MOBILE TELECOMMUNICATIONS MARKET ANALYSIS

Prof. Gheorghe Meghisan Ph. D
University of Pitesti
Faculty of Economics
Pitesti, Romania
Assoc. Prof. Simona Bodog Ph. D
University of Oradea
Faculty of Economics
Oradea, Romania
Assist. Georgeta-Madalina Meghisan Ph. D Student
University of Craiova
Faculty of Economics and Business Administration
Craiova, Romania

Abstract: : Telecommunications mean power and create the power with long term consequences. It is demonstrated that the potential to transform the society and business is just at its beginning. With the invention of telephone, the human communications and commerce chanced once for ever. Time and distance had broken the barriers in business, the result being keeping in touch with closed persons and immediate response to the major world's events. Using the telecommunications networks, people could extend their horizon of thought, influence and productivity. Today, new investments and developments place again, the telecommunications as a known power, changing people's way of communication and commerce. This industry has an interesting area, with new communication technologies and applications, which lead to opportunities in industries of entertainment, health, governance, advertising, lifestyle and wealth.

JEL classification: M1

Key words: mobile telecommunications market, mobile telecommunications industry, mobile telecommunications operators, mobile telecommunications providers

1. INTRODUCTION

Telecommunications industry undergoes a multiform and global mutation. This the central point for the network economy principles [1], to which we can add empirical legislation formulated by Robert Metcalfe, the founder of the 3Com society and by Gordon E. Moore, the ancient president of the Intel Company. The Metcalfe law states that the network utility is proportional to the square users' number. The Moore law previews the doubling of the integrated circuits' performances, memories and every essential processor evrery18 month, within the telecommunications network, together with their cost reduction [2]. Besides these empirical states, the network also responds to a particular economy.

2. ECONOMY AND MOBILE TELECOMMUNICATION MARKET

So as to reveal the telecommunications' importance, we will analyze this sector at a macroeconomic level. At a worldwide level, the telecommunications market values almost 1 500 billion euro, with a rise superior to the world's economy (almost 6% of rise in 2007) [3]. One third of this market is represented by the telecommunications operators, one third by the network providers and one third by the telecommunications and electronic equipments for the large public. Telecommunications own 3% of the working force from Europe and between 15 and 18% of the research budget..

The sector's importance is crucial for the developed countries: after several OCDE studies, during the period 1995-2004, the telecommunications would have had a contribution, depending on the country, to a growth from 18 to 25% of the GIP. For the developing countries, the impact on the working force growth is more powerful after the years 2000, even if the data is more difficult to be valorised due to the informal market development. Thus, we can state that telecommunications represent an important economic sector.

The telecommunications network allows positive externalisation such as: "the cube effects", scale economy and a "low efficiency" offer. "The cube effects" are essential: every user benefits, on one hand, form the usage of its network and, on the other hand, from the usage of the others' networks [1]. This benefit is more important as the number of the connected users is greater.

A company has growing efficiency if the average cost of one produced unity diminishes with the production growth. Scale economies are linked by synergies that contain the offer of many product and services lines. Telecommunications networks have growing efficiencies: if the fixed costs of infrastructures are high, once the network is finished, the capitalization becomes powerful together with traffic growths, due to the decreasing of the variable costs.

These networks characteristics justified the natural monopole awarded to a national operator over time for the infrastructure instalment and management. As a consequence, if there is growing scale efficiency and scale economies, the monopole of one company can be the best solution from an economic point of view

Before deregulation, the monopole in telecommunications permitted many "growing subventions": between network layers, because the services subsidize the infrastructures, then between services (for instance, the calls in peak hours finance the calls within the other hours) and between different categories of users or geographical areas

During its development, the telecommunications network encounters positive externalities resulted from the exchanges' growth and the offered services' variety [1]. The value of a network grows with the number of its users and the informational content that it reveals: the connectivity demand growths, leading to the "snowball effect". Otherwise, while the stature of a network being weakly, everyone wants to connect, what blocks the network development: as a result of the demand's absence, the investment into the network is weak, what reinforces the demand's blockage.

This economy of network led to the development, in industrialized countries of powerful telecommunications national operators that benefited, till the deregulation, from monopole situations on the fixed telephony that is a veritable gain, once they amortized their investments. This aspect, often accompanied the industrial policies, sustaining the stuffs providers.

