	49,6	0,7
Poland	38 500 696	6 400 000	20 020 362	52	5,1
Germany	82 369 548	32 100 000	55 221 183	67,0	14,2
Austria	8 205 533	3 700 000	5 601 700	68,3	1,4
Ukraine	45 994 287	750 000	6 700 000	14,6	1,7
Belarus	9 685 768	422 000	2 809 800	29,0	0,7
Latvia	2 245 423	312 000	1 324 800	59,0	0,3
<b>European Union</b>	<b>489 111 662</b>		<b>297 001 040</b>	<b>60,7</b>	<b>18,9</b>
Europe	803 903 540		390 141 073	48,5	24,7
Rest of World	5 906 125 530	655 000 000	1 191 430 516	20,2	75,3

Source: [www.internetworldstat.com](http://www.internetworldstat.com)

The Internet development makes possible the international markets development when orders and other business transactions are realized with support of the web applications. Business of all sizes in all sectors are using the Internet in many different ways - to work with partners and suppliers, for procurement, for internal activities such as knowledge sharing and new product development, and much more. Internet development and its penetration are very rapid. Through the last five years, the count of Internet users has grown at average about the 50 % (Table 1).

The Internet is a very effective way to buy and sell products all over the world. As the reasons to use the Internet for business can be considered; cut purchasing cost, reduce operating cost, improve management of suppliers, control stock levels, take advantage of government and international organization calls for bids and reduce problems.

### **E-business strategy**

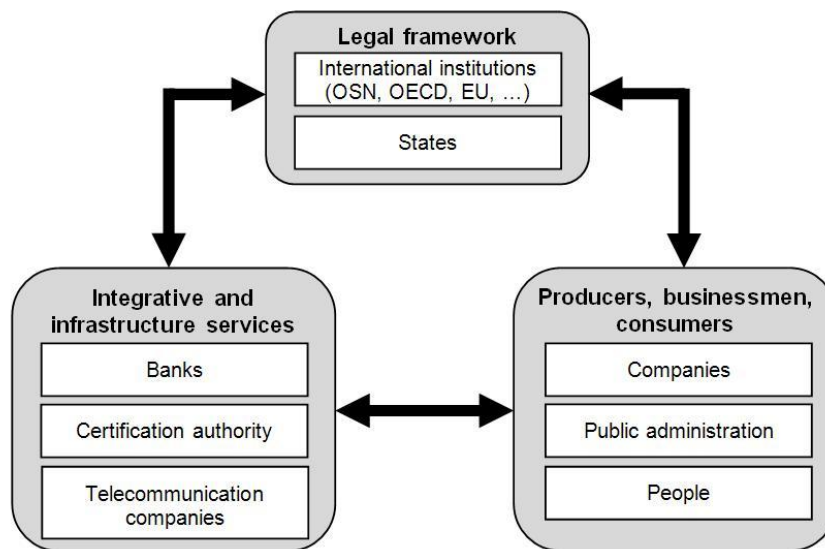
E-business strategy can be considered as a main part of the corporate strategy. E-business strategy has always to be the fundamental element of a successful company. The managers very often forget that wrongly made analyses can evoke problems which often lead to the increase of investments, to new analyses or system re-engineering. High percentage of the small and medium sized companies underestimated, or still underestimates the sense of e-business strategy development. The reason is an effort to reduce the input cost. Research results show that the reduction of money dedicated to detailed analyses in terms of the e-business strategy development, results in profit reduction after prospectus realization.

As a prerequisite to building an effective e-business strategy, managers should identify measurable business objectives, define costs and impact, align IT architecture and identify value propositions. These issues are common starting points. In more detail, e-business strategy should contain analyses referred to:

- firm structure,
- firm produce and business activities,
- target group,
- competition,
- return on investments (ROI),
- information system,
- technology support,
- staffing,
- system of security,
- system of operation,
- management system,
- global environment.

If company wants to be prosperous in the global market place, e-business strategy has to be developed feed forward to international business system functioning. In terms of this, it is necessary to define all subjects of the Global Information Society and its intercommunications (Fig. 1).

**Figure 1 - Intercommunication in the Global information society.**



### **Information systems in the Global information society**

Information systems became indispensable component of companies. All company's activities are supported with quite a number of CRM (Customer Relationship Management) and ERP (Enterprise Resource Planning), etc. systems. ERP is suitable for global operations as it encompasses all the domestic jargons, currency conversions, diverse accounting standards, and multilingual facilities. ERP software attempts to integrate business processes across departments onto a single enterprise-wide information system. The major benefits of ERP are improved coordination across functional departments and increased efficiencies of doing business. The goal of CRM is to collect information gained by doing business in a central repository, analyze it, and make it available to all departments.

