E-Business for Competitiveness – Romanian Strategy

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ABSTRACT

Besides some timid initiatives from the private sector, we can affirm that the e-business evolution in Romania has started in the 2000-2004 period, when the first coherent government strategy was launched.

Having the extremely bad situation as a starting point (with all Information Society indicators being far below the European average), Romania had to make an intense effort to catch up to an acceptable level for integrating into the global business environment.

The current situation sees both at public administration level as well as the private initiatives level some great results even in the conditions of spectacular technological evolution at the global level in telecommunications, Internet and e-business.

Romania still has some issues to solve, especially reducing the digital gap (between the cities and the rural communities) but one has to keep in mind that the population in the rural communities is around 45% and the business in these areas is still at a very low level.

It remains to discuss the ways through which the development strategies can be improved so that they would be more efficient and would offer the support for raising the global competitiveness not only in Romania, but also at regional or European level.

INTRODUCTION

It is well known that the fast development of the e-business environment is conditioned by a number of factors, including:

- Telecommunications Infrastructure
- Infrastructure for services/electronic payment instruments
- Institutions with implemented e-business solutions
- Safety of the systems
- Legislation framework
- The critical mass of users

Thus, we can say that the e-business development strategy should address all those factors so it almost totally overlaps with the strategy for developing the Information Society.

It is also known that a domain's evolution (in our case e-business) is influenced by strategies adopted on three levels: Governmental, Support Organizations and companies.

We have chosen to focus our attention on the Governmental strategy and to structure it in three chapters corresponding to the periods in which the different governments (by different political parties coalitions) were in power and to point out, if necessary, the contributions of the other strategic levels.

Chapter I - 2000-2004 - The first steps to digital reform in Romania

The starting moment of the Romanian electronic commerce took place in 2000 with private initiatives like the projects: Rate.ro, MagazinulTău, Okazii and eMag.

The electronic commerce websites were generally with informative role – the type of "product catalogue".

In the year 2000, the majority of Internet connections were dial-up, and the Internet coverage in Romania was very low. It was obvious that some Government strategies had to be implemented in order to reduce the digital gap and to develop the Information Society.

We can say that in the 2000-2004 a coherent and strategic approach towards developing the Information Society in Romanian was started. The process was decisively influenced by intensifying the efforts of accession to the European Union and had as general priorities:

- Securing the *improvement of the services for citizens*, a better quality of life, a broader access to information and, the decrease of bureaucracy
- *Accelerating the Digital Reform undertaken by the Romanian Government* with a view to switch to the electronic governing and ensuring the conditions for the development of the Digital Economy.
- *Opening the competition on the telecommunications market*: allowing new operators to act on a completely liberalized market.
- *Integrating the national telecommunications market into the EU market* by adopting common regulations and creating similar institutions.
- *Eliminating the regional discrepancies* and sustaining the policy of the Romanian Government of economic development and social cohesion.

During this period, the national strategy was coordinated by The Group for Promoting Information Technology (GPTI). GPIT was a task-force created in early 2001, led by the Prime-Minister and counting seven Ministers in its ranks and was meant to:
- Provide coordination and integration for the major national IT&C projects
- Encourage the private sector investments

GPTI promoted:
- e-Europe+ implementation in Romania
- *Universal service for all*
- *e-government*
- *Security for information and infrastructure*
- *Copy-rights*

e-Europe+ implementation in had as main directions:

- *Accelerating e-commerce:* speed-up implementation of the legal framework and expand use of e-procurement
- *Fast Internet for researchers and students:* ensure high speed access to the Internet facilitating co-operative learning and working
- *Smart cards for electronic access:* facilitate the establishment of national infrastructure to maximize uptake
- *Intelligent transport:* safer, more efficient transport through the use of digital technologies
- *The implementation of 112 - the unified emergency call*
- *Government online:* ensure that citizen have easy access to government information, services and decision-making procedures on-line
- *Romanian youth into the digital age:* bring Internet and multimedia to schools and adapt education to the digital age
- *Cheaper Internet Access:* increase competition to reduce prices and boost consumers choice

RELEVANT ACHIEVEMENTS

Telecommunications liberalization – the process of liberalizing the telecommunications was started by privatizing the fixed telephony operator, followed by establishing the prices for interconnecting in parallel with the development of mobile telephony and the apparition of alternative fixed telephony operators. The process was a definite success, Romania becoming at that time one of the few countries with a removed monopoly.

