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Role of eBusiness in Transition of Yugoslav Economy

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Abstract

This paper presents the state of development of e-business and Internet use in Yugoslavia. The problems Yugoslavia faces in this matter are in some respect very similar but in other very specific comparing to other transition economies. Having in mind ten years period of Yugoslav isolation from European and world economy, for this country general economic transition (which starts much later comparing to other countries) and the move towards e-oriented economy were parallel and mutual reinforcing tasks. Both are pre-condition for further domestic development and quicker reintegration in the world market. E-Life in Yugoslavia under this analytical framework was presented by describing the activities undertaken in the field of e-banking, e-commerce, e-education and by pointing out some government initiatives and the importance of regional and international cooperation in this field.

Key words: *e-business, transition, economy, e-commerce, e-education, and international cooperation*

1. Introduction

The effects of ten years slow economy development (or 'non-development', according to Đurić-Kuzmanović) and isolation of Yugoslav economy are also evident in the case of low investment rates in information technology (IT) and the development of telecommunication infrastructure, brain-drain and enlargement of digital gap between our country and the rest of the world. Democratic changes and return of Yugoslavia into the world essentially change our possibilities of joining the current IT trends and pose the necessity of positioning current IT potentials into the concept of national economic development. Otherwise, the Yugoslav economy will become marginal and further economic and social lagging is inevitable.

Considering mentioned trend changes, the Yugoslav government, as well as the governments of all countries in transition, faces the big and difficult task – parallel fulfillment of two important conditions for survival of their economies. The first are reforms and transition, while the second is introducing e-business, actually the task of transfer of economic systems into the societies based on informatics and e-business (e-economies). Successful transition process is pre-condition for creating appropriate environment for e-business application. It is evident that transition process: through the process of privatization assures the private sector an important role in the economy, contributes to the realization and functioning of market mechanism, leads towards the conditions of macroeconomic stability, eliminates price disparity and provides inflation stability, enables reformed banking sector, the functioning of the legal state in general, and in that way provides some basic pre-conditions for the e-business implementation.

On the other hand there are actions concerning the introduction of information technologies in all sectors of work and economic activities. They encompass various activities like: establishment of infrastructure, adoption of international standards, staff education and training and permanent contacts with foreign partners who possess techniques and knowledge. These IT introduction activities support transition and restructuring process to be carried out faster, better and more efficient. Therefore, it seems that two interrelated processes lead towards the same goal, that is, to incorporate competitively transitory economy into current global trade conditions on the global market.

There are some indications that the countries that possess high level of technical intelligence and business culture are successful in transition process. The good examples in this respect are Czech Republic, Poland, Hungary and Slovenia. This correlation might be of great importance for our country as well. To our opinion, regarding the technical intelligence and business tradition, Yugoslavia does not lag behind the mentioned countries. In that sense there is a hope that Yugoslavia may

more easily and quickly overcome existing gap in its IT development and apply these technology in its economic system.

2. Research Approach

As it was mentioned, reforms and transition process make the first and the most important condition for survival of Yugoslav economy. More 'e' oriented economy is maybe less important step from the overall transition perspective, but the synergy between these two developments can make much better results in both of them. Speaking in macro-economic terms, transition should be a radical change for an economy. On the other hand, greater Internet use, although significant, presents only one part of its evolutionary component.

The concept of synergies between the two mentioned processes makes the main framework of this research. Looking at the functionality of main 'e' activities in Yugoslavia, it can be presented as e banking, e-commerce, e-education and government initiatives and international cooperation. Each of these groups will be separately analyzed according to the framework of the research. Possible effects of economic transition on each of these groups will be clearly separated and synergies between the transition and greater Internet use will be discussed.

In order to present the total spectrum of activities initiated in Yugoslavia concerning the e-business development and overcoming the problems defined in practice and e-business application, we may take in consideration the following: research activities in all federal and Serbian government bodies and agencies, their projects concerning the e-business, activities undertaken by unprofitable organizations (like YUEDI association), all registered universities, companies and projects for which we have information that they have some experience with any type of e-business. Besides, 50 institutions for detailed research of their information systems were specially chosen for this purpose. A survey which includes 51 questions has been taken and the results are presented in this paper.