CRM and ERP benefits can be measured and quantified. With usage of ERP, company can gain following benefits:

- improve alignment of strategies and operations,
- improve productivity and insight,
- reduce costs through increased flexibility,
- support changing industry requirements,
- reduce risk,
- improve financial management and corporate governance,
- optimize IT spending,
- gain higher ROI faster,
- retain top performers,
- provide immediate access to enterprise information.

A major benefit of CRM can be the development of better relations with the existing and new customers, which can lead to:

- increased sales through better timing due to anticipating needs based on historic trends,
- identifying needs more effectively by understanding specific customer requirements,

- cross-selling of other products by highlighting and suggesting alternatives or enhancements,
- identifying which of your customers are profitable and which are not.

In many cases, CRM are integrated into ERP, but it is not the rule.

The condition of an entry to global markets is an adjustment of the information system to global information and business system management standards. Management standards are defined for three basic sectors which are customer relationship management, supply management and operating management. These sectors can be further refined into information system management, business processes management, management of logistics and production logistics, management of human resources, legal rules in relation to international law etc.

### **The starting conditions of a successful company in the global markets**

If company wants to be successful in the global markets, it has to have correct source information and done many analyses. There are many consultation companies providing information and doing analyses. Above all, company should put the accent on:

- ROI (Return on Investment) Analysis,
- business strategy,
- customer analysis,
- market's needs,
- product positioning services,
- technology sales,
- execution support,
- SCM (Supply Chain Management),
- BPO (Business Processes Outsourcing) strategy consulting,
- legal rules.

Correct source information are necessary, but usually have to be paid for. There are many sources providing statistical data on the Internet, but these are usually not adequate. Managers can acquire correct information from the many sources. Following sources supply the attested information usable for manager's decision making in the global markets. [Molnár, 2009]

### **The Czech Stock Market Information**

- Hospodářské noviny (Economic Journal) (<http://ihned.cz/>),
- Burza cenných papírů Praha, a.s. (Stock Exchange in Prague, Inc.) (<http://www.pse.cz/>)
- Ekonom (Economist) (<http://ekonom.ihned.cz>),
- Bankovníctví (Banking) (<http://bankovnictvi.ihned.cz>)
- AliaWeb spol. s r.o., <http://www.akcie.cz> a <http://www.rmsystem.cz>.
- Patria.cz (<http://www.patria.cz>),
- <http://www.e-broker.cz>, <http://www.burza.cz>

### **Foreign stock market information**

- <http://www.bloomberg.com>,
- <http://www.dowjones.com>,
- <http://www.nyse.com>,

- <http://www.nasdaq.com>,
- <http://www.reuters.com>,
- <http://money.cnn.com>.

### **Marketing information**

- Inter-Company Comp <http://www.formacompany.ie>)
- Mintel Publications (<http://reports.mintel.com/>),
- The Economist Intelligence Unit (<http://www.eiu.com>),
- Frost & Sullivan (<http://www.frost.com>),
- Arthur D. Little (<http://www.adlittle.com>),
- Datamonitor (<http://www.datamonitor.com>),
- Euromonitor (<http://www.euromonitor.com/>),
- Hospodářská komora ČR (<http://www.hker.cz>),

