PARADIGMS OF THE e-ECONOMY. OPPORTUNITIES FOR ROMANIA

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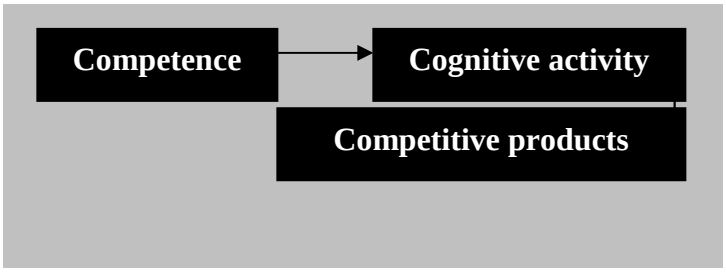
Abstract

The new economy or e-Economy represents the surging of growth generated since the end of the 1991-2000 decade by New Technologies of Information and Communication (NTIC). Consequently, the shift to the knowledge-based economy has triggered significant structural mutations in the GDP evolution, such as: the prices cutback, changes on the labor market (unemployment rate decrease), the multi-factor productivity strengthening, etc.

The most meaningful are the modifications occurred in the international environment and in the mix politics in the United States of America. Strangely enough, the shift to NTIC finds our country in a quite advantageous position, in the sense that the generalized crisis may be overcome by investing in NTIC; the resources are at hand, except for the capital for the non-involvement of the national economy into large industries that feature new technologies, but rather morally worn out.

Key-words: *NTCI, open source, knowledge-based economy, multifactor productivity*

In USA, the new economy or e-Economy means the surging of growth generated since the end of the 1991-2000 decade, by means of the New Technologies of Information and Communication (NTIC), according to a relatively simple logic (see graph 1 below): competence (the ability to generate knowledge) → cognitive activity, guided by the competence → viable projects, i.e. effective, competitive solutions.



Graph 1. *The logic of information technology development*

At the beginning, while the change was perceived as an authentic *industrial revolution*, its proportions might be very much modest. Such an economic evolution is characterized by the lack of inflation and the full use of labor force, a reminder of the good old times of the 50's and 60's in the developed countries [8, p. 54]. Estimated at 4 billions USC in 1994, the Internet-generated turnover reached the amount of 301 billions USD (318 billion EUR) in 1998, which brings the Internet earnings to the level of the American top industries, i.e. the auto industry (350 billions USD); currently, the value exceeds 10,500 billions EUR [13].

In France, NTIC contributed with 5% to the GNP building, 3,5% to the national wealth and 15% to the economic growth in the year 1998. A similar favorable situation (see the United States of America) suggests the access into a new economic era of intense growth, where we have low unemployment and inflationist tensions almost close to nothing, and which led to the '*new economy*' phrase [7]. To talk about the New Economy is to bring into equation the old economy. What are the facts that allow noticing the change of economies? Is the concept itself of 'new economy' confirmed? If yes, then how do we explain the emergence of this new economy and the gaps among the national economies?

The internet history highlights the development of one of the first telecommunication networks. The idea of a computer-based network to have the users with various PCs communicate to one another has developed in stages. The sum of all such developments has turned into the '*networks of networks'*, as we know it today under the name of Internet. It is also the technological development and the regrouping of the existent network infrastructure and of the telecommunication systems. The first versions implemented the above towards the end of the 50's. The practical application of these concepts happened ten years later, in the 60's. Since 1980, the techniques that are accepted as the modern Internet fundamentals have been spreading all over the globe. In the 90's, the coverage skyrocketed by the emergence of *World Wide Web*. Upon the gradual increase of the Internet users number, from 23 computers linked by ARPANET in 1971, to 1,000 computers in 1994 – based on the first server as a functional site since 1983, to 2,320,000,000 users worldwide in the year 2007.

Every year, the *World Economic Forum* issues the '*Networked Readiness Index*', an index defined in terms of the place, usage and the benefit that a country derives from Technologies of Information and Communications. This index takes into account a certain number of countries (122 in 2006-2007) and allows setting a world ranking (see chart 1). This index is still under the desired level, should we look at the needs and limits inflicted on by the current situation.

