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Barriers classification of e-business growth and development

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BARRIERS CLASSIFICATION OF E-BUSINESS GROWTH AND DEVELOPMENT

Introduction

While conducting business an entrepreneur comes across several barriers. This obstacles happen in case of both a standard business as well as e-business, even exactly the same one, but the e-business barrier list is extended by an additional elements connected to its communication channel and dimension of run business. This paper concentrates on those elements that extends the barriers catalogue.

Hence the aim of this paper is to identify the e-business barriers and analyze them. Secondly, to assign those obstacles into three main categories (human, infrastructure and environmental). Finally, to point whether the described barriers influence growth or development (or both) of the e-business.

1. Growth and development – the combined categories

The terms ‘growth’ and ‘development’ are the biological categories, the first is an irreversible increase in size, while the second is the qualitative change that occur over the life of the organism¹. The measure of the increase in this sense is the increment in length, diameter, volume, number of cells, the amount of protein, the quantity of DNA. Basically, there are three stages of growth indicated²: an initial period of slow growth: internal changes, preparing for growth; a fundamental peri-

¹ M. Kulewicz: *Wzrost i rozwój twarzoczaszki*, „Acta Clinica” 2002, nr 2, t. 2, p. 168–178.

² *Ibidem*.

od of rapid growth; a final period of slow growth: the organism reaches maturity and growth ceases.

However, the basis for the growth and development of organisms are³: division of cells (embryonic growth), cell elongation (elongation growth), cell differentiation (cell development). Thus, for biologists the development is a broader concept that includes the category growth, as one of the components of the development.

In economics, however the main category in this area is economic growth and development⁴. Again, the increase is a quantitative category, relatively easily to measure, but the development is not easy to quantify. Economic growth is traditionally measured by the growth rate of national income or real gross of domestic product – the ratio of national income growth over the period to the size of the national income in the base period⁵:

$$r = \frac{DN_t - DN_{t-1}}{DN_{t-1}}$$

where: r – growth rate,
 DN_t – national income in the base period,
 DN_{t-1} – national income in the previous period.

The development includes the qualitative categories defined as a result of growth and structural reforms that fosters the growth. There is a list of well-known measures, such as ‘national income per capita’, Geneva’s, which takes into account the degree of needs satisfaction compiled into seven groups: food, housing, health, education, recreation, social security and material management, the sum of which is an indicator of living standard. These measures, the quantitative ones, however, are no longer satisfactory in the context of economic development and socio-economic development. Even here, on the broad basis of economic, the development is a broader category that includes growth.

2 Arrangement of the e-business and the barriers concepts

For the information society, it is necessary to determine the legal aspects of electronic commerce legislation. On the 18th of November 1998 the Commission adopted a proposal for a Directive of the European Parliament and the Council, which formulated the definition of e-services in the Information Society, such as: „(...) all the services, usually provided for payment, at a distance by electronic equipment, using electronic equipment for processing (including digital compres-

³ Ibidem

⁴ A. Mohr: *Zarządzanie wzrostem firmy*, OnePress, Gliwice 2005, p. 24–25, 45–56.

⁵ R. Milewski: *Elementarne zagadnienia ekonomii*, WN PWN, Warszawa 1994, p. 211.

sion) and storage of data and for the individual request of the service receiving person (...)"⁶ This definition, although describes e-service which is part of e-business, is obligatory in this paper.

The barriers are classified according to various criteria. One of the most popular list, shown below, is described by its author in the following way⁷:

- the human barriers – it mainly focuses on competences of particular people,
- the infrastructure barriers – it concerns the stability of the monetary system, the availability of certain transport and banking services, access to business information, as well as the overall safety level of the market,
- the procedural barriers – it concerns mainly the documents of global trade.

Often documentary procedures appear to delay the various issues related to trade and do not result in successful transactions.

Although this classification is clear and easy to follow, as defined above, it does not cover all the issues that can arise while conducting the e-business. The human barriers do not emphasize that the obstacles may occur on both sides, and depends on the level of competences of both parties – the user and the owner of the e-business. The infrastructure barriers contains lots but the wire infrastructure. And the procedural barriers contains only the issues connected to documents. The organization environment⁸ is the element excluded from the list above as the source of e-business problems. The political and legal environment has to be taken into account. Of course documents and procedures barriers stays as the part of the environmental barriers.

