

MANAGING CHANGE TOWARD E-BUSINESS

Slovenian and Croatian Perspectives

ANDREJ KOVACIC, ALES GROZNIK

*University of Ljubljana, Faculty of Economics
Department of Information & Management Science*

1000 Ljubljana, Slovenia

E-mail: andrej.kovacic@uni-lj.si or ales.groznik@uni-lj.si

VESNA BOSILJ VUKSIC

*University of Zagreb, Faculty of Economics
Department of Information Science and Business Computing*

10000 Zagreb, Croatia

E-mail: vbosilj@efzg.hr

Abstract: The main goal of the paper is to present the characteristics of business renovation efforts and readiness for electronic business (e-business) in Slovenia and Croatia. Renovation is presented as the highest level of strategy for managing change that commonly cannot be handled by continuous improvement and reengineering methods or organizational restructuring. This framework is expanded to e-business models considerations. The research was based on a questionnaire about Business Process Reengineering (BPR) projects, methods and tools implemented in Slovenian and Croatian organizations. The similarities and differences between the two countries engaged in the transition processes were pointed out. The paper stressed the necessity for changes in organizational culture, management techniques, socio-economic restructuring and other changes leading towards a shift in organizational restructuring in the context of globalisation (e-business, etc.).

Key words: business renovation (BR), business process reengineering (BPR), e-business models, Internet, e-business, Slovenia, Croatia

1. INTRODUCTION

Competitive conditions and pressures on global market are forcing companies to search for strategies of streamlining the entire value chain. One of the major challenges that companies faces today is meeting increasing customer demand. Short delivery times, efficient and flexible processes and improved customer service are key to competitiveness. These goals could be reached by simultaneous realization of two goals: (1) renovation of business processes and (2) implementation of electronic business solutions.

Business Renovation (BR) or business process renovation integrate radical strategic method of Business Process Reengineering (BPR) and more progressive methods of Continuous Process Improvement (CPI) with adequate Information Technology (IT) and e-business infrastructure strategies. Process renovation is a re-engineering strategy that critically examines current business policies, practices and procedures, rethinks them through and then redesigns the mission-critical products, processes, and services. In this paper, business renovation is presented as the highest level of strategy for managing change toward electronic business (e-business) that commonly cannot be handled by continuous improvement and reengineering methods or organizational restructuring. BPR efforts in 90-s has mostly been addressed on internal benefits such as cost reduction, company's downsizing and operational efficiency which are rather tactical then strategic focuses. CPI, on the other hand, mostly relies on improving existing business processes whit no intention of changing it. BR argues for a balanced approach in which we attempt to manage realistic changes rather than always seeking radical change. For a thorough and effective renovation, organizations should combine radical shift (BPR) with those that permanently increase business efficiency and effectiveness (CPI).

IT and especially e-business infrastructure is now taking significant roles in business processes, creating new needs, causing new product development, and commanding new business models. Following full implementation of IT in an organization, these internal changes may also lead to broader shifts in products, markets, and society as a whole. Furthermore, business strategy is building across information flow and value creation flow, which means that IT and e-business become key driver and initiator of business strategy. So, e-business technology becomes an actual cause and initiator in forming business strategy. The relationship and influence between BPR and e-business strategies is a key part of the classic texts in the area.

In this paper we accept this framework and expand it with considerations about necessity for building rather different business models that can handle and manage dynamic market conditions. Managing change in turbulent environment is only possible with radically different approach to business modelling: building equally dynamic business models based on e-business infrastructure. E-business models generally represent an overall framework for adoption of company's current business models to an e-business era.

In paper we also present results or relevant surveys and assess and compare current status of BR practices in Slovenia and Croatia. The objectives of the survey were to identify, analyse and compare the main characteristics, motives and problems of BR projects in the countries involved in transition processes and readiness of their existing business models for electronic business era. The role of BPR and CPI is discussed in Chapter 2. A discussion related to BR and e-business is presented in the Chapter 3 as well as a brief overview of the e-business models practise (Chapter 4). The researches about the Internet and e-commerce implementation in Croatian and Slovenian companies are presented in Chapter 5. The methodology of the research is explained in Chapter 6. The comparison of BPR studies conducted in Croatia and Slovenia is explained in detail in Chapter 7. Conclusions (Chapter 8) outline the main findings of this research.

2. MANAGING CHANGE THROUGH BPR AND CPI

BPR is an organizational method demanding radical redesign of business processes in order to achieve more efficiency, better quality and more competitive production (Hammer and Champy, 1993). It is also a method of improving the operation and therefore the outputs of organizations (Lederer and Sethi, 1996). It means analysing and altering the business processes of the organization as a whole. BPR was first introduced in a research program at MIT (Massachusetts Institute of Technology) in the early nineties. The term was used in the description of Davenport and Short's 1990-research project (Davenport and Beers, 1995). They found out that the implementation of modern information technology in organizations means not only automation of managerial and production tasks but also has an enormous and direct effect on the means and quality of the work done. Many leading organizations have conducted BPR in order to improve productivity and gain competitive advantage. A study by J. Dhaliwal (Dhaliwal, 1999) showed that about 50% of firms surveyed in Singapore (in some cases comparable to Slovenia) were engaged in BPR projects, with 37% of the

firms indicated their intention to take up BPR projects in next few years. However, regardless of the number of companies involved in re-engineering, the rate of failure in re-engineering projects is over 50% (Hammer and Champy, 1993). Some of the frequently mentioned problems related to BPR include the inability to accurately predict the outcome of a radical change, difficulty in capturing existing processes in a structured way, shortage of creativity in process redesign, the level of costs incurred by implementing the new process, or inability to recognize the dynamic nature of the processes.

