

MARKET OF ELECTRONIC SERVICES IN POLAND AS A BASIS TO DEVELOP ECONOMY BASED ON KNOWLEDGE – DIAGNOSIS AND PERSPECTIVES OF DEVELOPMENT

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Summary Development of economy based on knowledge in Poland is determined by the market of electronic communication services that is hardly competitive and at the same time inefficient, what is expressed in a low access level to the broad-band services and one of higher rates in Europe. Hitherto executed activities adapting the market of electronic services in Poland to the European level are partially successful, because the market needs an inflow of considerable funds for telecommunications investments and innovations, without which service offers of Polish operators will be too poor and expensive. Some hope for improvement of this situation is connected with increase a level of competitiveness in the range of the access to the broad-band services. In this article there has been executed the overview of solutions that should increase the competitiveness of the market of electronic communication in Poland and discussed benefits resulting from these solutions.

1. INTRODUCTION

A contemporary social and economical reality is subject to deep changes that radically transform the hitherto existing rules of functioning of civilization. This transformation is very dynamical and is a consequence of influence of many, very differentiated factors. However it should be acknowledged that the most important reason of social and economical transformations is development of technology of electronic communication that determines the speed and kind of changes. To prove this fact it is necessary to refer to attributes connected with performance of rising form of the economy. The new economical reality possesses three typical attributes [1]:

- it is global
- it favouritises immaterial beings,
- it is strongly internally connected.

It is self-evident that economic activity depends in a very considerably extent on receiving and transmitting of information. In global aspect it is possible only and exclusively by use of technologically advanced electronic systems. There is a similar situation in case of the second attribute of the new form of economy, in which the market, money and the entire information system are of electronic origin [2]. They take the form of immaterial beings and entire management with them is possible only by electronic communication. And thirdly, the contemporary economy becomes more and more integrated, what can be observed in cases when different sorts of economic recessions in one part of the world affect on the economic systems of practically all the countries. It can be even found that the present economy is similar to a nervous system [3] and electronic communication is essential part of this system. Some people go further in these digressions, assuming the statement that this arising form of economy is “in every aspect the question of communication, because the

contemporary communication is the economy” [4]. We can discuss with this statement, but there are no doubt that the infrastructure and services of electronic communication are the core for functioning of the new economic reality. In this context the level of development of the market of electronic communication is the sine qua non condition of the economic up growth of every country. Paying the special attention on this problem is essential especially in relation to developing countries, including Poland.

2. ANALYSIS OF MARKET OF ELECTRONIC COMMUNICATION SERVICES IN POLAND AND POSSIBILITIES TO INCREASE ITS COMPETITIVENESS

The market of electronic communication services in Poland is relatively little advanced from the point of view of technologies used and prices and the number of subscribers using these services. This disadvantageous condition is more and more worse in many aspects, because in accordance with ECTA report and converting on 1 inhabitant, the market of electronic communication services has the lowest level of investments in Europe. This is a very alarming phenomenon in the context of informative society that is being created and the economy grounded on knowledge, because it threatens with arise of the phenomenon of numerical excluding for considerable areas of the economical sphere, especially from the sector of small and middle undertakings. It is also worth to note the fact that prices of electronic communication services are relatively high in Poland, what delimits a growth of effectiveness of activity and competitiveness of economic subjects. This disadvantageous condition of the market has to be radically improved by means of activities that should aim to initiate solutions of infrastructure and services that will increase the market competitiveness and its technological advancement. The essential circumstance of