The 3D Secure security standard

At the beginning of 2004, RomCard (main card transaction processor founded by the major banks in Romania) along with international credit card organizations Visa and MasterCard implement the 3D Secure security standard, respectively Verified by Visa and MasterCard Secure Code – and starting from that moment the credit card owners are able to make online payments, and the Romanian electronic commerce market benefits from the first official statistics related to Internet transactions.

Implementing 3D Secure also meant a first in the entire CEMEA region, with Romania being the first country in the region with the security standard implemented.

In fact, at the Global level, there were only three other countries experimenting the stardard: Spain, Great Britain and Portugal.

e-procurement (www.e-licitatie.ro)

Public acquisitions done through electronic means portal was launched as a pilot project in 2001 and became fully functional at national level at the end of 2004.

By procuring electronically, the Romanian Government proved it can lower the cost of inputs, also encouraging the private sector to move to B2B and creating the premises for lowering corruption, reducing bureaucracy and ensuring transparency, in the effort of building efficient and accountable public sector institutions, capable of sustaining long term development.

Legislation framework

During this period, a number of laws extremely necessary to developing the electronic commerce, as well as to approaching the aquis communitaire were initiated and approved.

- *Law regarding the electronic signature*
- *Law on electronic commerce*
- *Law for the protection of individuals with regard to the processing of personal data and the free movement of these data*
- *Law regarding the processing of personal data and the protection of privacy in the telecommunications sector*

Chapter II – 2005-2008 – European Integration (Romania joined EU in 1st Jan. 2007)

During this period, the elaboration and implementing of the national strategy had to take into account a set of conditions (restrictions) and opportunities like:

- European Union accession
- Using structural funds aloocated to Romania starting from 2007
- The World Bank programme

The national strategy was influenced decisively by the EU accession and the strategic priorities were corelated with the e-Europe+" and „i-Europe" action plans:

- Finalising the leagislation accordingly with the aquis communitaire;
- Implementing broadband strategy;
- Redefinind ways to insure the right to acces the universal service;
- Raising the rate of utilization of the information technology in the public and private environments;
- Stimulating the extension of using the electronic payment instruments and the electronic signature;
- Developing the IT industry and sector;
- Monitoring the indicators of the information society and the profile industry.

EU accession – Legislative Framework

One of the most important issues that MCIT has concentrated on was the regulatory framework for ICT sector. To give consistency to the commitments of the Romanian Government, MCIT promoted a reform program in IT and Communications, the end result of which was the establishment of a legislative framework fully harmonized with the latest provisions of the European Union *acquis* in this field, but also adapted to the specific conditions of the Romanian market and to the international tendencies.

Structural Funds

Financial allocation for ICT within the Structural Funds was made on three strategic directions called Key Area of Intervention (KAI).

KAI1 - Supporting the information and communications technology use

The following indicative operations are envisaged:

- Supporting access to broadband and to connected services;
- Supporting SMEs for building broadband networks and public internet access points (PIAPs) that use broadband connections in the market failure areas (under-served rural and small urban areas)
- Supporting local public administration authorities for building broadband networks and public internet access points (PIAPs) that use broadband connections, in the market failure areas (under-served rural and small urban areas)
- Supporting broadband connections for schools

KAI2 - Developing and increasing the efficiency of modern public services

Four Indicative Operations are planned for this KAI:

- Supporting the setting-up of e-government (including e-administration) solutions along with the necessary broadband connection (if the latter is needed);
- Supporting the setting-up of ICT solutions in order to increase the information systems' interoperability
- Supporting the setting-up of E-Learning solutionsOperations 4
- Sustaining the setting-up of e-health solutions along with the necessary broadband connection (if the latter is needed)

KAI 3 – e-economy development

The operations of this KAI consist in supporting business applications, such as:

- Support for integrated ICT business systems and other electronic applications for business management (e.g. ERP, CRM, CAD/CAM, business intelligent systems and of management information systems).
- Sustaining the development of e-commerce systems and other internet based solutions in order to facilitate business to business operations (e.g. e-commerce, B2B operations, IS for electronic tenders, e-learning, etc.)