Summing up above clarification, the barriers may be identified as human, infrastructure and environmental ones, having regard to its extended meaning. The human barriers may contain: a relatively low awareness and low skills levels, a digital exclusion, a traditional business usage habit, language barriers, unreliability, problems with employment flexibility. The infrastructure barriers may include an Internet threats and an issue of security and slow connection. The environmental barriers could consist of competition, a high advertising cost, a technological problems in Poland, a legal barriers, taxes and duties ignorance and lack of its awareness.

3. The human barriers of the e-business

Here the human barriers are listed and described.

Underestimation of own potential and low computer skills level:

⁶ <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:1998:351:0003:0003:EN:PDF> [access 7.01.2013].

⁷ M. Niedźwiedziński: *Globalny handel elektroniczny*, WN PWN, Warszawa 2004, s. 20.

⁸ M. Bielski: *Organizacje. Istota, struktury, procesy*, Wydawnictwo Uniwersytetu Łódzkiego, Łódź 2001, s. 128.

Lot of researches (for example, “The Social Diagnosis 2007”⁹) shows that even in households equipped with a computer and the Internet access, a lot of people (mainly adults, including the elderly) do not voluntarily make use of these tools and excludes themselves from the information society.

Digital exclusion:

It mostly flows from the rapid development of information technology. This includes people without access to the Internet and new forms of communication, but also such factors as: the ability to use the Internet, link quality, lack of language knowledge in which the necessary information is published. European Committee estimates that about 30-40% of the population in Europe does not benefit fully from the Internet. It means that this part of the population is at risk of digital exclusion. The full advantage of the Internet takes only¹⁰:

- 25% of people with lower education, compared to 77% with higher education;
- 10% of people aged over 64 years, compared to 73% aged 16-24 years;
- 38% of unemployed, compared to 60% of employed and 84% of students.

The traditional business usage habit:

Customers habit to use classical methods, providing direct contact with another human being. It is so powerful that effectively discourage e-business usage. Traditional client prefers to sit down with a coffee and read the paper newspaper, or talk to “the lady in the bank window” for a moment. For this group of people e-business are uncomfortable, they decide on it as a last resort.¹¹

Language barriers

From the e-business conducting perspective as well as from users point of view it is important to have ability to communicate in the same language or at least in English. The website should be translate into a foreign language. In the absence of knowledge of the target group members language the entrepreneur have to turn into the professionals. The problems arise, the first one is the difficulty with finding a translator who knows both a foreign language of the industry and understands the special features of web portals. The second problem is the price of such services, which in the case of small and micro-enterprises is a major barrier.

Equally with the foreign language barrier there is the problem of communication standard. Some have a document made under the Word, others in OpenOffice. The date format is different in each document. This is due to the variety of used plat-

⁹ <http://www.diagnoza.com/files/diagnoza2007/diagnoza2007-html.html> [access 7.01.2013].

¹⁰ EUROPA-Press Releases – MEMO/07/527 Brussels, 29 November 2007, European initiative on an all-inclusive digital society – europa.eu/rapid/pressReleasesAction.do?.../07

¹¹ GUS Report: *Powody nieposiadania Internetu w domu*, 2009 r., <http://www.internetstats.pl/index.php/2009/03/powody-nieposiadania-Internetu-w-domu-gus>; <http://www.kpp.org.pl> [access 7.01.2013].

forms, operating systems and software applications. Hope here brings the XBRL standard¹².

Unreliability

Clients fear Internet companies because of their “virtual character”. The reason for this is the lack of tangibility and difficulty of checking reliability of the company, which is often located at the other end Poland or in another country.

Another problem may be the difficulty in defining and measuring “virtual” assets of e-business (e.g., in case of bank credit), the possessions of such firm is very little – sometimes a single server or several computers, which are often leased.