3. General Overview

The access to Internet exists in Yugoslavia for the last five years (since 1996). Official data statistics shows the following level of Internet availability:

- About 10% of population own the PC's,
- About 14 % of population has an access to web at work or at home,
- For about 85 % of population Internet is not accessible,

- Approximately 250.000 to 300.000 Internet users exist,
- About 150.000 accounts are registered till September 2001,
- About 1.200.000 mobile and 2.400.000 stable telephones are in use,
- There are 52 registered Internet providers.

According to researches made by the marketing firm Masmi – the access to Internet at home use about 8,5%, at work 3,6%, and both at home and at work only 2,2% out of total Yugoslav population. Some survey results from October 2001, made on sample of 1000 inhabitants from Belgrade, central Serbia, Vojvodina and Montenegro, are also interesting. The results are as follows:

- 51% of users live in towns,
- 70% are under 34,
- 56,5% is male,
- 36% of users are from Belgrade, 29,8% from Central Serbia, 26,1% from Vojvodina and 8,1% from Montenegro.

In order to approve that the actions for more intensive IT development in national economy must have the priority, central European statistical sources were used to position Yugoslavia, comparing to the other countries in transition. Although the results were very different, data for Yugoslav economy (comparing to those taken from domestic statistics¹), the Table 1 was in line with authors' intention to clearly indicate that the most successful transition economies mark the greatest progress in the field of modern business method use in their development process.

Ukraine	2%	Latvia	10%
Russia	3%	Slovak Republic	11%
Yugoslavia	4%	Bulgaria	13%
FRY Macedonia	6%	Croatia	14%
Romania	7%	Czech Republic	16%
Lithuania	7%	Estonia	25%
Hungary	9%	Slovenia	37%

Source: *A Survey of Business, Business Central Europe, May 2001, p. 50.*

Table 1: Internet Users in Transition Countries in 2000, % of Population Over 14

¹ The problem with measurement and statistics in any area of e-business is very evident. That is why the result of comparison between different sources can be very large discrepancy between data. This is a problem present even in developed and more e-oriented economies and it is even more evident in transition economies and developing countries.

Both quantitative and qualitative indicators were used in order to give more real image about state of business and trade and the effects of the implementation of modern equipment could have. In that sense besides statistics, the results of questionnaire and surveys are very useful too. They show the effects in practice and real use range, level of changes in personal and institutional behavior and work. The results gathered through questionnaire and surveys usually are the precious information sources and basis for planning of future work and functioning.

A research, comprehending 50 institutions, was made in order to get objective impression about the motivation of various Yugoslav organizations to introduce e-business. These were the following organizations: 10 trade firms, 8 banks, 2 financial institutions, 10 big producing organizations, 6 logistic, 4 service and 10 small and medium enterprises (SME). The results of this survey indicates the following:

Because of often reorganizations, the Yugoslav enterprises have become very flexible for changes, reorganization and new technology implementation. The existing personnal source possesses formal high structure, but training and knowledge innovations have not been completely realized during the last 10 years. Because of this, workers are not properly apt for serious approach to organizational and technological changes. Better situation is noted in banks, service organizations and SME dealing with new technologies. Our organizations are precisely profiled and well organized. They often have very good cooperation with other organizations, and this cooperation seems to be inevitable in realization of their activities. The recognitions of the important buyers and suppliers make the introduction of modern communication technology and mutual business much easier.

The experiences in computer network use exist, but it is extremely small number of established electronic exchanges of certain business data structure. There are a small number of users that actively use existing X25 and X400 network connections. The only more important experiences are made in electronic fund transfer and are related with the use of JUPLAT network for national payment transfer, while banks have experiences in SWIFT network use for international payments. It has to be mentioned that the use of these networks is almost in all cases completely out of existing information systems. The wide accepted use of JUPLAT network shows that the technologies of this kind are successfully accepted, if gives certain advantages. JUPLAT works on specific way, without respecting structure and rules of standardized electronic data interchange (EDI). Therefore, the standardization and opening of these systems towards the potential electronic contacts is the necessary pre-condition for the relevant electronic business system development.