Rank	Country	Score	Rank evolution in a year
1.	Tunisia	5.71	+2
2.	Sweden	5.66	+6
3.	Singapore	5.60	-1
4.	Finland	5.59	+1
5.	Switzerland	5.58	+4
6.	The Netherlands	5.54	+6
7.	U.S.A.	5.54	-6
8.	Iceland	5.50	-4
9.	Great Britain	5.45	+1
10.	Norway	5.42	+3
11.	Canada	5.35	-5-25

Source: *World Economic Forum*, 2007. Number of countries: 122.

Chart 1. *The top countries in the electronic usage*

1. **Models of the e-Economy.** The New Economy includes certain models, specific to it, where the most significant are as follows:

1.1. *Model of the Logician Owner*. At first, the Logician programming (Software) was a scientific activity whose developments were open, public and lacking property rights. The Model of the *Logician Owner* emerged towards the end of the 60's, when the computer science left the scientific environment in order to branch out itself into the commercial field. Its super-profitability proved when *micro-informatics* came forth, along with the *Microsoft* means to sell a logician for each computer on the planet – the 'Windows' Operating System. This model, which is about the preservation of the secret source code, is based on the *author rights* (or, in some countries, the *logician patent*), granted to the logician-inventor, in order to help him sell his creation. Because of that, each user was bound to purchase a user license – that does not allow, among others, any retro-engineering. The Logician sale is quite lucrative, thanks to the fact that the reproduction cost (quasi-nul) is very expensive. For instance, the value of *Microsoft* – a company perceived as the locomotive of the New Economy, had a 280 billion USD as a stock quote in 2008. The Logician Owner has a rather confuse relation with the pirating – on the one hand, he relies on it to turn it into a standard; on the other hand, he fights against it to maximize his earnings. Besides a constant conflict with pirating, this model is interfered with other free models, as the *Free Logician* and the *advertising model*. It might find an escape in the SaaS logician model, as shown below.

1.2. *Model of the Free Logician.* This model is a reply to the owner model explosion, even if its principle is foregoing; in the 80's, this model was turned into a form by *Richard Stallman* and the *GNU GPL* license (called '*Open Source'*), involving their publication of the logician's source code and provision to all the users of the rights to copy, study, transform and re-deliver the changed versions of the logician that they have received. Therefore, it consists in making the logician

conception mutual by NTIC technologies, calling upon the good will of hundreds of engineers worldwide. '*The Common Senses'* are the counterpart for the Reproducible Art (music, images, video, etc.). The Free's Economy relies on the additional services and products recommended by hundreds of specialized companies – services of maintenance, code change or payable modules; and operating products as the MP3 readings, of the video lectures/DVD, ADSL boxes or complete computers. The Free's Economy helps more companies live on than the owner model.

1.3. *The Portal Web Model.* Emerged simultaneously with the Web burst and derived from the old media, this is the 1995-2000 window dominant model of the *Internet Bubble*. The Portal Web Model is about to provide information free at charge, with the purpose to get the largest possible audience and capitalize on it by advertising sale, called 'push' (non-targeted banners). During the Bubble, all the companies of New Economy are only aiming to become a Great Generalist Portal (leaving out the Web Research, model-less back then, which disperses the audience) – this is the direction that Yahoo, MSN and AOL (the furthest degree) steered to. Their strategy describes as the diversification of the information offer, in order to retain the internet users the longest possible on their Portal. One of their weaknesses, though, is their intrusive advertising and poor rentability. This model, which is far from keeping its promises, is based today on *Longue Traîne* that allows it to have a wide range of specialized Portals.

1.4. *The Longue Traîne Mode (economic model of the long trail).* The model has been turned into a concept by emulating the Internet Bubble burst, starting from the zero cost of managing an infinity of products. Let's imagine that we are placing the earnings of a New Economy company in a graph that has the *sold products* on the x-axis and the *turnover* on the y-axis, divided to those products (graph 2). On the one hand, the turnover is limited and, therefore, finite. On the other, the management of the products infinity permits the emergence of a 'longue traîne' of products that are very little connected individually, but whose total turnover exceeds the best-sellers' by far.