3. THE WORLDWIDE MOBILE TELECOMMUNICATION MARKET

In 2006, the telecommunications worldwide market was estimated to over 1 200 billiard euro by IDATE, of which 80% for services and 20% for equipments.

Table no. 1 The Worldwide Telecommunications Market and the Geographical Repartition (in billion euros)

	Telecommunications services	Telecommunications equipments
North America	26	52
from which U.S.A.	240	48
Europe	317	59
Asia-Pacific	275	85
From which Japan	109	26
China	67	23
Latin America	68	12
The others	49	8
Total (growth 2006/2005)	971 (+ 5%)	216 (+ 5,8%)

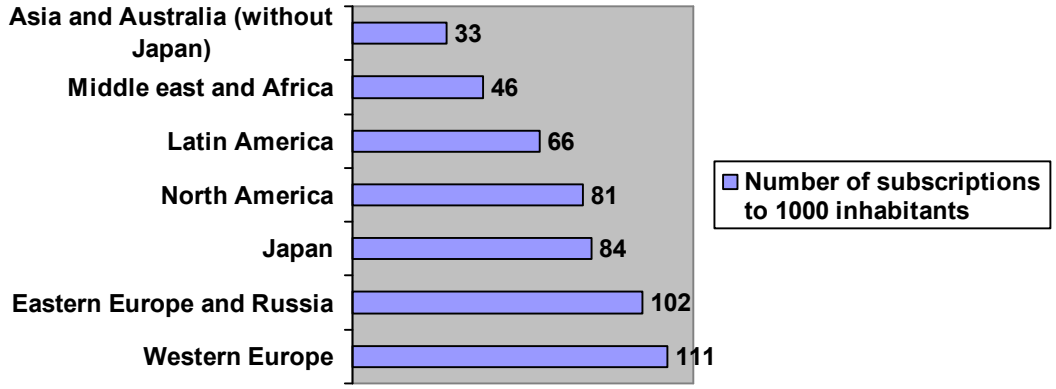
Source: Processed after Idate, 2007

This industrial sector represented 3,3% from worldwide GIP in 2007, compared to 2,75% in 1999 and 0,5% in 1980. The most dynamic segment is that of the mobile telephony which represents half of the telecommunications services market, whereas the fixed telephony still represents 37%, but it diminishes continually, whereas the Internet sector has a rapid growth.

On a worldwide population of 6,5 billion inhabitants, it could be counted 1,1 billion Internet users, 1,3 billion fixed lines telephones and 2,6 billion mobile telephones (3 billion in 2007) at the end of 2006. The mobile telephone had a accentuate growth, especially in developing countries such as China and India. However, the number of subscribers from the Southern countries is higher than that of the developed countries: this is the only technology that this kind of phenomenon is happening. The mobile phones' explosion was more rapid in developing countries, while the fixed networks had a weak dispersion.

In some developed countries, the equipment regarding the mobile telephony was going to saturation: thus, Spain and Italy had an equipment rate of over 100%, what leads to the development of the 3G technology.

Taking into consideration that half of the world's population has at present a mobile phone, the growing rate will not be composed of the figures and it is estimated to be of 5% in 2010. Nowadays, the telephones are not used only for calls. In the next three years, the incomes' growth from the data downloads (video, music, e-mail) will be three times higher than those obtained from calls. In Japan, the third generation telephones (3G), with a high speed Internet connection are more numerous than the conventional ones, while they had a two figures' percentage growth in 2008.



Source: Capital, World in 2008, p. 47

Figure no. 1 Number of mobile telephony services subscriptions to 100 inhabitants

4. TELECOMMUNICATIONS' ECONOMIC ACTORS AT A WORLDWIDE LEVEL

The operators that provide network services benefited from a monopole situation on the national market a long period of time. Once with deregulation they have been concurred and qualified by the "historic operators".