Our information systems are relatively simple and are used on a traditional way, followed by a constant work of experts for information technologies on maintaining and development. These systems are projected as closed systems, so as a rule they rely on their own classification codes, and projected security is very often on minimal level. The use of standards in their development is rare and those are

mostly unique systems. Information systems are applied in almost all segments of work with most users, and they very often use a unique system of data, usually centralized database, with real time maintenance. In most cases, their documentation either does not exist or it is not up-to-date, or it is not centrally organized. The better state of information systems is found in banks, insurance companies and large productive organizations, and the lowest level of information systems are found in SME. This conclusion should not be taken for granted, because SME are the most efficient in changes, when needed. The information systems of trade and logistics organizations demand most investments.

Logistic decision-making system is not included in our information praxis, as well as the knowledge about these systems. The results of this survey indicate that this segment, as well as the standard implementation and the level of overtaken safety, are the weakest elements in our information praxis.

As a result of this research we found that private sector, although mostly with low level of their existing information systems, is more flexible and oriented on changes and new technologies and interesting examples of 'e' practice (which will be presented later) are found in this group of companies. This conclusion indicates that the assumption of this research is sensible.

4. E-Banking

The Banking sector is the initial one in e-business introduction. The only important experiences in electronic fund transfer in the country are those related to JUPLAT network use for national payment operation and SWIFT for international one. In future the Yugoslav banking system will implement the basic elements of e-banking, particularly in the field of system of payments.

The payment system adjustment to needs of transition dynamics requires elimination of existing monopoly system in payment operations, that is, it requires to make possible joining national and international payment systems (National Bank of Yugoslavia-organizational part of Social Accountancy Service). This process basically means elimination of existing segmentation, which refers to different payment operations' regulations in the country and abroad. Instead, the segmentation should be based on economic transaction characteristics (1. large value payments 2. small value payments) similar to world practice.

The basic institutional pre-condition for realization of these changes present The Payment Operations Act. This Act requires payment operation to be transferred from Social Accountancy Service (ZOP – Serbian abbreviation to be used in following text) to the banks starting from January 2003. Technical and technological bank capacities for performing these tasks is a condition for license obtaining. The banks have to be capable to use electronic payment order, to perform

electronic transfer and to create central register for e-trade securities. The concrete activities, which have been carried out, include the following important elements:

- Integral Payment Operations System (ISPP - Serbian abbreviation to be used in following text) services,
- Securities e-trade,
- Bankcard industry with EuroPlanet..

All users with opened account at National Bank could use ISPP Services - ZOP. The successful access to this service requires necessary equipment (at least Windows '95 operative system or new versions, Microsoft Internet Explorer 4.01 or new ones with properly installed modem and corresponding telephone line). This service provides the use of available Social Accountancy Service (ZOP) information data base and customers drawing account e-payment. The information database offers information about current status on account (cumulative changes, daily cash transactions, uncovered orders, querying orders, balance account, corresponding accounting bank, current bank status and account activity, etc.), current changes (according to the amount, direction, time, payment code and account location) and about list of changes (time, status, etc.)

Banks as users of ZOP service can obtain the information about the current statement of account and their deponents on any day in the year. They have this information on their terminals or can get them in the form ready for further (processing) accounting. According to existing program prepared by ZOP, e-payment from the user's drawing account could be easily executed. First step is preparation and order sending, and if everything being correct, the order goes to its expedition in few minutes time. This operation is registered as executed changes on user's account.