<u>Knowledge Economy Project (KEP) – program funded by World Bank</u>

Objective of the Project is to accelerate the participation of knowledge disadvantaged communities in the knowledge-based society and economy in Romania.

In essence, the project, scheduled to be held between 2006 and 2010, is addressed to the rural and small urban area (cities with a population less than 30,000 inhabitants), where there is no access to digital information and therefore no skill to use and exploit

Project Components

The Project components form a coherent set of interventions built around the physical, human and financial resources selected disadvantaged communities need to enable them to use and leverage knowledge in their daily economic and social lives.

Major components of the project in all fields that have a role in the knowledge society and its strategic vision were calibrated as follows:

Component 1: Access to ICT in Knowledge Disadvantaged Communities and Improved Digital Literacy, with three subcomponents:

- Improving Access by Establishing Local Community e-Networks (LCeNs);
- Digital Literacy for Communities.
- Digital Literacy for Schools

Component 2: Development and promotion of e-government services:

- Online system for notifications and authorizations of local businesses
- Integrated network civil information and documents

Component 3: Promotion of e-commerce and innovation support for MSMEs

- Portal for promotion of e-commerce and business networking

- Grant Facility to individual small and medium enterprises, self-employed persons (SEPs) and family associations (FAs), enterprise associations and clusters (or consortia of these clients) to facilitate e_business adoption and improve the competitiveness of Romanian firms in domestic and foreign markets.

RELEVANT ACHIEVEMENTS

Finalizing the legislative and institutional framework

Chapter 19, referring to Telecommunications and Information Technology was one of the primary closed chapters in the process of negotiations for accession to the European Union, as Romania was congratulated by the EU presidency for entirely implementing the domain's directives.

The institutional framework was also created and it contained:

- *ASSI – The agency assures the public central administration information systems operation, and they supply public services for e-Governing purposes. These systems are: Electronic System for Public Acquisitions (SEAP). National Electronic System (SEN), System for Electronic Attribution in Transport (SAET) and Virtual Payment Wicket (GVP).*
- *National Authority for Surveying Personal Data – it exercises its competence as it was established mainly by Law No. 677/2001, in the conditions of independence of any other public authority or private entity.*
- *www.ceris.ro – Center for expertise and response to information security incidents.*

Promoting the use of cards

Though Government Ordinance No. 149/2007, it was institutionalized the obligation for central public institutions from municipalities and cities to enable salary rights through electronic cards. This initiative stimulated the natural tendency of raising the number of card users, thus at the end of 2008 there were approximately 12 million active cards.

Reducing digital gap through KEP

Progress has been made in universal service provision for the inhabitants of isolated communities: in 2009, 215 telecentres were installed. A total of 626 telecentres were installed in remote villages during the period 2005–2009. This has given around 380 000 people access to telephone, Internet and fax services and allowed them to make calls to the national emergency number 112.

Chapter III (2009-2012) – Interconnectivity: steps to "cloud"

The core of the current Government strategy is the project named "e-Romania" and it aims at optimizing and integrating all the public administration processes and services into the electronic environment.

"e-Romania" Components:

- The **"Romania.gov.ro"** website: the access point for all electronic information and public services. The user will be able to:
  - Find quickly all the required information, with the search engine being able to access all the information from public sources;
  - Find all forms;
  - Complete and send a request (subsequently, the user would be able to follow its state);
  - Find and access all electronic public services available at national level;
  - Consult the balance account relative to the state and thus being able to make payments accordingly.