On the other hand CPI integrates methods such as industrial engineering, systems analysis and design, socio-technical design and total quality management (Davenport, 1993), (Galliers, 1998). Continuous improvement refers to programs and initiatives that emphasize incremental improvement in work processes and outputs over an open-ended period of time (Davenport and Beers, 1995). Several researchers suggest that using CPI techniques increase dramatic gains; TQM is particularly suggested to be integrated with BPR (Al-Mashari and Zairi, 1999).

For a thorough and effective renovation project, organizations should first meet certain conditions before starting such a project. First, organizations should abandon all the obsolete rules and procedures that have been used up to that time. Breaking rules is how we recommend that people learn to think inductively about technology during the reengineering process (Hammer and Champy, 1993). Application of Information Technology (IT) can break old rules that limit the manner in which work is performed (Some typical examples are given in Turban *et al.*, (Turban et al., 1998). In addition they should abandon other inadequate organizational and production principles (Kettinger and Grover, 1995). Global competition, economic downturn, and the potential offered by emerging technologies are pushing organizations to fundamentally rethink their business processes (Kovacic, 1999). At this point, the design of a renovated and redesigned organization should start.

3. E-BUSINESS AND BR FRAMEWORK FOR MANAGING CHANGE

As the Internet becomes very important component of companies' information systems, it plays a significant role in BR projects. The Internet enables companies of all sizes to develop new online business models, which means improving and altering the ways in which companies operate and

interact with business partners, customers and suppliers. Companies are now pursuing more intensive and interactive relationships with their suppliers, collaborating in new product development, integrating key business process and cross-functional information sharing on a range of issues (Osterle et al., 2000). The Internet enables complete integration of inter-organizational processes in BR projects (Alt et al., 2000) and extends the strengths of BR to the new strategic options (e.g. new business models, strategic-alliances, electronic distribution), the new possibilities for processes (e.g. order entry, distribution, on-line payment) as well as the technical issues (e.g. integration of Enterprise Resource Planning systems (ERP) with Electronic Commerce (E-commerce), Supply Chain Management (SCM), Customer Relationship Management (CRM) etc.). Figure 1 shows how those extended business processes relate to the technical issues or so called e-business applications.

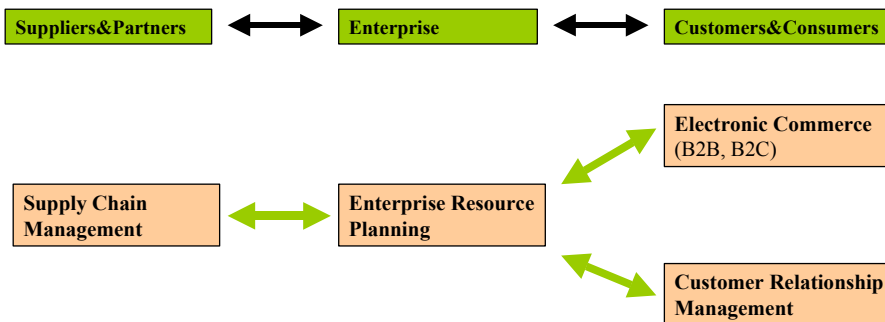


Figure 1. E-Business Process and E-business Applications

Electronic Business (e-business) is the execution by electronic means of interactive, inter-organizational processes (Cunningham and Froschl, 1999). E-business represents a shift in business doctrine that is changing traditional organizational models, business processes, relationships and operational models that have been dominant for the past 20 years. The new doctrine of e-business requires an enterprise to integrate and synchronize the strategic vision and tactical delivery of products to its customers with the information technology and service infrastructure needed to meet that vision and process execution (Prasad, 1999). In the next few years, successful enterprises will restructure their organization, process and technology infrastructure for successful e-business execution.

Business renovation has gone through a number of eras and different orientations in the last fifteen years (Figure 2), yet it continues to make steady progress in terms of adoption and the value it provides.

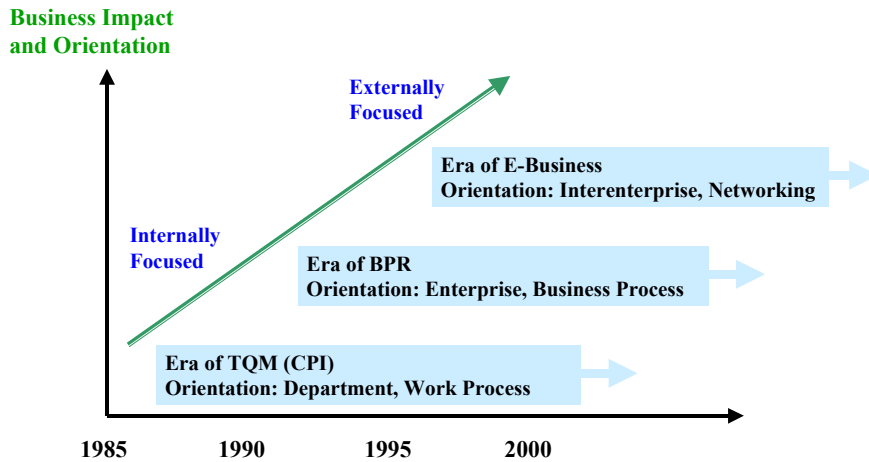


Figure 2. BR business impact and orientation

At the beginning of Total Quality Management (TQM) era work process automation projects were normally influenced by modern information technology and focus on one particular business process, usually within the department or business function. They do not radically change any existing procedures but merely automate existing procedures. In such cases (applying technology) the focus of the renovation was narrow; only the limited procedures of the particular process were changed.