Securities trade project is in accordance with ISSA Update of Original G 30 Recommendation and EU directives 98/26. This project is based on immobilization and dematerialization principals. According to temporary solution, valid till the inauguration of new special Federal Law on Security Market, NB of FRY (and its organic part ZOP) shall perform the following: a) the unique central register of securities emission, b) central securities deposit (depot), c) accounts evidencing deposited securities and d) accounting of securities. In the second half of November, 2001 the project is extended to trade with the "old foreign currency savings" bonds, while in the following few months it is planned to be even wider and to encompass the share trade, as well. All trade operations are electronic.

The system functions based on WEB service for the access to central register, PLATNET network and operative system Microsoft WINDOWS 2000. The register of issued bonds is executed according to the standard ISO 6166. For series A 3 ISIN number are used in accordance with their expiry date plus some internal marks. For series B 1 ISIN number is used. CFI numbers are used for the securities classification. This is in accordance with standard ISO 10962. Usually this is six-

digit mark that more closely defines each security (D for – debit, O for -bond, F for -fixed interest rate, G for-government guarantee, F for - fixed expiry date, N for- on bearer or registered owner).

Bonds are evidenced on issuer's register accounts and register account of initial owners (according to bank's receipt and verification), by ISIN identification for each owner. Through the owner's account all the changes of ownership are registered. In the same time the owner's account reflects its current statement. The structure of owner's account is following: first 4 digits are central register marks or its article, next 3 digits are account type marks, the following 10 are owners situation account, and the last two are control numbers.

Bankcard and EFT industry in Yugoslavia is undeveloped, but its card market is growing rapidly by introducing local debit card YUBA Card at POS device and bank branches. The local banking market and government are aggressively pushing card products as solution to an inefficient paper check and cash salary. According to the situation in 2001 in Yugoslavia existed foreign bankcards like VISA and EUROPAY, while non-bank cards were AMERICAN EXPRESS and DINERS, still in very limited volume. 6 principals and 25 associated banks issue VISA card. It was registered 30 000 issued cards, which were accepted on 12 000 places in the country. According to the decision of VISA International, cards issued in Yugoslavia could not have been used abroad. For EUROPAY cards 7 principal banks are registered (five more were in negotiations for principal statement), but there were no issued cards nor existing processor and reception network.

At the beginning of 1996, the initiative was given to perform unique national card project at the level of Yugoslav banks Association, called YUBACARD. Projected functions of this card were: identification, getting the cash at ATM and counter terminals, and payment at POS terminals. The reasons for orientation towards the national card were: lower cost comparing with foreign; banks independence in policy creation, organization and working technology; domination of card transaction in the country (95% of all transactions to be made by card). Up to date banks undertook the following activities related with YUBA card project: accepted issuing program (22 banks and Postanska stedionica), agreed on internal rights and obligations, started card issuing (according to the plan till the 2003 it is expected to be issued 2.000.000 cards). Banks have also organized 5 local nets ATM/POS system (up till now each bank treated only the cards they had issued), installed 45 CDs, concluded contracts with 12.000 acquiring places on card acquiring and prepare conditions for accepting of YUBA cards on bank and post counter desk. Through Bank Association switching center is organized, but up till now only two local ATM/POS networks have been connected. It is planned to be connected all the five networks together.

EuroPlanet is an Electronic Banking Services Provider that will provide a comprehensive EFT network in Yugoslavia. As joint venture Company, it is formed in December 2001. by Euronet Worldwide Arius and Komercijalna bank. EuroPlanet will be the first company to offer both Europay and Visa issuing and acquiring services in Yugoslavia, a country that previously had limited access to

international card organization. Its goal is to become main switch, serving as a major provider of international card services in expanding card and EFT market. It will develop and operate the comprehensive EFT network supporting ATM, POS device, Card Issuance system and Transaction Authorization for bank and card issuers in Yugoslavia.