- Unique authentication platform: subsystem of "e-Romania" that will allow unique and secure authentication for the involved actors (citizens, officials, administrators, etc.) into e-Government solutions; the authentication platform will enable the secure identification of the parts engaged into an interaction through electronic means and will eliminate the "password agenda", so each users will need a single set of identification elements;

- The transactions engine: is responsible with the automated "routing" of the requests of the citizens to all responsible institutions; the transactions engine would eliminate the citizens' visits to the administration offices;

- "Road maps" for the administration: signifies the "intelligence" of the transactions engine and it contains, for each request, the path that the request has to complete. The "road maps" would be updated according to the changes that would appear at the public administrations' level and their functions;

- Operations systems (specific for each public institutions) that would allow the internal handling of the requests sent by the citizens (and automatically routed by the transactions engine), using the data from the national registers and/or information from other databases;

- National Registries (unique databases): all the information that define a person, company or public institution;
The information from National Registries describes the evolution and transformations of the entities that they define along their life cycle. For example, for a company, it would identify stages like: founding, stakeholders changing, entering new activity domains, fusions, etc, with every change recorded into the registry,
- Other databases (excluding the information from national registries).
- e-Safe: secure container in which the citizen will receive responses the his/her requests. The e-Safe is the library containing the citizen's electronic documents.
- Other specific centralized systems (like e-Auction).
- Interaction module between the systems contained in the e-Romania system.
- Security infrastructure.

The first two stages from the e-Romania strategy are in the development process:
e-Romania 1 – electronic services in the following domains:
e-environment – i.e. environment authorizations; e-Transport; e-Civil Worker; e-Tourism ; e-Culture; e-Justice; e-Agriculture; e-Statistics; e-Education; e-Health; e-Citizen; e-IMM – i.e. founding a company; e-Association;
e-Romania 2 – the point of entry into e-Romania, containing a large amount of information, structured in various categories: short history; public administration; business environment; education; culture; health; geography; tourism; religion; transport; sport; list of available public services (with links); list of ongoing projects at local level.

CURRENT SITUATION
At the end of 2009 Romania is still below the European average in the majority of Information Society indicators, but by looking at the evolution from the last 10 years one can observe that the growth rates were larger than the European average.
Telecommunication Infrastructure
Starting from 2003, the situation in the domain changed dramatically through the development of the mobile communications and of the broadband access.
The majority of the high performance technologies have been implemented and the grade of penetration of the mobile telephony for 100 inhabitants (SIM "active") reached 118%, with the major operators approaching the 100% coverage of Romania's territory.

Operator	GSM	CDMA/EV-DO	GPRS	EDGE	UMTS
S.C. Orange Romania S.A.	x	-	x	x	x
S.C. Vodafone Romania S.A.	x	-	x	-	x
S.C. Telemobil S.A.28	-	x	-	-	x
S.C. Cosmote RMT S.A.	x	-	x	-	-
S.C. RCS & RDS S.A.	-	-	-	-	x
S.C. Romtelecom S.A.	-	x	-	-	-

Starting from a very poor situation Romania has registered one of the largest growths of broadband communication in Europe during the last 5 years.
Broadband Internet connections at fixed points

Indicator	31.12.2006		31.12.2007		31.12.2008		31.12.2009	
	abs. (mil.)	%	abs. (mil.)	%	abs. (mil.)	%	abs. (mil.)	%
Total number of broadband Internet connections at fixed points, out of which:	**1,09**	**100**	**1,95**	**100**	**2,51**	**100**	**2,82**	**100**
a) coaxial cable	0,39	36,2	0,44	22,6	0,47	18,6	0,48	17,1
b) optic fiber	0,05	4,9	0,08	4,2	0,09	3,5	0,10	3,5
c) radio	0,02	1,5	0,03	1,6	0,03	1,1	0,02	0,8
d) xDSL	0,10	9,0	0,36	18,7	0,66	26,2	0,78	27,8
e)UTP/FTP cable, satellite, other means:	0,53	48,4	1,03	52,8	1,27	50,7	1,43	50,9
e1) UTP/FTP cable	0,52	48,2	1,03	52,8	1,27	50,7	1,43	50,8
e2) satellite	0,0001	0,01	0,0002	0,01	0,0004	0,02	0,001	0,02
e3) other means	0,002	0,2	0,001	0,04	0,001	0,02	0,00004	0,001

Infrastructure of the electronic payment services/instruments

The services in this domain are assured by electronic payment processors – including E-Payment, Romcard, Dot Commerce, 2CheckOut and Pay Pal – as well as three suppliers of electronic services recognized ar national level.