It should be pointed out that the higher level of procedures' automation brings more or less negative results. Even if some of the achievements of such actions are positive, they prevent the managers from seeing all the opportunities offered by the computerization of a redesigned business process and an infrastructure role of informatics. Radical process innovation was encouraged by some quality experts (Davenport, 1993). There is a natural process improvement sequence that occurs as organizations apply TQM to their work. Watson (Watson, 1994) suggests the elimination sequence procedure. He stated that most problems could be attacked through the application of the basic quality tools of problem solving and quality improvement processes before there is a need to automate work processes or seek IT intensive solutions.

BPR was the buzzword of the mid-1990s, and although there were plenty of successes, there were many more failures (Hammer and Champy, 1993). To many, BPR remains a dirty word, bringing back memories of head count reductions, budget cuts, facility closures, expensive consulting engagements

and endless reorganizations that destroyed morale and confused employees, partners and customers. By the time it was recognized that successful BPR required careful change management, the damage was done (Teng et al., 1998).

The BPR craze encouraged enterprises to focus on enterprise process and internal (mostly transactional) ERP applications, today, the e-business craze has reinvigorated interest in process, this time on a grander scale that spans enterprises. BPR in 90-s has been focused on internal benefits such as cost reduction, downsizing of company and operational efficiency which are rather tactical than strategic focus. The difficulties of formulating and adopting new process, a lack of cooperation between vendors, and the sheer difficulty of inter-enterprise coordination will likely lead to yet another era: the era of e-business.

E-business renovation strategies put their focus on the processes between business partners and the applications supporting these processes. These strategies are designed to address different types of processes (see Figure 1) with the emphasis on different aspects (Phipps, 2000):

- Customer Relationship Management aims at supporting the whole relationship a company has with individual customers (the customer buying cycle which includes marketing, evaluation, buy, and after sales activities).
- Supply Chain Management focuses on supporting four main business processes: source, plan, make, and deliver. These processes aim at designing a smooth flow of goods, information and funds.
- Electronic Commerce focuses on transaction processes and can be applied at the links of various business processes (e.g. support the outsourcing of payroll activities, the auctioning of surplus capacities in sales, the procurement of indirect goods and the like).

4. TOWARDS E-BUSINESS MODELS

E-business era dramatically and strategically change traditional business models. Direct access to information and their quick and cost-effective global reach enables radical changes in all economic sectors and changes in companies of all sizes and business activities. Reach and richness of information over open network infrastructure gradually expand company's boundaries towards extended enterprises and strategic alliances with modular or networked structure. Kalakota et al. stated that 'the ability to streamline the structure, influence and control of the flow of information is

dramatically more powerful and cost-effective than moving and manufacturing physical products' (Kalakota and Robinson, 1999). Companies of all sizes adopt e-business infrastructure and redefine own value chain to value network, converging to new business models.

E-business infrastructure represents the share of total economic infrastructure used to support electronic business processes and conduct electronic commerce transactions. E-business infrastructure includes hardware, software, telecommunication network, support services and human capital used in electronic business and commerce. Major features and value drivers of e-business infrastructure are: cost leadership, total customer service and emerging new business models. Strategy has always relied on cost differentials and e-business infrastructure has enormous cost leadership potentials. For example, the cost of an Internet-based banking transaction is about one-fiftieth of the cost of a human teller transaction (Venkatraman, 2000). Another feature of e-business is multiplications of electronic transactions and additional e-business processes which support existing business model. Additional e-business processes offer complementary products and services to customers. Total customer service is offered through value network partnerships using Internet as business channel.

Let's consider total customer service and additional e-business processes through a simple example of an on-line retail book purchase: customer logs on his computer, access particular Internet site, choose a specific title, pays it with his credit card and choose delivery options. Additional e-business process involve electronic marketing to reach customer, electronic search to find a title, virtual community issues (suggestions, opinions, reviews), electronic procurement and payment, electronic authentication of credit card, electronic support for delivery, electronic customer support. These processes are conducted over network infrastructure and they involve multiple e-commerce transactions with many parties, where some play multiple roles. So, e-business model blocks are building across capabilities and add value activities for all participants and final customer.

E-business solutions means abandoning chain and linear structure of value creation and focusing on value network structure which company builds together with their partners, customers and suppliers. So, business strategy is building across information flow and value creation flow, which means that technology become key driver of business strategy. 'Technology is no longer an afterthought in forming business strategy, but the actual cause and driver' (Kalakota and Robinson, 1999). For every company, no matter of business activity or size, e-business offers cost reducing

opportunities and value-adding activities through total customer service, but key value add driver is in change of existing and creation of new business model.