5. E-Commerce

For the market characterized by the various serious problems, such as Yugoslav, there is a wide range of innovative solutions based on e-Trade. Among them, it is interesting the wholesaler's IDEA, Belgrade, and its business information system. This system called "Idea on line buyer" is in function for more than one year. It is designed for small commercial firms' electronic ordering. The users of this system have to be registered for this kind of work in the system. Calling the web-site www.Idea.co.yu the potential buyers have the information about the catalogue of goods, prices and stocks state, effecting their order. This system of electronic ordering includes about 2.500.000 items per year, having very positive effects. IDEA's management has been thinking about development of similar system for work with their suppliers as well. The achieved up dating is in accordance with current volume of business transactions. This is the reason why development of transactional system of e-business is not planned in IDEA for the time being.

In Yugoslavia there are several explorers, among which the best-known is Krstarica (www.krstarica.co.yu) with about 3.300 000 visits per month (June 2001) and 12% monthly growth rate, which makes Krstarica the best visited web-site on the market. According to some evaluations (Yahoo) Krstarica is considered to be a main Web portal for the central Balkan region. This explorer is owned by a group of students from the Faculty of Electronics in Belgrade, living on affiliations and advertisements. Besides various groups of information (news, magazine, different texts) it also contains the largest base of domestic pages, the catalogue of Yugoslav sites, and great number of national and international links. So, through this portal there are 122 links with domestic trade organizations, out of which 24 deal with food and drink trade and agriculture, 22 with informatics, communications and office supplies, 20 with technique goods and equipment, 14 of them registered for foreign trade off all kinds, 8 with cars and its accessories, 7 with chemicals, 6 with entertainment and textile and footwear each, 4 with engineering, while the rest of 11 are dealing with other specific kinds of trade. The group of young experts joined to Krstarica project is working on the constant improvement of portal's technical characteristics and designs of new versions as well as on continuing improvement of its functionality and increasing the volume of information. In this way Krstarica has become the national portal in its full meaning.

The best-organized virtual shop in Yugoslavia is Yu Internet Bazar, which could be found on the following web address www.e-trgovina.co.yu. It is established in June

2000 and consists of 87 members, out of which 21 deal with book selling, 17 sell electronic equipment, 7 CDs, clothing, and services, each, 6 movies, 5 cosmetics, 3 art items and food processing products each, 2 software, and 9 other products. Orders can be made exclusively on Internet, but goods are paid by credit cards or on delivery. Free goods delivery is organized in two big cities in Yugoslavia, Belgrade and Novi Sad.

The biggest world database from one of metallurgic branches is one of the most interesting examples. As the owners are not willing to give more details about this, we shall only mentioned that the data-base contains 90 books of 200 pages and it is the result of many years of work of 5 engineers and 3 technicians. It comprises the standardized information from 30 countries and presents a very useful tool for engineers of different profiles. An interesting detail about this base indicates the brand – establishing, which, according to Plant, is one of the key factors for successful electronic trade. Actually, when this base, which is extremely good and attractive product, emerged on the market, it didn't arise any special interest. Analyzing the reasons for this, the site owners came to the following question: Would you buy a new Pentium model from Moldavia? Obviously the buyers were not interested for Yugoslav brand. Therefore, a firm was established in one of the developed countries, which immediately achieved good results. Today this site is among the first five in this field with the most eminent world explorers and it shows quite good results in selling connectors to database on the world market. Likewise, appear a number of interested world firms, which deal with selling the information and take selling of connectors to this base.

All these examples are initiatives in private sector. These examples, and the others that are not mentioned in this paper, clearly indicates that the results of transition will directly influence significant penetration of e-commerce in national business practice. On the other hand, the success of these companies directly promotes process of transition. That makes the synergetic effects of these processes evident.

In general, current e-trade level in Yugoslavia is characterized by:

- e-commerce is still at its beginning,
- Internet does not have a real business character,
- Most of the firms use web sites for fashion, not for communication with their partners,
- About 2000 firms in Yugoslavia use their web presentation for marketing and very rarely for ordering and commercializing,
- Having a web site is a matter of image not necessity.