Problems with employment flexibility

The problems occur with the professionals hiring in every sector, but in e-business, this problem becomes more distinct. Barrier generates the Labour Law itself, which defines the tele-work term, but does not say anything about the remote work or the task employment, which for e-business would be a better option in many cases. The cost each time contract is set for a specific task and may be higher than the value of the contract itself. Especially in the case of micro-firms that matters. It is burdensome and costly to sign each time a new contract if the task lasts for e.g. 2 or 5 hours per month. On the other hand, the Labour Law does not provide protection for workers in remote forms of work and task employment. Lack of such protection makes workers reluctant to take new forms of employment.

4. The infrastructure barriers of the e-business

The Internet threats and the issue of security is one of the main problems in the growth and development of e-business. The customer must be ensured a sufficiently high level of security of web browsers transaction, because they are carried out through an open, publicly accessible network. Parties that exchange information have no control over the way the information get through.

It is important that a company operating on the network, was equipped with proper quality hardware and transmission equipment, resistant to damage and voltage drops in the network, with approved software and equipped with a very good security systems.

The fear of threats feels also the Internet user, which force suppliers to introduce efficient security systems that raise particular start-up costs of the e-business and at the same time may discourage to start the e-business. These threats include¹³:

¹² XBRL= eXtensible Business Reporting Language <http://www.xbrl.org> [access 7.01.2013].

¹³ http://us.norton.com/security_response/phishing.jsp; <http://www.antiphishing.org/>; <http://www.chip.pl/artykuly/trendy/2009/11/phishing-lowienie-naiwnych> [access 7.01.2013].

- computer viruses – computer programs that replicate themselves in a deliberately manner without the user acceptance, causing the destruction of hardware and software;
- spywares – collect data about computer user and his/her tastes and additionally reduce the efficiency of the computer;
- advertising programs – resistant to removal programs whose task is to advertise given company or web site;
- computer criminals – they look up data to steal the user;
- phishing or spoofing – extorting the sensitive personal information (such as passwords or credit card details) by pretending to be a trustworthy person or institution to which such information is urgently needed. It is a type of attack based on social engineering;
- email spam – the electronic version of junk mail. It involves sending unwanted messages, often unsolicited advertising, to a large number of recipients. Spam is a serious security concern as it can be used to deliver Trojan horses, viruses, worms, spyware, and targeted phishing attacks;
- malware – the category of malicious code that includes viruses, worms, and Trojan horses. Destructive malware will utilize popular communication tools to spread, including worms sent through email and instant messages, Trojan horses dropped from web sites, and virus-infected files downloaded from peer-to-peer connections. Malware will also seek to exploit existing vulnerabilities on systems making their entry quiet and easy;
- misleading applications – applications that intentionally misrepresent the security status of the computer, that attempt to convince the user that he or she must remove potentially malware or security risks (usually nonexistent or fake) from the computer. The application will hold the user hostage by refusing to allow him or her to remove or fix the phantom problems until the ‘required’ software is purchased and installed.

The most spectacular are the various types of hacking into bank accounts, scanning cards or card numbers.

Although the obstacle of slow connection occurs, it is less important through time. It becomes easier to gain the computer with sufficient parameters including transmission speed (e.g. by lease, long term agreements).

Matters related to the privacy protection are a very important issue, because with the help of Internet technologies customers of e-business can be fraud because of their inadvertence or ignorance. That fear of customers translates into the frequency of providing such services service and this Web threats slows down the development of e-business market.

5. The environmental barriers of the e-business

The last category shown in this paper is the environmental one, it consists of:

Competition

Although all companies face the problem of competition, it is particularly severe for e-companies. In the Internet world no idea cannot be hidden from the competition. There is also no legal regulation that directly forbid imitation. There are companies that are actually waiting for a good idea in the net, and having a lot of resources, can effectively stop the expansion of a new venture by introducing significant improvements, promotion, pricing, reduced cost, etc. Such aggressive competition often put off the clever entrepreneurs who do not have adequate facilities, qualified staff and adequate financial resources to fight the competitors.

The high advertising cost

The effectiveness of e-business, such as any type of service, is largely dependent on the number of people who know about it, effective advertising in the leading portals that bring together millions of users, may cost the company several thousand per day. This money is often far beyond the capabilities of starting businesses.