The companies, that product physical components, network software and terminals, developed themselves in tight relationship with the national operators. After the deregulation, they don't benefit from the connections established at a national level and are obliged to internationalize themselves, even to merge, so as to divide the high cost of the research and development. Thus, the worldwide market of operators and equipments, long organized as a conglomerate of national monopoles, became an oligopolistic market. The greatest worldwide 15th operators that are all part of the triad U.S.A./ Western Europe/ Asia represents 80% of the worldwide market

Regarding the equipments, the oligopolistic phenomenon is also revealed, because the first greatest 15th groups own three quarters from the worldwide market. Concerning the mobile phones producers, there are three groups that collect two thirds from the market: the Finnish company Nokia (38%), the Korean Company Samsung (15%) and the American Company Motorola (13%).

Table no. 2 The First 15th Greatest Worldwide Telecommunications Operators in 2005

Operators	Countries	Turnover in 2005 (billion dollars)
1. NTT	Japan	97,5
2. AT&T Inc. (SBC + AT&T)*	U.S.A.	78
3. Verizon	U.S.A.	75
4. Deutsche Telekom	Germany	74
5. Vodafone ***	United Kingdom	61,5

6. France Telecom	France	61
7. Telefonica	Spain	47
8. Telecom Italia **	Italy	37
9. BT	United Kingdom	35,5
10. Sprint Nextel	U.S.A.	35
11. Cingular Wireless *	U.S.A.	34
12. China Mobile	China	30
13. KDDI	Japan	28
14. China Telecom	U.S.A.	21
15. BellSouth *	U.S.A.	20

Processed after IDATE

* AT&T merged in November 2005 with SBC, and that's why the cumulated turnover is estimated. Beginning with the year 2006, it becomes the number one worldwide, integrating Cingular Wireless for a turnover superior to 100 billion dollars. Bell South was achieved by AT&T in December 2006.

** In 2007, Telefonica took the strategic control of Telecom Italia and 10% of its capital.

*** Vodafone is the most internationalised operator: 83% from its turnover was made outside the United Kingdom in 2003. Giving its subsidiary to Japan in 2006, it becomes the 7th greatest worldwide group in 2006.

Table no. 3 – The first 15th worldwide providers of the mobile telecommunications companies in 2005

Providers	Countries	Turnover in 2005 (billion dollars)
1. Cisco Systems	U.S.A.	26,4
2. Alcatel/Lucenet *	France and U.S.A.	23,3
3. Ericsson & Marconi **	Sweden	21,4
4. Nokia Siemens Networks	Finland and Germania	19,6
5. Nortel	Canada	10,8
6. NEC	Japan	8,5
7. Motorola	U.S.A.	7,3
8. Huawei	China	5,9
9. Siemens Entreprises	Germany	4,8
10. Fujitsu	Japan	4,2
11. Avaya	U.S.A.	2,6
12. Juniper	U.S.A.	2,1
13. Tellabas	U.S.A.	1,9
14. ZTE	China	1,8
15. UTSarcom	China	1

Processed after: IDATE (2007), Faure et al. (2007)

* The French Company Alcatel and the North American Company Lucent merged in 2006.

** The Sweden Company Ericsson bought 75% from the stakes of the British Company Marconi in 2005.

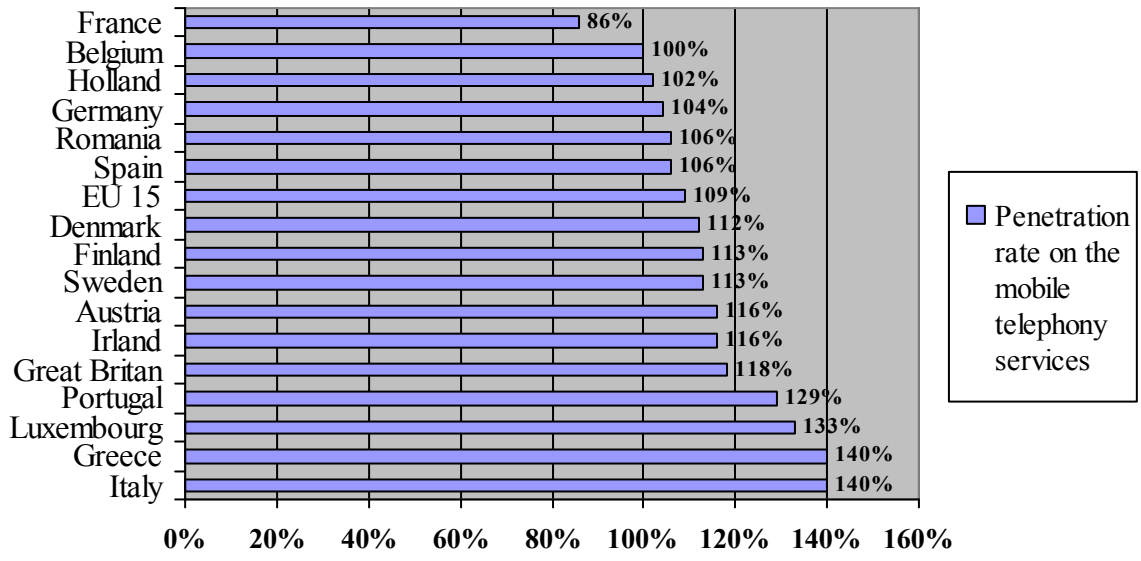
More than a century in most of the countries – with the exception of U.S.A. and Canada -, the state played a major role in the mobile telecommunications' operators' training. Within the national public monopole, this assured the functions of regulation, exploitation and guardianship of the telecommunications politics.