6. E-Education

According to the data of 14 December 2001 the web sites in Yugoslavia have 67 faculties, 54 schools (elementary, secondary, colleges) and 19 libraries. Elementary schools in Yugoslavia work according to informatics educational program, which is mainly based on using applications in Windows. Secondary schools, depending on the school profile, offer the knowledge related to information technologies and their application, as well as the use of certain program language (mostly Pascal). These schools have classrooms equipped with PCs but almost always without Internet connections.

The existing academic network, unfortunately with modest possibilities, enables the state universities in Yugoslavia connection to Internet. The Yugoslav academic network (AMREY) connects all the existing universities in the country: two in Belgrade, University of Novi Sad, Niš, Montenegro, Kragujevac and Kruševac. The University of Pristina and some smaller private universities are not connected to this network. All the mentioned universities have the link to the basic network operative center, Belgrade University Computer Center (the biggest Internet node in the country with 2 Mpb/s lines). The majority of research and scientific institutions are also connected to this network used by 60 000 users (almost one half of total number users in Yugoslavia). The connections with Internet are: 2Mbps through GrNet and additional satellite connection of approximately 1 Mbps. The connection with GrNet is new, established in February 2001, and complete network topology as well as the traffic realized on network could be seen on the address amrej.rcub.bg.ac.yu. The connections are overloaded especially the ones establishing connection to Internet. The access to the network is free for lecturer staff, researchers and students.

Almost all state universities possess certain web presentations, but unfortunately they are on the low level, being very static and rarely up-dated on one hand, and on the other, they do not enable interactions with their visitors. There are some positive examples among which the sites of the Faculty of Organizational Sciences and the Faculty of Technical Engineering are most distinguished. These sites, according to built-in functions, do not lag after the majority of developed countries' sites and enable student's variety of facilities such as exam applications, time schedule, exam results etc.

Web sites, which offer students a number of information, are also interesting. These sites refer to activities on the universities and some faculties, and information on entrance exams is especially effective. The best-known site in Yugoslavia could be found on www.infostud.com.

Academic network is often used for consultations with students and their teamwork, especially with students of information science profiles. The idea about development of virtual university, which would enable active joining the course of studies process of great number of experts from different fields, coming from Yugoslavia, and work on developed countries' universities, is also interesting.

Initiatives in e-education are sporadic and they are not the results of our education system. They are lead by some experienced professors or other persons from the university staff, as private initiatives, or as private investments. It leads to the conclusion that our educational system is inherent and new ideas are coming only when real material stimulations could be found. Transition processes and personal initiatives in this sector are bringing Internet technologies to the light of the day, and these technologies without limits powerfully introduce new ideas and projects in education.

7. Current Activities in Yugoslavia

Having in mind the fact that introduction of Internet communications into business sector brings the important changes into business process and its all segments, changing simultaneously the companies' behavior, certain industry structures and business partners competitive positions, the Serbian Government brought strategic decision to enhance its economic growth on information communication technology sector (ICT). In that sense ICT is promoted and supported not only as one sector development, but also as a factor that will enable faster development of other industries. This approach contributed to the establishment of Republic Agency for Information Technology and Internet Development, which task is to define policy, development strategy, organizational structure establishment as well as coordination, implementation and promotion of all ICT state activities. Therefore, the Serbian Government concluded the agreements about strategic partnership with IBM, Microsoft and Oracle, as respective global ICT factors that could help and support such defined national development orientation.

The Federal Government is establishing the National Registration Body for business partners in accordance with EDIRA Project of EU, which represents the important pre-condition of introducing e-business into national economy. The Federal Government officially asked UN/ECE assistance for the realization of feasibility study for introduction of electronic documents into trade and customs - UN doc. project. The donators are ready to support realization not only of the study but also of the complete project that has been planned. The Law on Electronic Trade and Electronic Signature as a base for necessary legislation has been finished and its adoption is expected very soon.