### **Law and legislative information**

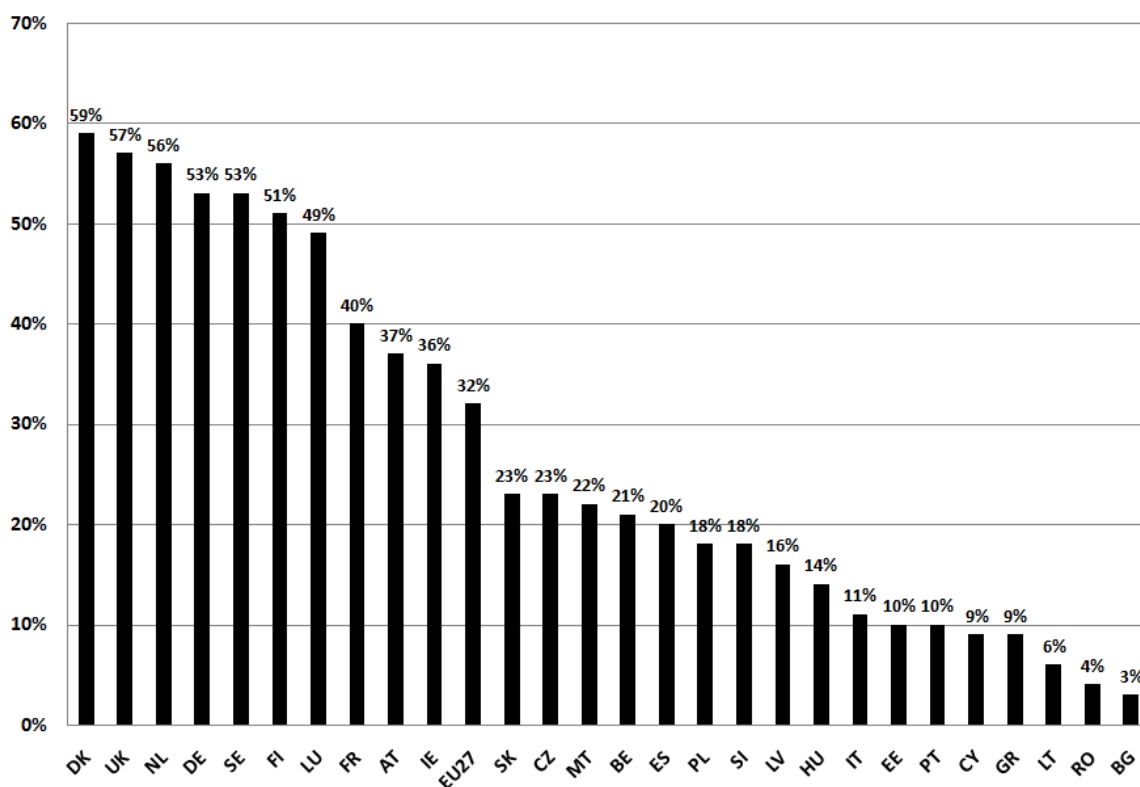
- European Union's legislature CELEX (<http://europa.eu.int/celex>), in the Czech Republic (<http://www.sbirka.cz/>),
- Portal of Public Administration (<http://portal.gov.cz/>),
- Official Server of the Czech Justice (<http://portal.justice.cz/>),
- Office for the Protection of Competition (<http://www.compet.cz/>),
- Portal of State Administration (<http://www.statnisprava.cz/>),
- Information on Business including legal rules and law (<http://business.center.cz/>, <http://www.epravo.cz/>),
- Law's, tax's and account's information (<http://www.aspi.cz/>),
- Information portal with paid entry – publishing house Verlag Dashöfer (<http://www.infoportal.cz/>),
- Commercial web sites (<http://ipodnikatel.cz/>/<http://www.podnikatel.cz/>),
- Czech Chamber of Commerce (<http://www.komora.cz/>),
- Czech Consortium for Competition Law (<http://www.casp.cz/>).

### **E-commerce statistic and forecast**

It can be generally stated that the new business potentials should be supported by communication infrastructure supporting Internet marketing, business and communication tasks. To support our assertions we will present some statistic data concerning Czech Republic.