construction of the new infrastructure solutions of the network of electronic services is to base them on the broad-band technology, because just these services offer users the comfort, speed and wealth of all the forms of communication. Thanks to them consumers can receive new possibilities in the sphere of life or work and they are ready to pay well for just such solutions. However operators that render electronic communication services in the Polish market do not have financial possibilities to create the new, composite and technologically advanced telecommunication networks. Moreover, legal systems binding in the European market of the electronic communication services, especially the solutions referred to the local loops, do not encourage to invest in new infrastructure solutions. In relation to these conditions, there are searched technological possibilities in the Polish market that can allow to increase the potential of existing network infrastructure. That is why this is not a chance that the digital access xDSL (Digital Subscriber Line) is widely used in Poland. Dynamism of increase of subscribers' connections only in the most popular and cheapest ADSL technology equals to 370% what causes that Poland is a leader in the range of use of this solution. This technology assures the broad-band access to the network in the area of so called last mile for users connected to the infrastructure with a standard copper wiring system. It is especially useful for the operator - the Polish Telecommunication Joint Stock Company (Telekomunikacja Polska S.A.) that dominates in the Polish market and possesses considerable number of the narrow-band connections, whereas the xDSL solutions allow to use about 80% of the subscriber's lines to render the broad-band services. So it gives this company the access to almost 9 million of potential subscribers of the broad-band access to the infrastructure of the electronic communication including, what is especially important for the Polish economy, the access to economic subjects located in the weak urbanized areas. Described technology of offering of the access to the broad-band services has perfectly came true in the Polish conditions, but it is necessary to have the consciousness that this access is still on relatively low level. Especially the distance that divides Poland from the leading countries that have the highest coefficient of the access to the broad-band Internet is shocking. Just for example the coefficient of the access to the analyzed segment of the electronic communication market in Denmark is 21 times higher. The coefficient taken here into consideration refers to the access to the broad-band services of not only subjects of the economic, but also social sphere. It is worth, in analyses referred to development of the economy based on knowledge, to research also conditions from the side of demand. We have to

have the consciousness that in general only the broad-band access gives inhabitants a possibility to the full participation in this economy. It is obvious that electronic economy cannot exist without electronic consumers. Use of the xDSL technology has temporarily solved the problem of shortage of the access to the network and the broad-band services for the economic sphere, but has not caused a considerable increase of a competitive pressure in the sector of electronic communication. This is a very essential aspect, because prices of the access to the network and services of electronic communication executed within it still belong to the highest in Europe and only much more higher level of competitiveness can change this very advantageous condition. It is necessary to steer to change this state of affairs in a very intensive way, because high prices of the electronic communication services decrease the competitiveness of the entire Polish economy. The level of rate differences between the Polish and European market of the electronic communication is shown as follows:

- the prices of access to Internet in relation to the average remuneration are 12 times higher than in Belgium that is the leader in this field,
- the costs of use of telephone at home are 1,5 times higher than in the Czech Republic that is the leader in this field,
- the costs of use of telephone at home are 1,3 times higher than in Spain that is the leader in this field.

Two last rate aspects are indexes of the absolute type, it means they do not take into consideration the relation to the average remuneration in particular countries. Considering the level of the average remuneration in Poland that is much lower in Poland than in developed countries of the European Union, the costs of use of telephones are shaped for the economic subjects acting in the Polish market in especially disadvantageous way. A solution that can change the relations shown above is migration of traditional telecommunication services towards the broad-band network. The most convincing example of use of such solution is the service of Internet telephony basing on the IP protocol. Experiences of markets of electronic communication of western countries show the considerable success of the Voice over Internet Protocol (VoIP) technology, because this service has dominated the entire voice communication executed by economic subjects. A wide variety of solutions that can increase the effectiveness of undertakings that use it is connected with this service technology. There are already known practical uses in the market, so far rendered only for few consumers, such forms of services like video conference, video telephony or transmitting of multimedia news that undoubtedly shall replace traditional telecommunication transmissions based only and exclusively on the voice transmission.