One of the latest activities in 2001 was the organization of International Conference in Belgrade on Building ICT Investment Strategy in FRY, supported by the British Government and OECD. Conclusions concerning the actions how to build an ICT strategy in Yugoslavia were the following: involve the entire society, invest in human capital, build infrastructure, stimulate private sector, involve Diaspora, establish legal framework and act now (for further details see <http://arii.sr.gov.yu>). The conclusions of this Conference clearly pointed out the importance of top government engagement and interest for the introduction of e-Business in national

economy. The same story is valid for successful transition process as its results also greatly depend on government's readiness to perform it and of its support. Having this in mind very clear government approach and strategy in both mentioned fields could bring mutual reinforcement and collaboration.

On a regional plan Yugoslavia is very active in eSEE initiative (electronic South East Europe) of the Stability Pact for Southeast Europe. This Initiative is directed on enlargement and information technology acceptance in the countries of Southeast Europe. eSEE initiative has been started on request of Great Britain in summer 2000, aimed at giving assistance to the region countries to consider the possibilities offered by ICT and promoting their wider application in the region. The Initiative Working Group has been established, preceded by the representative of supporting initiative European country, while the region member country of Pact is co-preceding. Now Yugoslavia has co—preceding position stating January 1, 2002.

The functioning of Initiative is aimed at giving support to the cooperation among international, bilateral and private donors who want to give an assistance to this group of countries for the introduction of IC technologies, preventing further deepening of digital divide between the region and the rest of the world, as well as within the region. Within the region countries the Initiative supports the cooperation between the public and private sector and civil society in facing the Internet challenges and also enhances the cooperation among Southeast European countries in IT domain as a key element of greater economic cooperation and realization of regional stability. The Initiative actions are divided into three basic areas: e-government, e-business and e-education.

Besides section activities, eSEE Initiative working group has also defined its action program called eEurope++. It realizes a lot on eEurope+ program for the EU candidate countries defined at Ministry Conference in Warsaw (2000). EU candidate countries, wanted in this program to adjust clearly defined ICT development goals that Europe posed in the document eEurope 2002 to their own necessities².

Close cooperation between eEurope+ and e-Europe++ will certainly contribute to the national awareness growth about the importance of ICT agenda in Southeast European countries. Therefore, the efforts have been made in order that participants of eEurope++ get observer status in eEurope+ Initiative of potential EU member countries.³

² Realization that the application of digital technology has become the key factor of economic growth and employment raise, as well as that the European reaction to new digital economy, or e economy, is rather slow (first of all thanks to strong economy logic of traditional industries in Europe) contributed to creating and adoption of Initiative under title eEurope – An Information Society for All.

³ The issue should be discussed at the meeting eEurope+ in Ljubljana, June 2002.

Yugoslavia joined the eSEE Initiative Pact activities in February 2001. Upon joining the Initiative, the paper on self-assessment report had to be prepared. The report refers to comprehensive evaluation of IT development, with application of the world recommended tools which tackle the wide range of questions connected to net access (information infrastructure, Internet disposition and conformity, net speed and quality, hardware, software, service and support), through training for net use (Internet access for schools and universities) to net society development (online organization, available WEB sites, ICT in everyday life). The self-assessment report was supposed to be done in short period. This activity clearly pointed out the lack of necessary data and the need to elaborate serious study on IT development level for the whole Yugoslav economy. That is, the elaboration of IT development strategy, because it is the one of the eSEE Initiative priorities. The eSEE member countries are supposed to accomplish the national IT strategies, which would serve as a base for unique IT development strategy in a region as a whole. Accordingly, the existing IT development strategy in Yugoslavia adopted 1997, has to be treated either as a document to be revised and up-dated, or a document to be elaborated again. However, project task should be realized as soon as possible.

Among all the projects that each country member has presented through the Pact in order to achieve potential donators' assistance, it is interesting to mention the importance of Yugoslav project, called SinYu. The project Scientific Information Network Yugoslavia – SinYu has been realized in cooperation and support of Max Planck Institute, Germany. The main purpose of this project is to establish the information network – connections of great speed (2,5 Gbit/s), which would connect all universities and scientific institutions in Yugoslavia. This would enable Yugoslavia to become the member of European Academic Net, so SinYu project represents the integral part of GEANT European project of European new generation network establishment. At the same time, SinYu is in accordance with EU CARDS project goals, which intends to improve education development, social and professional development and establishment of regional and interregional cooperation in Europe. In general, considering that the infrastructure development is one of the essential pre-conditions of faster ICT technology adoption in Southeast Europe, the Task Force for infrastructure, preceded by Macedonian representative has been formed within eSEE.