Institutions with implemented e-business solutions

At the public administration level, the e-business solutions are processed through SEN, which also has certification for electronic signature. At the public level there are many companies that developed/implemented b2b or b2c solutions. Also, through structural funds, the e-business solutions are still developed.

Systems safety

Romania is recognized at global level through the quality of the computer networks security solutions it provides, with the technology developed by the GeCAD company being acquired in 2004 by the Microsoft company and the BitDefender product of Softwin company being one of the most renown security solutions worldwide.

As for the electronic payment security, it is insured by Romcard through the 3D Secure system.

The legislation in the domain is completely harmonized with the European directives in the domain.

Critical mass of users

National Electronic System - SEN (www.e-guvernare.ro) provides access to the governmental online public services. The Section of online services of the www.e-guvernare.ro portal is an integral part of the Romanian Government program for administration reform, improving the interaction between administration and citizens and companies.

Through the Unique Form System there are six services online available at present, and their number will be progressively extended through Government decisions.

Declaration submitted to ANOFM (National Agency for Employment)

Declaration submitted to CNAS (National House for Health Insurance)

Declaration regarding the payment obligations towards social insurance budget (National House for Pension and other Insurance Rights)

Declaration regarding the profit tax (Ministry of Finance)

Declaration regarding the payment obligations towards the general consolidated budget (Ministry of Finance)

Deduction regarding VAT (Ministry of Finance)

The system is used, at the moment, by all public administration institutions and by more than 650 companies (the most important contributors and large tax payers.)

Through SEN, systems of electronic payment of taxes are implemented in most of the cities.

CONCLUSIONS

Elaborating a new set of strategic directives by each of the Governments generated discontinuity in implementing some of the actions necessary for the fast development of the Information Society and led primarily to a raise in Government expenditures but, also, to delaying the launch of some electronic services (payment of central government taxes).

On the other hand, the periodic reformulation of the strategic priorities and of the action plan had a positive aspect as it permitted the continuous alignment with new technological trends as well as the aligning to the requests of the Aquis Communitaire formulated through “e-europe+”, “i-europe” action plans and chapter 14 from the accession negotiations.

The large delay from that was started and some strategic incoherencies on one hand and the quality of the human resources and companies on the other hand made Romania a country of contrasts in the ICT domain and in the e-business domain in particular.

- Broadband communications – the very good situation for the access speed in big cities is complemented by the lack of Internet penetration in rural areas.

In the 2010 edition of the “State of the Internet” report made by the Akamai company, Romania (with a medium speed of 6.3 Mbps) ranks first in Europe and forth in the world after the medium internet connection speed, with the top three spots being South Korea, Hong Kong and Japan.

- Good quality Government and public administration electronic services lack interconnectivity.

√ **The National Electronic System (www.e-guvernare.ro) was the only European e-Government application that received the World Summit Award (WSA) at the World Summit for Information Society (WSIS), which takes place in Geneva between 10 and 12 December 2003.**

√ **Romania and Japan received The Global Information Technology Excellence Award for the "e-Government Initiative". The distinction was awarded by WITSA (World Information Technology and Services Alliance) during the World Congress on Information Technology, on Thursday, May 20, 2004.**

-The annual growth rate of online electronic transactions volume of more than 50% contrasts with the lack of Internet access for approximately 45% of the population.

We consider that a part of these delays could have been overcome by using open standards from the start of elaborating the strategy for developing the Information Technology.

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