There are high expectations connected with rendering of these service solutions in the market from the potential customers, who are first of all interested in considerable functional possibilities offered them by these services. They are opening in bigger and bigger extent possibilities to virtualize a part of functions of undertakings, what is connected with limitation of the costs of activity. For example, it is worth to pay the attention on use of the above shown service solutions in marketing, trainings or customer services and in forming of various forms of work executed by remote control. Supporting of the service solutions on the IP protocol creates for undertakings also possibilities of integration and connecting of various functions and forms in the frame of one communicative solution. It shall be first of all mentioned here about a possibility to build internal networks based on existing infrastructure by the economic subjects that will integrate all kinds and forms of the electronic communication services and other electronic devices that are possessed by users. It means, in the frame of one subscription, the access to optional devices with coherent personalization and clear synchronization with use of the common legalization. The example communication services executed in such networks are a kind of convergence between the permanent and mobile networks and potential possibilities for use of telephone sets, mainly mobile, as electronic purses, carriers of payment cards or terminals of electronic banking. It is unnecessary to convince any businessman about advantages resulting from advantages of the above mentioned forms of the electronic communication services, because the above mentioned solutions should improve activity of economic subjects and considerably decrease costs of their functioning. However, all these solutions are based in practice on use of the broad-band networks, the access to which in the market of communication services is not cheap in Poland. Therefore new investments, mainly in the field of infrastructure, are necessary to remove the above mentioned imperfections of Polish market of electronic services. It should not be only investments that condition the access to services, but first of all such that can increase the level of innovativeness in the sphere of electronic communication. However it seems that it will be the task very difficult to execute without changes in the sphere of regulations referred to the market of communication. But there is a chance, because currently there is a good atmosphere in the European Union for all activities of the pro investment kind, because there is a public discussion connected with arising of bigger and bigger technological gap between the USA and the countries of the Community. Surely, in relation to this fact there can be expected advantageous legislative changes tending towards increasing of

attractiveness of investments in technological innovations, also in the sphere of electronic communication. Concluding, it is possible that in this case only financial matters may be a problem.

But new telecommunication solutions have appeared last years, the solutions that create considerable possibilities for penetration of the market of electronic communication at relatively small capital expenditures. One of this solutions that creates big hopes is the WiMAX technology. This technology gives the possibility to render services of the access to broad-band Internet in a wireless way in a considerable geographical area with preservation of very high technical parameters. By using of this technology, an economic subject that renders services of the access to the network in the given area can appear in a relative short period of time. A wide use of this technological solution would radically change the structure of the market of electronic services in Poland and, what is especially important, the level of competitiveness of this solution would considerably increase. Just since 2005 there has been lasted in Poland a procedure referred to determination of tenders for the frequency bands 3,6 to 3,8 GHz that condition creation and functioning of district Internet networks in the WiMAX technology. Investors are quite interested in these tenders and the short period of execution of the investment enterprise causes that a real competition should appear quite soon. Currently just a few telecommunication subjects have offered their customers the possibility for access to the broad-band services on the very attractive financial conditions. It should be believed that in the situation when all district platforms start functioning, the rates connected with the broad-band access will be considerably reduced. All the more these are not only alternative forms of the access to services of the broad-band network in Poland, because there are quite attractive technical parameters of the broad-band access executed by the network of mobile telephony, the only segment of the market of electronic communication services, which operators are legally obliged to develop the infrastructure of services. On the other hand the rate aspects in this area of the electronic communication market are not especially encouraging, although there is seen a slow declining tendency in the range of the access prices. Hopes for improvement of situation in this segment of the market of electronic communication should be set in connection with appearing of the new economic subject in the Polish market, the operator under the commercial name P 2 and in possibilities of development of the UMTS, the broad-band mobile telephony of the third generation that will offer a number of services dedicated for the economic sphere.

3. CONCLUSIONS

The technological conditions aiming to develop the competition in the market of electronic in Poland shown in this article give the hope to general access to the broad-band network and services that is the base for functioning of the economy based on knowledge. However they have to be initiated rapidly, just to increase the competitiveness of functioning of the market of electronic communication within relatively short time period. It seems that only forming of the strong competition can be an effective remedy to problems that exist in this sector of the market, essential for the economy.

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