8. Closing Remarks

Confirming the importance, dynamics and participation level of ICT in functioning of world industry and economy, as well as, the fact that electronic communication model has become the pre-condition for cooperation and trade with foreign partners, the activities connected to IT development sector are of special importance for Yugoslavia. In addition, the interactivities and correlation of transition changes and changes which require and impose modern information business technologies,

confirms clearly that Yugoslavia has to work intensively on both processes as a prerogative for the faster economic development and joining the world economic tendencies. Therefore, the identification of basic barriers for successful introduction of e-business is the first and the most important step, which should be taken on the country level.

The development of communications infrastructure is evidently one of the key pre-conditions of faster development and adoption of e-business in Yugoslavia. The following data confirm that this is the problem of the whole region. The central and Southeast Europe has a population of 130.000.000 (1999), which makes 1/3 of West European population. The total range of communication lines in Central and Southeast Europe are only 31,9 millions, comparing to 202 millions in Western Europe. This means that communication and Internet access is twice worse on the South comparing to the Western part of Europe. According to some evaluations the mentioned region is about five years behind the western European countries.

The communication problem solution is closely related to monopolistic activity conditions in most southeastern countries' telecommunication sector. Yugoslavia is just one example of harmful concluded contracts on selling national operators shares to foreign partners, under the condition of monopoly survival and use of all its advantages by foreign buyers. The National users are bounded to higher prices, more expensive access to Internet with very low investment for network modernization and establishing greater speed connections, i.e. inadequate comfort network use. The local loop unbundling, which is one of often-mentioned steps towards the telecommunication liberalization, is still very controversial question in this area. Bearing in mind the fact that the concluded agreement on Telekom sale (49% shares) is valid until June 2005, deregulation of telecommunication sector becomes one of the key barriers of quicker e-business development in national conditions.

Besides the infrastructure question, the concept of e-business introduction in Yugoslavia has to comprehend the following areas:

- Electronic document standardization with generic model standard electronic document definition - Adoption of standards, rules and guidelines of international and regional organizations like: UN, UNCTAD, OECD, WTO, EB, etc. is the first step in this plan. The fact is that only standardized electronic document accorded to the world standards can assure to our business organizations, unique environment for exchange of business data with much more business partners geographically located all over the global world market.
- Electronic e-business legal frame definition must start with the complete legal system analysis and identification of regulations, which have to be changed, as well as with the identification of the way to carry out these changes. The aim is regulation defining in order to recognize and arrange relations among all the subjects – participants in e-document exchange on national and international level. Such national regulation defining certainly refers to national rules

harmonization with other countries and legal acts of international institutions and organizations (EU, UN).

- Providing safety and protection of business transactions in e-business- The key question is wide use of PKI system and methodology harmonization for creating and verification of digital signature and certificates in order to provide an unique cross border payment process. Guaranteed safety level in digital ambient has to be at least equal to one in conditions of paper business.
- Education and training of human resources, in order to make them capable to apply the electronic communications. As well as the important points are the activities related to modernization of school and faculty subjects, which has to assume the mentioned topics, and, at the same time to start the training of young generation on time.

The intention of the authors was to describe possible effects of economic transition and introduction of IT technologies and tools in e-banking, e-education and e-business. These two activities (transition reform and e-business introduction) cannot be preformed without full top government support and without very intensive regional and international cooperation in order to get some foreign experience and best practice examples. This all can fit in macroeconomic frame of mutual interactivity and collaboration of these two processes. At the end, the elimination of many current obstacles in this respect (one of the biggest is the process of the deregulation and liberalization in telecommunication sector) is precondition for successfull ending of this transition/e-life story.

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