The historic operators are, in their majority, the results of the National States, from which they separated by means of privatisation. Together with the generalisation of the deregulation, the states play a medium role, but are present by the power of regulation, participating to the historic operators' capital, the sustainment of the industrial politics and the framing of some important programs in the informational society.

5. TELECOMMUNICATIONS IN EUROPE

The comparative analysis indicates the fact that the electronic communications services' penetration from Romania is smaller than in the majority of other European Union's member states. The penetration rates of the mobile telephony services at the level of the first 15th EU's member states varies between 86% in France and 140% in Italy.

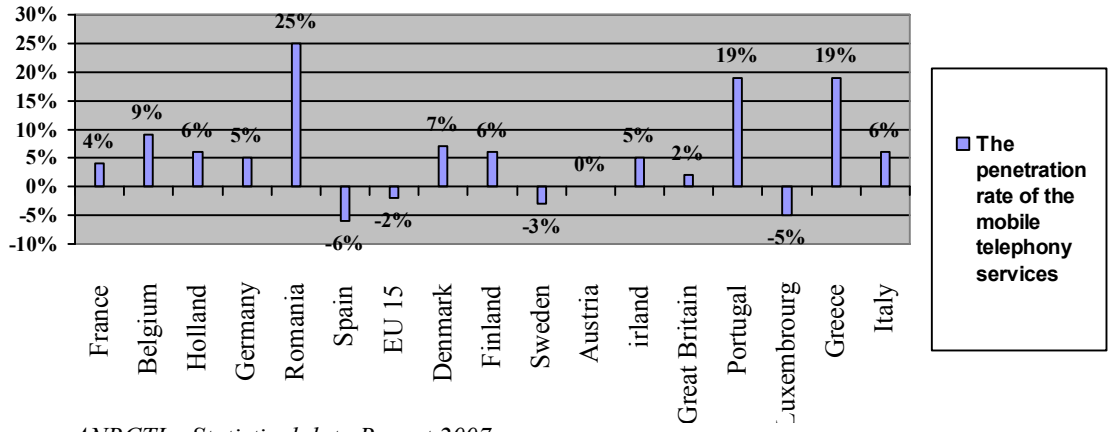
The penetration rate registered in Romania is under the average percentage of 109%, calculated at the level of all the countries EU 15. If at the end of the last year, the penetration rate was of 106%, it means that the real percentage was about 90%. This figure is very close, because the indicator is calculated by reporting to the number of inhabitants, including children up to 5 years old (over 1 million), who probably aren't and will not interested by the most attractive offers of the operators. The persons who are out of the country, the very old people or those 1-2% of the people that are out of the networks coverage area are not taken into consideration.