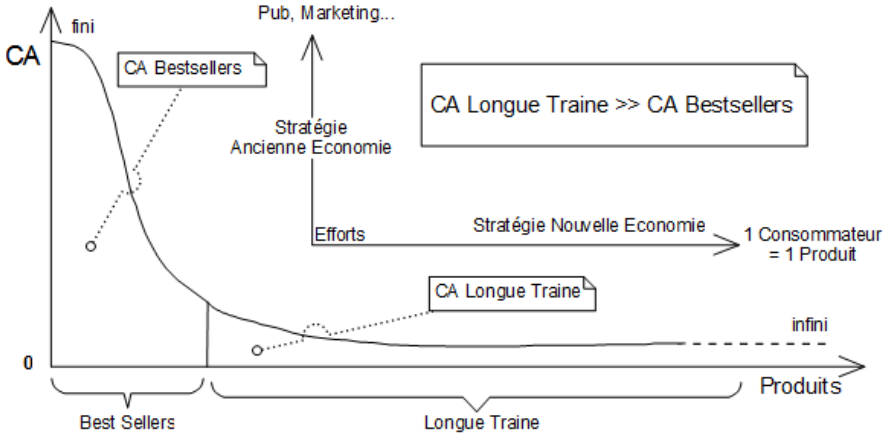


Chart 2

This model has witnessed an unmatched success and is currently implemented by all the individuals of the New Economy, i.e. *Google* (the key words), *Ebay* and *Amazon*. The strategy lies in the fact that each consumer has the chance to find the hyper-specific products he is looking for. Certain companies directly place themselves on a market niche, called '*longue traîne*' – making an abstraction of the best-seller concept but displaying itself as ultra-specialized. This is a model which a huge number of companies benefits from.

1.5. *Model of the search engine*. The research model has been invented by Bill Gross and the *Overture* company during the Bubble Internet. Today, Google dominates it worldwide (75%), and seems the most lucrative model of the New Economy, estimated to have reached 25 billion USD in 2008. In 2012, it is expected to quadruple its turnover. Its strategy lies in providing the internet users a Search service on the most stretched webs. Equipped with a state-of-art technology of results ranking, Google has had not a problem to set itself apart as the best search engine, drawing a huge audience to other sites. In order to capitalize on this audience, the model suggested the 'get'-type advertising. The 'get'-type advertising is a target advertising by key words, based on the natural research results, and proves to be the best advertising on the earth, the moment the consumer takes the decision to buy something. Along with Google and thanks to the pay-per-click purchase, the buying by means of key words (AdWords) is, at present, the most lucrative advertising and a direct turnover generator. Google is the cornerstone for a long-term gigantic economy, with the help of an assortment of small specialized companies. The main weak point of this model seems to be the 'clicks fraud', where a competitor continually accesses your advertising and buys nothing: as Google directly and invisibly profits from it, it will take no measures to bring a remedy to it. Consequently, Google holds the second place as a New Economy company, trailing Microsoft, with a quote of 160 billion USD in 2008.

1.6. *Model of service-type logician.* This model is quite recent, simultaneous with the Web 2.0 practices, following the Internet bubble. The principle of the logician as a service, called SaaS (Software as a service) represents a service available on the internet, relying on the servers at hand. The logician and its files are then available worldwide, by a simple automated connection to the internet; thus, pirating is avoided. Hence, the system is no longer sold, but rented, and the other 'actor' is the *Microsoft Office Live*. And as an alternative of being rented, the logician may be capitalized on by advertising – this model is perceived as the future Logician Owner.

2. **Structural mutations imposed by the e-Economy-based growth.** The most significant impact shows below:

2.1. *The GDP trends increase and prices decrease.* During the last decade, three countries in OECD (Australia, Ireland and the Netherlands) have witnessed a trendy growth of GDP/capita even stronger than in the 80's. The same growth applied and improved in other countries, mainly in the EU. On the contrary, it has slowed down in countries like Japan, France, Germany, England, etc. (see graph 3).

If we look at the EU, for instance, we see a strong and durable growth of GDP, in a context of a controlled inflation. Since 1996, GDP has gone beyond 4%, the prices have lowered and the productivity earnings have risen. The fact that we notice a significant increase of GDP brings back the changes of the initial trend by the New Economy, starting with the 90's. Similarly, other meaningful changes in economy may have us think of a new cycle in the world economy.

2.2. *Significant changes on the labor market.* In the 90's decade, the unemployment in the United States of America registered a decrease, from 7.5% to less than 4.5% between 1992 and 1999. Also, the employed population has been more active. In France, this evolution is also remarkable. The estimations of the Forecasting Department suggest that the structural unemployment has lowered by two points in the mid 90's, as a consequence of the decrease in the expenses and the capital cost dropping off. As for the equilibrium unemployment, it has also gone down by two points and reached almost 8.5% in 2000. 'The employment per centage increase' has triggered a decrease of the labor productivity and a slowing down of the *factors general productivity*. Instead, the employment per centage has built up at the potential population level, thus transitorily influencing the potential growth. Of course, such a phenomenon, distinct from the new economy, implies a constant growth of the increase rate. The progress on the labor market is a true indicator for change, since it greatly contributes to a better *multi-factorial productivity*.