Business process reengineering was favourite managers buzzword in 90-s, but it seems that another popular term for 21st century is: business model reengineering. Traditional companies from 'old economy' urgently need to build on and re-evaluate their current business models and create new ones. So, e-business initiatives have truly strategic imperatives: creating totally different business model. An e-business model generally means the adoption of company's current business model to Internet economy. Main purpose of developing and analysing business models is to found revenue and value generators inside reversible value chain, or business model's value network. Traditional business models were (and still are) quite a simple. Thanks to technology revolution and convergence, Internet economy dramatically increases the number and combinations of possible business models and creates new hybrid models.

There have been number of attempts to formally describe and classified a business model for e-business era. Venkatraman and Henderson (1998) define a business model as a coordinated plan to design strategy along three vectors: customer interaction, asset configuration and knowledge leverage (Venkatraman, 2000). Hamel (Hamel, 1999) relates the high capitalization of Internet companies to new business models. Other definitions rely on business models revenue and value potential. Timmers (Timmers, 1998) define business model as 'an architecture for the product, service and information flows, including a description of the various business actors, their roles, potential benefits and sources of revenues for the model' (Timmers, 1998). Timmers (Timmers, 1998) identifies eleven business models (e-shop, e-procurement, e-mall, e-auction, trust services, info brokerage, value chain service provider, virtual community, collaboration platform, third party marketplace and value chain integrator) that are currently in use or being experimented and classified them along two dimensions: degree of innovation and functional innovation. Amit and Zott (Amit and Zott, 2000) propose that firm's business model is an important locus of innovation and crucial source of value creation and define business model as 'architectural configuration of the components of transactions design to exploit business opportunities'. It describes the ways in which company enables transaction that create value for all participants. They also describe a revenue model through combination of subscription fees, advertising fees and various transactional incomes. Rappa (Rappa, 2000) offered nine business models: brokerage, advertising, infomediary,

merchant, manufacturer, affiliate, community, subscription and utility with a number of revenue models: transaction fees, percentage of sale, set-up fee, fee per transaction, advertising fees and others. Mahadevan (Mahadevan, 2000) brings logistic streams into consideration and defines business model around three dimensions that are critical to business: value stream, revenue stream and logistic stream. The value stream identifies value proposition for business partners, buyers, sellers, market makers and portal. The revenue stream is a plan for assuring revenue generation and the logical stream are related to the supply chain design for the business. Mahadevan (Mahadevan, 2000) sees overall market space broader and divide it into three structures: portals, market makers, and product/service providers, all of them separated into business to business (B2B) or business to customer (B2C) segments.

E-business models offered major organizational changes, from internal modes of process-based structures to external modes of partnership-alliance based organization structures. Despite lack of e-business model theory, e-business models differ from its theoretical strategic antecedents. Product value chain model follows product flow through an organization, while business model describes steps needed to complete a transaction. Value chain concept is mainly concerned with adding value in the production of a product, while the business model value adding perspectives include all the participants to transaction, including suppliers, partners, strategic-alliances and final consumers. Business model concept applies to both on-line and off-line businesses but their strategic analysis importance stated Prahalad and Ramaswamy (Pralhad and Ramaswamy, 2000) as: 'the unit of strategic analysis has moved from single company to business model - an enhanced network of traditional suppliers, manufacturers, partners, investors and customers'.

5. EMPIRICAL STUDY OF INTERNET AND E-COMMERCE IN CROATIA AND SLOVENIA

Similar surveys about the Internet and e-commerce were conducted in Croatia and Slovenia during 1999. The aims of the researches were to find to what extent Croatian and Slovenian companies have recognized the advantage of the Internet and the electronic commerce and to point out the factors that can influence it. The companies with the Internet access and the content of their Web sites were analysed.

5.1 Slovenian research

RIS survey was conducted in 1999, 2000 and 2001 (RIS, 2002). The research collected the responses from one half of large and medium scale enterprises. One fifth of small enterprises with 5 or more employees were also surveyed. The results of the research showed that almost all Slovenian large companies (96%) had the Internet access while the rest was arranging it or planned to have it in next 12 months. The analysis of companies having e-commerce according to two typical e-commerce definitions was raised:

- A. By e-commerce we understand commercial activities, which are carried out via electronic networks, often via Internet, and result in purchase or sale of a product or a service.
- B. By e-commerce we understand any transfer of business documents (e.g. forms, money orders, supply orders, bills and so forth) via computer networks.

The percentage of large companies that use e-commerce according to the definition A was 61, while this percentage was 51 for the definition B.

Among the companies which stated that they use e-commerce the occurrence of some activities was as followed:

- application allowing the final consumer direct purchase of your products on the basis of on-line authorization of credit card: non-zero, but inaccurate
- automation of office work on the basis of Lotus Notes, Intranet, MS Exchange and the like: 27%
- application of e-commerce being an important component of your fundamental activity such as giving information, seeking information, counselling, after-sale activities, providing help for your customers: 21%
- application with which, in a closed network, e.g. VAN, Extranet, you and your business partner, for example retailers or suppliers, exchange forms (supply orders, order forms): 15%

The above percentages were related to the entire sample in which large companies had been over-represented.