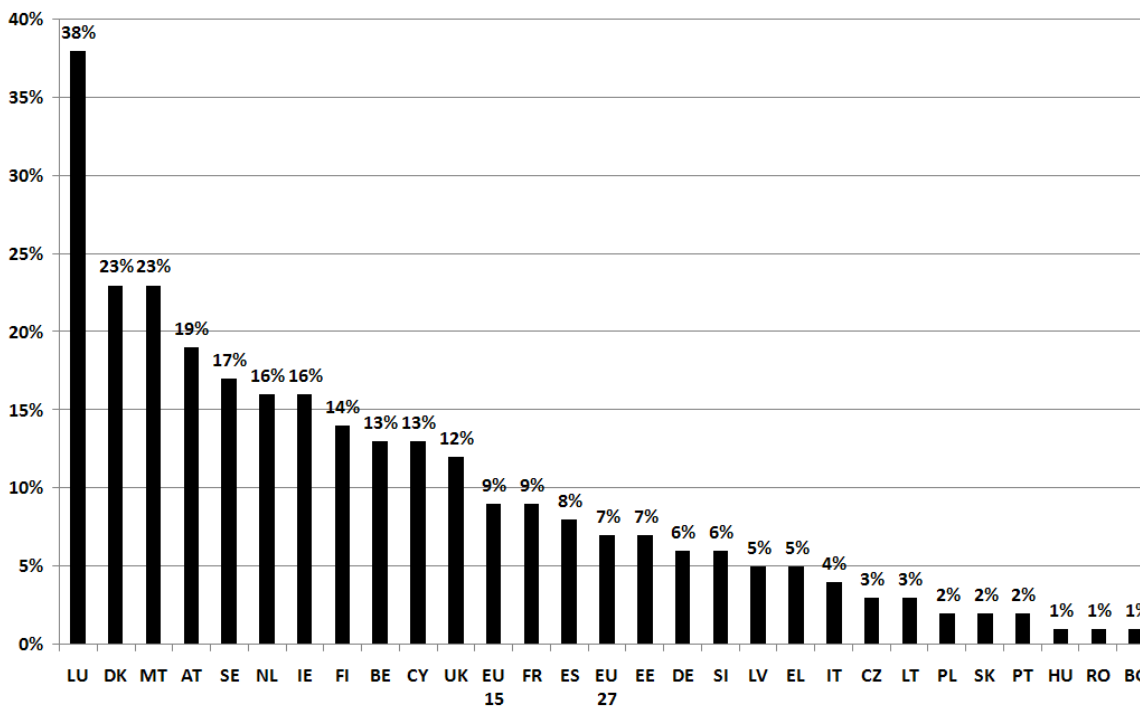
Since 1990 the Czech Republic actively strives to promote investment in sectors with high added value. These sectors include the automotive industry, aviation, precision engineering, electrical engineering and electronics, genomics and biotechnology (life sciences), medical technology, strategic services, IT and software development. All four state of affairs can be seen in majority of European and world's countries. The future of e-commerce in the Czech Republic is bright - the majority of e-customers admitted that they would buy online at least as often as they have done so far.

**Figure 2 - Percentage of individuals who ordered goods or services over the Internet for private use in the last year (2008)**



Source: Eurostat, Information society statistics (2009)

**Figure 3 - Percentage of people who placed order abroad in 2008.**



Source: Special Eurobarometer 298 (2008)



Some of the barriers to cross-border online trade relate to [Commission of the European communities]:

- language,
- demographics,
- individual,
- preferences,
- technical specifications or standards,
- Internet penetration,
- or the efficiency of the postal or payment system.

33% of EU consumers say they are willing to purchase goods and services in another language, while 59% of retailers are prepared to carry out transactions in more than one language.

In the coming five years, the number of Europeans shopping online will grow from 100 million to 174 million. Their average yearly Net retail spending will grow from around €1,000 to €1,500, as UK Net consumers outspend even their US counterparts online. Overall, this will cause European e-commerce to surge to €263 billion in 2011, with travel, clothes, groceries, and consumer electronics all above the €10 billion per year mark. [Favier, 2006]

According to a recent report from eMarketer, e-commerce in Europe will reach 323 billion Euros (\$407 billion) by 2011. That is an average 25% growth rate each year from 2007 to 2011. Italy, Spain and the Netherlands will growth to be a large force for European e-commerce hubs between 2007 and 2011. However Eastern European countries - Russia, Poland and the Czech Republic - won't impact online shopping hubs until well into the 2010 decade according to eMarketer researchers. [Knight, 2007]

All the forecasts are differentiated in terms of numbers, but the same in terms of e-commerce purchase's continuous increasing. The statistics and expectations presented herein above can be documented by data presented by Czech Statistic Authority recently.

### **Level of communication infrastructure supporting Czech companies**

The communication infrastructure among Czech companies is mostly executed by Internet. The exceptions to this rule are backbone networks of large, mostly multinational companies which use international data communication provider services. The communication speed is achieved mostly by high speed Internet connections. The proliferation of high speed Internet connections within Czech companies of various sizes during last years is presented in Fig. 4.

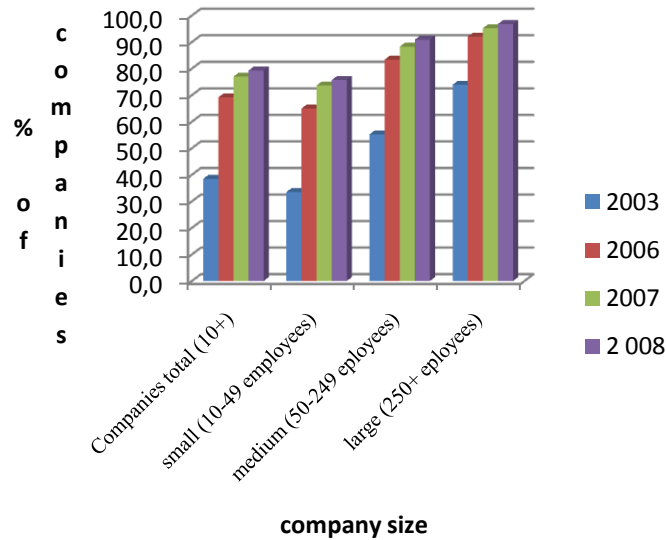
We can see that even 10+ companies reached 80% level of high speed Internet usage. This opens new possibilities and challenges in e-commerce area.