Source: ANRCTI – Statistical data report 2007

Figure no. 2– The Penetration Rates of the Mobile Telephony Services from Romania vs. the Penetration Rates of the EU 15 Member States vs. the Average penetration rate at the level of EU 15

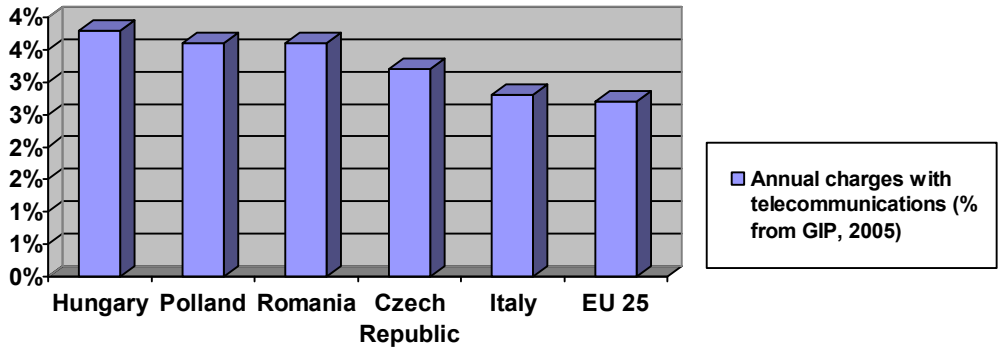
Romania is the country which in 2007 had the highest penetration rate of the mobile telephony penetration rate, with a growth of 25% from the year 2006, having 6 percentage points over the maxim evolutions from the UE 15 member countries (Portugal and Greece) with 19%. The average penetration rate at the level of member states UE 15 decreased with 2 percentage points compared to the level registered at the end of 2006.



Source: ANRCTI – Statistical data Report 2007

Figure no. 3– The Evolution of the Penetration rate of the Mobile Telephony Services from Romania vs. The Evolution of the penetration rates at the level of the Member States EU 15 vs. the Evolution of the Average rate of Penetration at the level of EU 15

On the other hand, besides the small level of the charges with electronic communications services per capita, they have a high weight in Romania's GIP, a proof of the importance of this sector, on one hand, at the level of the entire economy and, on the other hand, for the citizens.



Source: ANRCTI – Document regarding the regulation strategy of the electronic telecommunications sector from Romania in 2007-2010

Figure no. 3 Relative charges with communications services

GIP is a macroeconomic indicator that reflects the value sum on the market of all the marchandises and services destinated to the final consumption, produced in all the

economy's branches within a state during a year. GIP = consumption + investments + exports - imports

6. CONCLUSION

Besides their mutation, the telecommunications keep the following major characteristics. The telecommunications technical macro system is the oldest from the communication and information technology, including the audiovisual and informatics, because the optical telegraph was born once with the French Revolution. This sector has assimilated three major technological continents: the telegraph, the telephone and then, the telecommunications within two centuries.

The telecommunications represent the industrial sector with a powerful intensity of the capital, because the network building needs higher investments and, then, capital.

This complex activity is dominated by the technical-scientific culture. The telecommunications represent a world dominated by engineers and technicians.

The telecommunications field is in a continuous innovation, linked to the sciences' evolutions (electricity, physics, and informatics) and which encounters many technological fractures. That's why, the research plays an essential part and the greatest laboratories such as Bell labs from U.S.A. or the National Center for Studies in Telecommunications from France were awarded with brevets and Nobel prizes.

Telecommunications represent a strategic sector for the military and political powers: this has been regulated and even controlled in some periods and countries. However, the strategic role of telecommunications appears less politic than economic, because the information systems contribute to the organization of the contemporary enterprises.

The telecommunications technical macro system was internationalized in the XXIst century, together with the optical telegraph extended by Napoleon, then the British electric telegraph: the networks don't stop to frontiers, but they often followed the colorizations and empires.

Telecommunications as any other network, transform the territories, decreasing the distance and contracting the time. Besides transports, the telecommunications represent networks that are not the same with the territories, because they are open and without frontiers.

Telecommunications contribute to the economical growth. The Jipp Curve [10] represents the correlation between the telecommunications' development and the national GIP. This is the sector that grows in average more than the entire economy and whose weight in GIP didn't stop to grow, because it stimulates the growth throughout the investments importance and the sustainment of the consumption by new products and services. Telecommunications have also a qualitative impact of the entire productive system and contribute to the global productivity.

REFERENCES

1. N. Curien "Economie des reseaux", Paris, La Découverte, 2005
2. M. Volle "E-economie", Paris, Economica, 2000
3. Huet J. M., Tcheng H. "Et si les telecoms n'existaient pas?", Paris, Pearson, 2009
4. ANRCTI – Statistical data report 2007
5. Capital, World in 2008, p. 47