Similar research was conducted at the Faculty of Economics, University of Maribor during 1999 (Faculty of Economics, 1999). The sample comprised 234 Slovenian companies. The questionnaire was adjusted to the research made by Andersen Consulting in 1998 (Andersen Consulting,

1998). The results showed that e-commerce had the key role for 69% of examined companies while even 59% of the respondents thought that e-commerce already helped their companies to gain the competitive advantage.

Most of them (84%) thought that it could influence BPR, while the main advantages of e-commerce for 90% of companies should be: participation on the global market, cutting business (production or services) life-cycle time, better data and information management. About 80% of respondents declared cutting of costs and gaining the competitive advantage as very important effects of e-commerce implementation. Better understanding of customers' needs and higher efficiency were pointed out by 70% of the respondents. These advantages are usually considered as the main goals of BPR projects.

5.2 Croatian research

This research was conducted on the sample of 100 Croatian large companies in the period of February 1 - March 15, 1999 (Curko et al., 2000). The results of the research showed that very high percent of examined companies (82%) had the Internet access (88% of them used the complete Internet services, while 12% used only e-mail). About 80% of the companies without the Web sites planned to publish it in the next 12 months. Their main reasons for not having the Web sites were: the lack of the top-management support, insufficient resources and high costs of developing the Internet technology.

More than a half (49) of companies with Internet access had the Web sites. The examinees in the companies ranked the goals of their Web sites according to the importance for the company. The analysis showed that the customer communication had the greatest importance for 84% of examined companies with the Web sites. About one half of them stated that the selling activities and the after-sales support activities were of the lowest importance for them, while these activities were of the greatest importance for only 2% of the examined companies. According to these results, main objective of the Croatian companies was to attract the customer's attention, communicate and then make a business by traditional channels and means. The results confirm the trend recognized in the research of "400 biggest" Croatian companies in 1998 (Bosilj Vuksic and Pejic Bach, 1999).

The probability that the firm would establish Web site was connected with the level of transition, the top-management support and the firm's revenue. The public companies and the private companies had the highest

percentage of the Internet access. The lowest percentage had companies where the process of transition was still not finished. The process of transition is usually very complex and financially demanding period for the companies trying to develop new market strategies. Because of that, companies were not able to focus the attention on the Internet and the Web sites. Top-management support was one of the essential enablers of the Internet technology implementation. Almost 70% of respondents in the companies with the Internet and Web sites evaluated their top-management support as sufficient and adequate. An analysis of companies having the Internet and the Web sites based on their revenue revealed that higher the revenue; higher is percentage of companies with the Web sites.

6. METHODOLOGY OF THE RESEARCH

According to the recognized trends and impact, the research about BPR projects in Croatian and Slovenian companies was conducted in 1999 and 2000 by IS researchers of the Faculty of Economics in Zagreb and Ljubljana. Though the questionnaires used in the Slovenian and Croatian research were the same, the selected companies used as the bases of the surveys could be compared and analysed according to a few criteria in order to determine the level of their uniformity. Slovenian and Croatian methodologies are compared and analysed according to three factors: the proportion of samples, the criteria of company selection (number of employees and company revenues) and the distribution of companies according to the industry type.

The basis for the comparison was 92 Slovenian and 105 Croatian companies. The number of examined companies in Slovenia was smaller than Croatian sample in absolute terms, but in relative terms, according to population, it was larger. It should be pointed out that Croatia had some 4.4 million inhabitants in 2000, while Slovenia had 2 million.

The criteria for comparing Slovenian and Croatian companies was that they met at least one of two criteria previously defined for companies. About 67% of Croatian and 90% Slovenian companies were large companies according to the revenues. About 68% of Croatian and 60% of Slovenian companies had more than 250 employees. About one-half of Croatian (45%) and Slovenian (53%) companies were large companies according to both criteria: more than 250 employees and revenue over USD 4 million, while the others were medium-sized companies. There were no small companies included in this research.

The Croatian and Slovenian samples differ mostly in the third criteria: percentage of companies according to industry type. About one-half of all Croatian and Slovenian companies are included in only two industry types: manufacturing (17% of Croatian, 35% of Slovenian companies) and trading (30% of Croatian and 16% of Slovenian companies). Table 1 shows the structure of the organizations according to industry type (based on the European Classification of Economic Activities - NACE Rev. 1) but this factor could not have an important influence on the further results of the research.

Table 1. The examined Croatian and Slovenian companies according to industry type

INDUSTRY TYPE	Croatian companies		Slovenian companies	
	Number of companies	Valid percent	Number of companies	Valid percent
A Agriculture, hunting and forestry	5	4.8	0	0
B Fishing	0	0.0	0	0
C Mining and quarrying	2	1.9	2	2
D Manufacturing	18	17.3	35	38
E Electricity, gas and water supply	2	1.9	5	5
F Construction	12	11.5	8	9
G Wholesale and retail trade	32	30.8	15	16
H Hotels and restaurants	3	2.9	1	1
I Transport, storage and communication	4	3.8	2	2
J Financial intermediation	3	2.9	11	12
K Real estate, renting and business activities	1	1.0	0	0
L Other	22	21.2	13	15
Total	104	100.0	92	100

The respondents in the Croatian and Slovenian companies were mostly information system managers because the empirical study was focused on the application of information technology (information technology, data warehouse and BPR).