Overall costs

E-business customers believe that doing business on the Internet is pure profit, without costs but in fact these costs are several times higher than believed. This approach is due to the increased usage of open source applications considered to be free and open to the public. Meanwhile, open source applications used for commercial purposes are often paid for. E-businesses bear the costs associated with the maintenance of the technical infrastructure. What's more, every portal and website is created by "real people" who need to be paid salaries, the websites creators underestimate their work time on the launching the project. Moreover there is the expense of renting a place to work, the cost of computers and software.

Technological problems in Poland

In Poland, the cabling infrastructure is not everywhere available and does not meet the parameters required to ensure communication with high bandwidth. The POIG Action 8.4¹⁴: "Providing access to the Internet at the stage of »last mile«" worked till from the end of 2012 the reports of which will be soon published. The aim of this action is to create possibilities for the direct delivery of broadband Internet directly to the user by supporting micro, small and medium firms wishing to provide this service in areas where this activity is not financially unprofitable on a commercial basis¹⁵.

The legal barriers

¹⁴ Urząd Komunikacji Elektronicznej RP, <http://poig84.uke.gov.pl/> [access 7.01.2013].

¹⁵ <http://www.funduszeuropejskie.gov.pl/PoradnikBeneficjenta/PoIg/Strony/8.4-Zapewnienie-dostepu-do-Internetu-na-etapie-os.aspx> [access 7.01.2013].

Legislation negatively affects conducting business equally the SME sector, as well as e-business. The most troublesome barriers are¹⁶:

- in Structural Funds using, observed in excessive bureaucracy and formalism due to the existing legal regulations strict and formalistic controls of the beneficiaries;
- excessive length and overly bureaucratic registration laws, too high registration costs, lack of regulations imposed on state to publish tenders from abroad, too many statutory approvals, permits and licenses, too many and too stringent controls entrepreneurs;
- lack of legal regulations to facilitate the use of information technology, or even outdated regulations left that inhibit the use of these technologies in the economy and new media.

Moreover:

- in case problems with the interpretation of the law directions occur officials have no guarantee or warranty since they are not responsible for the advice they give to entrepreneurs;
- in case of e-business based on social networks, that store personal data, there is the need for using the national servers, hosting providers, even if international prices are much lower.

Taxes and duties ignorance and lack of awareness

The free market causes remove of all barriers to trade, including customs and tax. But in the minds of entrepreneurs there is lack of basic knowledge on the amount of VAT rates, differences in accounting for payments for services in Europe. This creates a mental block that inhibits e-business globalization. Trade barriers, including customs duties and taxes are a negative phenomenon and reduce the possibility of expansion of small and micro e-business on foreign markets, but mentioned limitations, as it should be noted here, are mainly due to lack of entrepreneurs knowledge, who know current rules to the insufficient extent.

Conclusions

The above identified obstacles, the one assigned to e-business (apart from business as the overall category) are gathered and divided according to the source of their negative influence. In the table below they are categorized whether they influence the growth or development (or both).

¹⁶ „Czarna lista barier”, PKPP Lewiatan, 2009, www.pkpplewiatan.pl [access 7.01.2013].

Table 1

The categories of e-business growth and development

Category	Growth	Development
Human	Underestimation of own potential and low computer skills level Digital exclusion: The traditional business usage habit Language barriers Unreliability Problems with employment flexibility	Unreliability Problems with employment flexibility
Infrastructure	Internet threats and the issue of security Slow connection	
Environmental	Competition Overall costs The high advertising cost Technological problems in Poland	Competition The legal barriers

Source: own work.

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ANALIZA I KLASYFIKACJA BARIER WZROSTU I ROZWOJU E-GOSPODARKI

Streszczenie

Artykuł zawiera charakterystykę barier, które opóźniają wzrost i rozwój e-biznesu. Celem opracowania jest zidentyfikowanie tych barier, które są charakterystyczne i przynależne szczególnie e-biznesowi, ich analiza i przypisanie do jednej z trzech kategorii (związanej z ludźmi, infrastrukturą i otoczeniem biznesowym). Ponadto w artykule wskazano, czy dana bariera spowalnia wzrost czy rozwój e-przedsiębiorstwa.

Tłumaczenie Magdalena Zalewska-Turzyńska