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The Internet as a business environment in Romania

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1. Introduction

The Internet is a medium with one of the biggest widespread rates. The medium rate for the usage growth in the period 2000 - 2007 is around 250%. The estimation for 2007 indicates that over 1,2 billion people will access the Internet (source: Miniwatts Marketing Group, 2007). 337,878,613 of them are European people. On the other side, if we shall take a look on the value of the indicators related the regions or countries we could observe big differences between the usage rates.

In a few years the facilities offered by the Internet revolutionized trade, health, education and public administration. It is remarkable that all the changes happened in a short time since its creation. The technologic progress was an important factor that helps the transactions using the Internet, including the commercial ones, to evolve as quickly. Once with the growing of the transactions and values involved, it grows up also the temptation of the system fraud. One of the major obstacles appeared on the electronic commerce growing way is to create a single environment for the transactions procedure. The technological development and a sustained co-operation of all the stakeholders can beat the hackers' ingeniousness. The technological inequalities that exists even between the same region countries (in the European Union, for instance) stands up also in what it concern the ecommerce evolution. For instance, developing countries have fallen behind in the early stages of the ecommerce development because of inefficient use of related knowledge and experience gained by the developed countries, lack of investment within firms to acquire technology, lack of promotion policies that develop these technological areas and the lack of connection between the factors involved in the process. The last technological developments adopted inclusive in the developing countries, such as digital signatures, could reduce the gap in the use of e-commerce. This is an important issue related to the expansion and promotion of e-commerce in developing countries.

One of the purposes of this paper is to review the situation of Romania in relation to the technological factors and the legal and regulatory frameworks in e-commerce transactions. The finding this paper projects is the synthesis of useful facts about Romanian electronic commerce and the yielding of new, efficient solutions for improvement to the point of 21st century global standards and beyond. We propose some recommendations that could assist different stakeholders from developing countries involved in the development of e-commerce as policy-makers, business environment and international organizations to increase the benefits of e-commerce.

2. e-commerce Indicators Analysis

All things considered, this paper aims to conduct and develop an objective analysis of the current state of Romanian e-commerce in comparison with the European Union's situation, by means of pertinent data and statistics and of an unbiased presentation of the legislation concerned.

At the European level, in 2006, in Denmark is recording the highest broadband penetration rate, 30.3% and the lowest limit is Turkey, with a penetration rate of 3%, knowing that the midlevel in the European Union is situated around the 15.6% value. Romania has a broadband penetration rate of 8.2% (***, 2007). A bad influence over the country indicators has the low access to the broadband services on the rural environment inhabitants, witch represent over 40% of the country population. However, the full digitalization of Romtelecom's network, planned for 2007, should provide a boost to e-access. At year-end 2006 there were around 500,000 Romanian broadband subscribers, with the number expected to increase to around 2.1 millions by 2011, representing

10.1% penetration rate (source: ANRCTI). A closer look over the reality behind the members reveals the fact that the principal reason for using the Internet by the Romanian peoples is the chat and the email. The most important category of users being the persons that are under 18 years old or those that are studying, that is persons without a surely or permanent income source witch could provide them transactions using the Internet.

The RNC (Romanian National Computer Network) ranks are recording that on the 31th of October 2006 these were about 165.600 domains .ro reserved, for which it has been paid about 61 USD charge. From among these sites, more then one thousand are registered on the e-commerce area. These are encouraging facts and a potential market for the development of the on-line business through the launching of more and more virtual shops. Also, between November 2005 and November 2006, it has been launched a medium of virtual shop two days after.

More than the low PC penetration, Romanian Internet development is held back by the limited use of credit cards, and an inadequate banking and online payment infrastructure. The preferred method of payment is still the credit card, followed by the debit card and e-banking transactions. The e-banking market has seen a growing number of vendors positioning themselves for a stake of the e-banking solution opportunity, with 22 Internet banking solutions now offered by six banks. Other 27 banks have the right to use instruments such as e-banking, mobile banking and home banking. Data from the Ministry of Information and Communications Technology claimed that, by the end of March 2006, almost 118,000 clients were suing the Internet for payments. The challenge for Information Technology providers has been to work with banks to design the new channels in such a way that customer will readily learn to trust and use them.

In addition, security is a sensitive issue when discussing e-commerce. Also, there is a difference between the awareness of the citizens from developing countries and developed countries regarding the security and how influence the usage of e-services.