7. RESULTS OF THE RESEARCH IN CROATIA AND SLOVENIA

The analysis showed that about 70% of Slovenian and Croatian respondents were introduced with BPR. Even 80% of the respondents in both countries were convinced that BPR could influence companies' competitiveness and they also considered IT as the essential enabler of BPR.

The lack of business processes integration and the insufficient influence of IT on business decision making were recognized as the key business problems in Slovenian and Croatian companies.

About one third of examined companies in Slovenia (38%) and 29% of Croatian companies were engaged in BPR projects. One third of Croatian companies and 17% of Slovenian companies have no plans about BPR, while about 40% of companies in both countries planned to conduct BPR in the period between 6 months and 5 years (25% of those companies would conduct BPR project in next 2 years). The comparison of the results is shown in Figure 3.

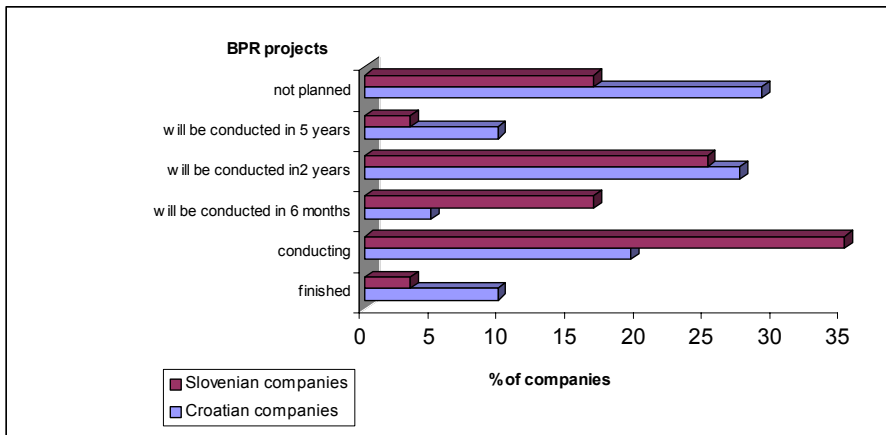


Figure 3. The percentage of companies introducing or engaged in BPR – a comparison

Information technology was an essential factor of BPR projects in 70% of Slovenian and 88% of Croatian companies that have been involved or have finished BPR projects. The main objectives of BPR projects reflected the structure of companies according to the industry type: Croatian BPR projects were concerned mostly with the process of selling and purchase, while manufacturing where the main object of BPR projects in Slovenia. The improvement of an entire business was the objective of 53% of Croatian BPR projects and 39% of Slovenian BPR projects.

The main BPR projects goals and missions were ranked (marks 1-5) very similar in both countries. Higher profitability, higher level of efficiency, cut of expenses and better relations with business partners were considered as the most important goals of BPR projects (average mark about 4). Even 80%

of respondents in Croatia and Slovenia estimated that the time of BPR projects design was between 2-12 months. The estimated time of BPR implementation was 2-12 months for 88% of Croatian companies, while even 64% Slovenian companies estimated that BPR projects implementation lasted or should last 12-24 months. All Slovenian projects and two thirds of Croatian projects were finished in time. According to the results, it may be assumed that the Croatian estimations about the time of implementation were not realistic.

Table 2: The rank of BPR players in Croatian and Slovenian companies

BPR players	Croatian companies		Slovenian companies	
	Mean	Std. Dev.	Mean	Std. Dev.
Top management	4,22	0,94	4,45	0,8
IS department	4,17	0,99	4,41	0,73
Management of business departments (functions)	3,67	1,19	3,41	0,85
Consultants	3,63	1,54	2,91	1,23

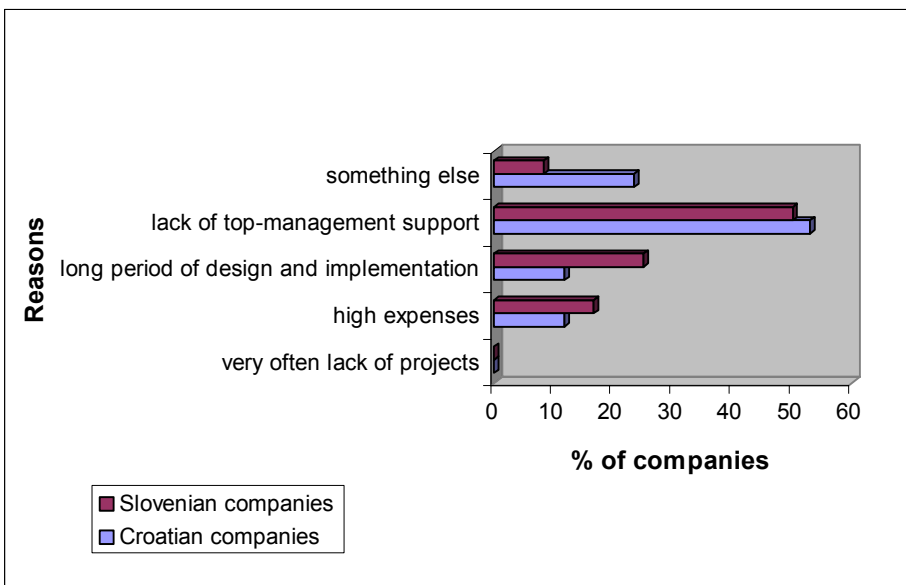


Figure 4: Reasons for not conducting BPR

The respondents claimed a high level of satisfaction with BPR projects implementation. A half of Slovenian companies was partially satisfied, while

the other half was almost completely satisfied. Croatian respondents gave the answers as follows: 13% was completely satisfied, 50% was almost completely, while 38% was partially satisfied. The most important BPR player was top management and IS department in both countries (Table 2).