2.3. *The multi-factorial productivity (MFP) in the rise.* The combined utility of the capital and labor seems more effective at the present moment. During the 90's, MFP has stepped up in the OECD countries. For the new activities, the MFP acceleration is partly due to the young companies that mix the labor and capital more easily than the more stable ones. According to OECD, this MFP improvement is indebted more to the latest ways of organization and high qualification level, initiated by ICT. The dissemination of such technlogies has sparked a leveling off for the technological goods prices, which resulted into more dynamic investments than the traditional ones. We have been noticing a serious adjustment of capital since mid 90's, when the investments into technological information goods rose at a higher speed than the global investments. The ICT rise during the 90's decade is the core reason for the potential growth of the American economy.

3. **Factors of the change and role of the electronic technologies.** The list of the relevant factors includes:

3.1. *The international environment.* Debuting with 1996, the American economy has benefitted from a macro-economical environment, favorable to the extension of the growth cycle. Between 1996 and 1999, the import prices decreased by 10%, which allowed for the inflationist tensions to lighten. This phenomenon may be explained by the combination of three factors: the USD appreciation in nominal terms since 1995, the oil quote decrease between 1997 and 1998, and a lower increase in other economies than in EU, which helped the international trade accumulate substance. The United States of America have, thus, benefitted from

massive capital input during the Asian crisis (the quality rush' phenomenon) that propped up the economy. The European economies had also a piece from this international context, with a slight falling behind.

3.2. *The mix politics in the United States of America*. Since the Ronald Reagan Administration ended, the North-American mix policy has witnessed many changes. The entire 1990 decade is the best described as the economic policies going hand in hand with the improvement of the national economy. The monetary conditions are less restrictive than in the 80's, going on during the 90's (the short-term interest rate is lower). The monetary politics become more pragmatic and adjust themselves to the contemporary times. Instead, the budgetary politics are more strict in terms of public finances recovery (diminished structural expenses, increased structural expenses). The change of the politics mix, favoring the capital accretion, may count for the new economy standing out in the USA, with a more pessimistic scenario compared to the latest technologies. Such arguments make the idea of a technology exclusively based on these technologies invalid. They delineate the importance of a companion in terms of the growth public policy. The mix politics has built an environment where the new economy has acquired specific dominance.

4. **Perspectives of the e-Economy in Romania.** The main resources of Romania are as such: *land* or nature (the riches of soil, underground, tourism, etc.), *people* (who need to be trained and educated for solidarity – if we consider the lack of democratic education nowadays) and *ideas* (i.e the permanent innovation, derived from the association among technology, merchandise (products and services) and *market* [12, page 519], found in an interdependency relation. As a consequence, the succession $T_1 \rightarrow T_3$ generates a spiral evolution of the products and market, as seen in the chart 3.

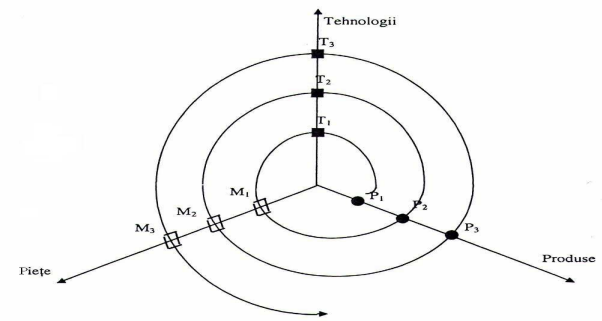


Chart 3. *The interdependency relations among technology, products and market*

Even though our country has beautifully assimilated the latest technologies, information and communications, the general crisis situation may be overcome should the authorities invest in NTIC. We do have resources, except for the capital and the non-commitment of the national economy for large industries, owning state-of-art technologies but morally worn out. Besides the NTIC domains,

significant investments should be made in agriculture, zootechnics, fish farming, which have been still waiting for important resources since 1990. The capital vacuum may be filled up by issuing securities through the State Treasury (internal efforts), as well as by fiscal facilities granted to the internal investments for such domains, plus the direct external ones, if a legislative and political stability is set right.

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