3. The Factors That Have a Bad Influence on Development of Romanian e-commerce

A number of factors have a negative influence on the developing of e-commerce in developing countries. Security is the most important factor. The impact of the security concerns the online behavior both for companies and individuals, too. Companies who usually use the Internet as a business environment consider that factors like the costs for security measures, lack of time training and lack of staff time are the primary problems. Lack of the technical skills is not the only reason preventing companies from going online for developing their business. In order to avoid the drawback caused by the lack of confidence many Romanian companies which conduct electronic business make complementary usage of other communication methods such as telephone or e-mail.

Table no. 1: Effects of security concerns on online shopping behavior

	EU-15	RO	US
Often stopped by concerns	28	4	22
Sometimes stopped	24	3	35
Never stopped	30	21	31
Don't know	2	48	1
Not concerned	16	24	11

Source: Statistical Indicators Benchmarking the Information Society Pocket book 2003/03

According the data presented in Table no. 1, security concerns have a significant impact on online shopping behavior of European Union and United States of America citizens. In the European Union, for example, on average nearly a third of Internet users do not buy online due to security

concerns. In comparison, in all of the Central and East European candidate countries there is a low sensitivity to security concerns. Romania has limited online shopping even though there is the lowest sensitivity to security concerns. This situation is because of the quantified factors through the above presented indicators. However, during the last years, a constant and important growth of ecommerce transactions by companies, individuals, and governments must be considered.

4. Pre-Requisites for Successful e-commerce Growth in Romania

In order to attain a successful level of e-commerce development, in Romania must adopt measures for:

- building trust in e-commerce;
- removing the legal obstacles that are making the activity of the net business harder;
- the regulation of the relationships between the card owner and the others with an adequate legal framework for banking activities.

4.1 Building Trust

Building trust is a condition for having alternative forms for commerce as ecommerce in all the countries, no matter their economic development stage. Trust and confidence influence the results gained in the process of promoting e-commerce in developing countries. As explained by Bacchetta (Bacchetta, 1988) in a World Trade Organization study, only if buyers and sellers trust that orders and payments are conducted with minimal risk of deceit and abuse of any information provided, will they accept the Internet for electronic commerce purposes. Buyers and sellers will only take the risk of making contractual obligations over the Internet if they know their rights and obligations and that these will be enforced (Almeida, 2007: 11).

The promotion of trust and confidence depends on a number of factors, as legal norms which covers contract enforcement, consumer protection, privacy protection, intellectual property rights, and process and technical standards. If in the most developing countries, trust is established and reinforced through repeated personal contact and interaction, in the western countries, the trust is set up through impartial enforcement of law. Analyzing the way in which has evolved in the last year in Romania, the legal framework which settle the building of the trust in the electronic business (e-business), we can say that it has been done an major progress concerning the insurance of the institutional environment.

Romanian legal framework regarding the e-commerce, also the one regarding distance contracts (see the electronic commerce law), is mentioning the obligation of the user informing. As a measure created to grow up the trust on the one who sale on-line services, the on-line merchants are compelled to show clearly and directly the principals information regarding the identity, meaning not only the name of the firm that administrate the page (not the one to host her), but also the contact dates, including telephone number, fax and e-mail, the unique code of registration and other public information. These measures are necessary because on the on-line environment a shop can be found today, but on the next day it can disappear. More than that, the distance contracts law has a plus regarding the information, requesting that any others information to be shown to the public. The electronic commerce law demonstrates that click-wrap contract is legally valid also in Romania when the terms imposed by the law are respected. To have a valid contract, the law request that this accept to be known by the seller through a certain note that will appear in a database of the seller, an e-mail that the seller will receive or even a phone or a fax received by the seller. Also, for the growing trust, the Romanian legal framework gives the buyer the right to send back the thing that he bought in 10 days period (the unilateral denunciation right) (Manolea, 2007).

4.1.1 The Personal Data Protection – Essential for e-commerce

Any e-commerce site is directly involved in the manipulation of personal data which is using for the users registration before the buying process or to permit the payment or to transmitting the goods or the services. In the personal data domain, in Romania exists a law for the person protection regarding to personal data manipulation and the free circulation of these data, which establish the general conditions regarding personal data manipulation, data which can be manipulated and the obligations of these who manipulate them. In the personal data category are included the name, address, identity card number, the personal numerical code, credit card number, the bank account or even an e-mail address.