The main reasons for not conducting BPR were similar in Croatia and Slovenia. On the first place was the lack of top management support (50% in Slovenia, 53% in Croatia). It could be concluded that radical changes in companies require managers with insight, flexibility, and decisiveness. The following reasons were: the long period of BPR projects (25% in Slovenia, 12% in Croatia) and high expenses (17% in Slovenia, 12% in Croatia). The analysis of the results is presented in Figure 4.

8. CONCLUSIONS: SUCCESS OF BPR EFFORTS AND READINESS FOR E-BUSINESS

It is obvious that the corporate-wide business process reengineering projects cannot be seen only as a problem of automation and implementation of modern technology or efficiency improvement of existing processes because there is more to organizational changes than just the technological view. BPR projects should be focused on all related key business elements: business processes, people and finally the technology. The survey identified three groups of organizational problems. These problems are similar for both countries and could be divided as follows: (1) the scope of BPR projects (2) actual role of information technology and (3) BPR players.

The Scope of BPR Projects

The results of the research showed that BPR goals and objectives, as well as the reasons for not conducting BPR projects were very similar in Croatia and Slovenia. The analysis indicated that improvement of business efficiency and profitability and other tangible benefits (reduction of costs, better relations with business partners) are the prime motives and reasons for undertaking BPR projects. Stated goals are closely connected with the implementation of CRM, SCM and e-commerce in the companies. However, it have to be stressed that BPR projects should comprise entire companies' business processes which was not the case in 50% of Croatian and about 60% of Slovenian companies.

The improvement of an entire business should be the goal of BPR projects in Croatian and Slovenian companies. It is especially important for

the projects oriented toward e-business implementation. Electronic business is not only enabling the redesign of internal organizational processes, but is extended into inter-organizational processes. By strictly pursuing a process perspective, businesses are restructured across functional and hierarchical boundaries. BPR driven by e-business could not be based only on radical redesign of intra-organizational processes, but should be extended to the entire business network (internal and external). An enhancement geared to include also inter-organizational processes is called Business Network Redesign (Alt et al., 2000). Business Network Redesign (BNR) is driven by global information connectivity and e-business. It identifies the inter-organizational processes to redesign and extends the strengths of BPR to the networking among business partners.

Actual Role of IT Technology

The respondents in both countries shared the same opinion about information technology as an essential factor of BPR projects. Information technology plays a crucial role in BPR, but the business process should first be analysed in order to find out if they are well defined, adequate, and ready for implementation of the new information technology.

The analysis of BPR projects showed that implementation of IT in business processes should cause several changes and enhancements. It must be stressed that the usage of IT has the strongest impact on standardization or elimination of process variations. Because of that the advantages of using information technology cannot start before the work process improvement has been successfully implemented. IT should be the enabler, but not the initiator of BPR. Only in that ways, an improvement of quality, lower costs, and shorter performance times of renovated business procedures and activities could be expected.

BPR players

The change from a functional to a process type of organization is considered to be of the most importance in Croatia and Slovenia. The unsuccessful projects failed mostly in the moment of implementation because agreed upon organizational changes were not carried through. These types of problems could be overcome through working with people - not only arising their availability, flexibility, or productivity, but also improving their knowledge, managing their natural resistance to change, and helping to convert that resistance into commitment. Employees should be educated to

use new information technology. Progressive organizations should be built on the potential of their skilled and informed employees

The main reason for not undertaking BPR projects in both countries was the lack of top management support. The same problem was stated in the surveys about e-commerce implementation in both countries. The goals of BPR projects should be adjusted to the strategic goals and mission of the company and defined by top management. Corporate goals, strategies, and critical success factors form the basis for selecting and modelling core business processes on the global level of description. The main players of BPR projects in Croatia and Slovenia were IS departments and top management (with no significant differences in the average grade of their importance). Such approach should be changed because only top management could be the initiator of successful BPR projects.

Conclusions

On overall BR is still one of the key business activities where Slovenian and Croatian organizations will have to improve in order to be able to effectively participate on the overall global e-market. The most Croatian and Slovenian large companies have recognized the number of benefits and the importance of the Internet and the World Wide Web, but conservative attitude toward on-line business is present on their Web sites. Recently emerged business conditions require management to conduct business process renovation and consider changing existing business models and creating new ones to become concurrent and achieve bigger competitive advantage.

Since we plan to carry out this study periodically it is going to be very interesting to observe how BPR activities are going to develop in Slovenia and Croatia. We have also plans for our future work. We plan to compare our results with the results of other countries in transition and to perform some additional statistical analyses to investigate the connections between the IT and BR, and business restructuring towards e-business.