### **Electronic business development**

Small and middle sized companies profit from EU membership by using cross border co-operation. As an ideal means of doing business, electronic commerce mostly over Internet can be seen. Electronic business development in Czech companies during the last years is presented in figures 5 and 6. From these figures it can be seen that there are still substantial potentials to be made use of. As an example of this potential the EUROSTAT statistics can be used. So, e.g. in Denmark, 35% of the companies has been doing business over Internet in

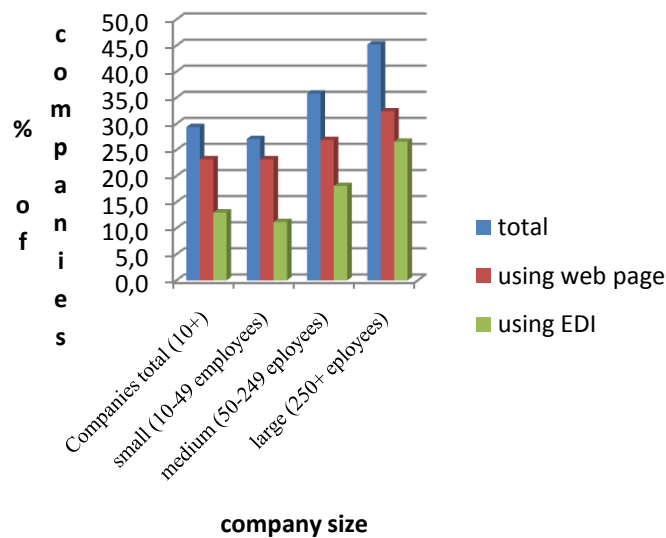
2005, the EU 25 average is 15% while in Czech Republic the average reached only 11,1%. It is interesting that substantially more companies used electronic purchase (Fig. 5) than electronic sales (Fig. 6). On the other side, an increasing part of electronic communication was done by EDI while the typical e-commerce using web page rate of increase was substantial lower.

**Figure 4 - Internet proliferation in Czech companies during last years.**



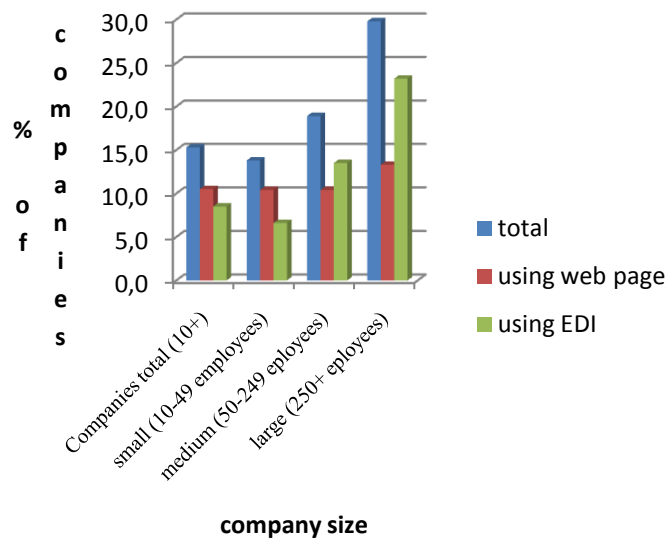
Source: adopted from Czech statistic authority (CSU) 2009

**Figure 5 - Czech companies using electronic purchase (%) 2007**



Source: adopted from Czech statistic authority (CSU) 2009

**Figure 6 - Czech companies using electronic sales (%) 2007**



Source: adopted from Czech statistic authority (CSU) 2009

It is obvious that the electronic purchase ratio is substantially higher than the electronic sales ratio, especially in small and middle sized companies. There could be several reasons for this situation: the software used is not mature enough to support electronic commerce; if there is no mature software application at disposal, also supply chain management needed for successful e-commerce cannot be achieved; the document flow in the companies is not streamlined enough; there are stovepiped applications running in these companies causing double data production while the management is generally integrated enough, what causes errors and confusions in the management information systems.

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