Also, there is a discussion to include the IP address in personal data category (***, 2006). In some states of the European Union there has been some opinions that confirm that hypotheses. We can see, like a Romanian legal framework limit, the fact that the law refers only to the physical person. The data referring to legal persons (name, address, unique identification code) aren't the law object and can be proceed in a free way, without any obligations.

4.2 The Removal of the Legal Obstacles That Make the e-business Activity Harder

It is necessary to allow users and further players in the market to gain confidence in the use of ecommerce solutions. This may be done not only by the use of adequate technologies to ensure technical security (thus preventing fraud, information leaks, and other forms of attacks), but also by strategic initiatives aiming at a change in user perspectives on the reliability of ICT in commercial transactions. Legal and regulatory development acts as a possible pre-condition for the promotion of such confidence. The legal framework is necessary because of the differences occurred between the practices utilized by each parties involved in a commercial transaction and also, because the different perception of the involved parties regarding the transaction.

In fact, commercial activities usually depend on laws that regulate the execution of contracts, their validity conditions, their enforcement, their limits of liability, and their resolution in case of conflict. Besides the legal framework which is meant particularly to the e-commerce domain, there will be applied the others laws regarding the commerce in general, meaning the entire commercial act.

The legal framework is generally valid only for a territory and regulates the limits within the commercial transaction could be perfected. Its aim is to obtain a greater rate of success for commercial transaction. Beyond the realizations in that domain, one of the biggest difficulty of the legislative domain in Romania is the absence of a specific law that can refer only to the e-commerce and that can gather all the legislative dispositions applicable on the e-commerce. The dispositions that are applied also the e-commerce legislation, the distance contracts, the personal data security, the author's rights law and in other interfacing domains, are found in different laws. For making the things more complicated, in the Romanian legislation does not exist, clearly, a law article which could define the spam and hosting domains. That because the spam is a part of unrequited commercial messages category, of whose regime is regulated by three laws, meanwhile the hosting is included in Information Society services category and he is regulated by a full law, which refers to the web pages hostess responsibility. This thing makes harder the legislative interpretation, especially when the persons that are involved does not always have a juridical qualification (Manolea, 2007). At that is added the frequent legislative changes, which lead to the creation of a legal environment hard to control.

The e-commerce has another feature which makes it special – the fact that is not always addressing only to a certain public from the well sets borders of a country. That complicates very much the things, juridical. If in the European Union member states case, the problem is simplified by existing approximately the same rules anywhere, in the other states case can appear special juridical or regarding fiscal problems for whom it must be examined in the both states legislation (or more states, it depends by the case).

4.3 The Creation of a Banking Environment

The 1990s saw the mainstreaming of electronic commerce, which takes place with a buyer initiating a transaction by computer over the Internet or proprietary network (Visa International, 2002). However, e-payments necessitate systems and procedures for paying electronically and their existence is “a precondition for the successful development of ecommerce” (Kurbalija - Gelbstein, 2005).

Digital cash and low technology penetration creates problems in developing countries due to lack of trust in online transactions together with their questionable security. In order to gain the trust of the consumer, Romania have developed alternative payment methods in e-commerce systems, such as cash on delivery (paid to the courier), bank and wire transfer or cheques.

For impulsion of cards usage, the banks have emitted co-branded cards with renowned commercial companies, products that have international usage, including on Internet. So, the owners can buy directly from the virtual shop of the bank partner. The cooperation between the banks and the merchants for the cards issuing are evolving, being aimed the gas stations, the drugstores etc. Therefore all citizens' everyday needs can be covered.

A less known fact is Romanian involvement in the 3D Secure standard implementation process by the international cards issuer organizations. Besides countries like Spain, United Kingdom and Germany, Romania was a pioneer. After that it was a period the neighbor states started to request the payment process through Romanian banks. These were followed by applications from Canada and USA. For a period, hundreds of foreign e-stores have made their on-line transactions through Romania. A short time after that, the cross border interdiction means for Romania losing the opportunity of becoming the processing center for CEMEA area. Although is a part of the development progress countries, technologically speaking, in Romania has the processing ability for these activities and it perfectly working.

Starting by the 1st of January 2007 which is the adhesion date at the European Union, the Romanian e-commerce policy is respecting both the European Union acquis requirements and Visa and MasterCard regulation in domain. Romania's statute of a European Union member bring migration from the CEMEA area to Europe area, where restrictions regarding cross border transactions does not exist. We will see how this new chance will be fructified.