9. REFERENCES:

- Al-Mashari, M., and Zairi, M., (1999): BPR implementation process: an analysis of key success and failure factors, *Business Process Management Journal*, Vol. 5, No. 1: 87 – 112.
- Alt, R., Fleisch, E. and Reichmayr, C., (2000): Developing eCommerce within Business Networks – The Case of ETA SA, *Proceedings of Thirteenth International Bled Electronic Conference*, Bled, Slovenia, June 2000: pp. 182-199.
- Amit, R., Zott, C. (2000): Value Drivers of e-Commerce Business Models, http://www.ebizchronicle.com/wharton/18_creating_value.htm
- Andersen Consulting (1998): How eCommerce could meet Europe's future?, <http://www.ac.com>
- Bosilj Vuksic, V. and Pejic Bach, M., (1999): WWW sites of Croatian Large Companies and Banks, *Ekonomski pregled*, Vol. 50, No. 7-8 ; 804-816.
- Chang S. L., (2000): Information technology in business processes, *Business Process Management*, Vol. 6, No. 3: 224 – 237.
- Cunningham, P. and Froschl, F., (1999): *Electronic Business Revolution*, Springer, Berlin-Heidelberg
- Curko, K., Bosilj Vuksic, V. and Pejic Bach, M. (2000): An Empirical Review on the Internet Technology Application in Croatian Large Companies, *Zagreb International Review of Economics & Business Review*, Vol. 3, No. 2; 93-106.
- Davenport, T. H. and Beers, M.C. (1995): Managing Information about Processes, *Journal of Management Information Systems*, Vol. 12, No. 1: 121-7
- Davenport, T. H., (1993): *Process Innovation: Reengineering Work Through Information Technology*, Harvard Business School Press, Boston, Ma
- Dhaliwal, J. (1999): An empirical review of the application of business process reengineering, *Proceedings of the Fifth International Conference Integrating Technology & Human Decisions*, Athens, Greece, July 1999: pp. 1573-1575.
- Earl, M. J. (2000): Evolving the E-Business, *Business Strategy Review*, 2000, Vol. 11 Issue 2, pp. 33-38.
- Faculty of Economics, University of Maribor (1999): E-commerce: questionnaire, <http://ecom.fov.uni-mb/ecomframes.nsf/pages/epos-rezultati>
- Galliers, R. D., (1998): Reflections on BPR, IT and Organizational Change, in: Galliers, R. D.; Baets, W.R.J.,(ed.), *Information Technology and Organizational Transformation*, John Wiley & Sons, New York, NY
- Hamel, G. (1999): Bringing Silicon Valley Inside, *Harvard Business Review*, 77, pp. 70-84.
- Hammer, M. and Champy, J. (1993): *Reengineering the corporation*, Harper Collins Books, New York, NY
- Kalakota, R., Robinson, M., (1999): *e-Business: Roadmap for Success*, Addison-Wesley, Reading.
- Kelly K., (1998): *New Rules for the New Economy*, Penguin Putnam Inc., New York, NY
- Kettinger W. J., V. Grover, (1995): Toward a Theory of Business Process Change Management, *Journal of Management Information Systems*, Vol. 12, No. 1: pp. 9-30

- Kovacic, A., (1999): Information Technology as an Enabler to Enterprises in Transition, in: *Proceedings of The Third International Conference 'Enterprise in Transition'*, Faculty of Economics Split, Split-Sibenik, May 1999: pp. 278 – 290.
- Lederer, A. L. and Sethi V., (1996): Key Prescriptions for Strategic Information Systems Planning, *Journal of MIS*, Vol. 13, No 1: 35 – 62.
- Mahadevan, B. (2000): Business Models for Internet-Based E-Commerce: An Anatomy, *California Management Review*, vol. 42, no. 4, summer 2000: 55-69.
- Osterle H., Fleish, E., and Alt, R. (2000): *Business Networking*, Springer, Berlin-Heidelberg
- Phipps, D. (2000): *IT Strategies for E-Business That Work*, Symposium ITexpo, Gartner Group, Orlando, Florida, Fl
- Prahalad, C. K., Ramaswamy, V. (2000): Co-opting Customer Competence, *Harvard Business Review*, 78, pp. 79-87.
- Prasad, B., (1999): Hybrid re-engineering strategies for process improvement, *Business Process Management Journal*, Vol. 5, No. 2: 178 – 197.
- Rappa, M. (1999): Business Models on the Web, <http://ecommerce.ncsu.edu/business-models.html>
- RIS: Research on Internet in Slovenia, <http://www.ris.org>
- Sinur, J., (2000): *New Frontiers in Business Modeling*, Symposium ITexpo, Gartner Group, Orlando, Florida, Fl
- Teng, J.T., Fiedler, K.D., Grover, V., (1998): An Exploratory Study of Influence of the IS Function and Organizational Context on Business Process Reengineering Project Initiatives, *Omega*, Vol. 26, No. 6: 679 – 698.
- Timmers, P., (1998): Business Models for Electronic Markets, *Electronic Markets*, 1998, 8/2: 3-8.
- Turban, E., McLean, E., Wetherbe, J., (1998): *Information Technology for Management*, John Wiley & Sons, New York, NY.
- Venkatraman, N. (2000): Five Steps to a Dot-Com Strategy: How To Find Your Footing on the Web, *Sloan Management Review*, Spring 2000, pp. 15-28.
- Venkatraman, N., Henderson, J. C. (1998): Real Strategies for Virtual Organizing, *Sloan Management Review*, 40 (Fall), pp. 33-48.
- Watson, G.H. (1994): *Business Systems Engineering*, John Wiley & Sons, New York, NY.