5. About the Role of Digital Signatures in e-commerce Growth

The United Nations Commission on International Trade Law (UNCITRAL, 1999) formulated a model law that develops a legal framework for digital signatures. This model law, called the UNCITRAL Model Law on Electronic Signatures, defines electronic signatures as data in electronic form in, affixed to or logically associated with, a data message, which may be used to identify the

signatory in relation to the data message and to indicate the signatory's approval of the information contained in the data message. This definition stipulates the three main aims of e-signatures, which are the electronic form of the signature, the identification of the signatory, and the non-repudiation of the signature, ensuring effectively that the signatory cannot later refute having signed the document (Almeida, 2007).

The Model Law establishes three requirements for a digital signature. First, it establishes that electronic signatures are legally valid only if the signature data is undoubtedly linked to the signatory and no one else. Second, it requires that at the time of creation, such data were under his sole control. Third, it demands that any alteration made to the electronic signature must be detectable. Once these three articles are confirmed, then additional legal requirements for a signature may be put into place by the country wishing to adopt such legislation (UNCITRAL, 1999).

Completing the legal framework for electronic signature created on a world level by UNCITRAL is made at the European Union level by adopting Directive 93/1999 on a Community framework for electronic signatures. This is used as a model by the most European countries, which have adopted in the local legislation laws which are devoting the legal environment of electronic signs. According the results publish after a study of European Commission, "International Society – Juridical and Economical appearances of the Directive 93/1999/EC appliance and practical appliance of the electronic signature in the European Union", the Romanian law, like in others European countries promoted legislations, is implementing very well the European directive foresights.

For developing a flexible system in Romania, easy to implement and very reliable of electronic identity guarantee is needed:

- someone (institution, firm, company) who will be the identify attester and who will make the identification operations;
- a hardware mechanism of implementing procedure certain enough or assuring the web login.

For instance, in Austria, are used three electronic identifications methods of the persons on the web:

- bank cards like smartcard type;
- health cards like smartcard type;
- identification by SMS.

The person, who wants to make from home, on the web, transactions in the relationship with the public administration or with the Govern, has a smartcard reader connected to the computer.

Often, the banks are more conserving institutions which do not move in a certain direction, only when they are sure that will not be any problems. In Romania, today, ABN Amro, Unicredit, BancPost and not only, are giving DigiPasses to their clients. The DigiPass is an electronic device which generates One-Time-Password, applying an MD5 hash to a series where it appears the creation time a personal identification number (PIN) introduced by the user. This unique password is introduced in the web site of the bank, where are made the transactions. The password is valid only for a single login and it is available only two minutes (or less). This system is used in e-banking. The identification mechanism is called "the two factor identification". The method is considered safety enough as long as she gives to a bank the sufficient guarantee of identification for making financial operations.

In this moment, in Romania, the digital signature is slightly used, although exists a legal environment, institutional and technical possibilities. The major restrain is made by this kind of

service price (approximately 100 Euro for initial package and 40 euro per year for a renewing certificate). Because of that, starting with the technologic solutions available at this moment and on the legal environment limit, are used different ways of authentication.

For instance, for the companies that want to transmit there declarations to the financial administration in electronic format are used the next procedure: the firm makes a request to the financial administration and receives a username and a password, with them it can connect to the server and can send the respective declarations. On the other side, a part of the banks are using electronic signature, but the certifications aren't bought by every client, they are acquired by the bank, at a very low price, and the usage of those is included in the monthly fee paid by client for the e-banking services. Other banks are using the hardware identification system, DigiPass, already described above.

6. Conclusions: Issues to Consider in Developing a National Successful e-commerce

Therefore, this study proposes a set of issues for the policy-makers to consider when they face the creation of the environment necessary for promoting successful e-commerce transactions in developing and transition economies, especially in Romania:

- develop a dialogue to discuss these issues within a diverse, large, and informed community of stakeholders;
- promoting e-commerce;
- create a coherent and accessible legal framework;
- fully assess the providers of the technology, procedures, and the transfer to local firms and institutions.
- develop the necessary human capital capacity in order to successfully transfer the technology to local developers by involving the Universities;
- investigate who will buy digital signatures and develop modalities to give financial support;
- observe best practice cases of the developed countries with respect to the enforcing of digital signatures and learn positive and negative aspects;
- establish domestic controls on the use of encryption technologies ;
- define the role of the governmental authorities in encryption processes
- create laws that fully protect the rights of the consumers utilizing these new technologies.

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