

A FUTURE APPROACHES, SOCIAL ORGANIZATION AND THEIR ECONOMIC CONSEQUENCES OF THE INFORMATIONAL SOCIETY – KNOWLEDGE SOCIETY

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Abstract

The paper is the result of scientific study under doctoral thesis “Information Society and its Economic Effects” and contains seven sections:

- section 1: “Globalization, Development and Information Society”;
- section 2: “The Impact of the “Digital Divide” and “Digital Inequality” Phenomena” ;
- section 3: “Information Society –Knowledge Society, Definition, Objectives and Strategies” ;
- section 4: “Social Structures and New Life Patterns in Information Society” ;
- section 5: “Virtual Organizations, Activities and Businesses” ;
- section 6: “Strategies, Programmes and Courses of the Information Society Approach” ;
- section 7: “The Economic Effects Foreseeable through the Implementation of Information Society–Knowledge Society”.

Keywords: *Information Society, Knowledge Society, Society of Truth, Spirit, Conscience and Morality(STSCM), IT&C, Digital Divide, digital inequality phenomenon, SITM, LONG-LASTING SOCIETY, Tele Centre, Cybermarketing, TeleEducation, TeleShopping, TeleMedicine, e-government, e-commerce, e-banking, entertainment systems, teleshopping, telelearning, mobile telephony, virtual telecommunities,Telecottages, Electronic Village Hall, Community Telecommunications Center, Distance Education, Distance Learning, Open Learning, Open and Distance Learning, E-education, Virtual Organizations, virtual team, electronic business solutions (EBSP), leap-frogging.*

1. Section 1, entitled “Globalization, Development and Information Society”, represents the level of knowledge and contains the description of the amplitude of the globalization phenomenon, the interconnections globalization-global economy substructure, the analysis of the phenomenon concerning the development of the electronic industry and IT&C and also the situation of the world countries facing the accomplishment of the Digital Economy and Information Society. Subsequently, the problematics concerning the world countries vs. the development tendencies of the IT&C field are presented. The conclusions that are presented in this section, concerning the phenomenon of globalization, refer to the following aspects: (a) the dramatic increase of the information transfer flow at the global level, at the same time with the exponential development of the IT&C components and the global substructure of telecommunications, among which the main part is played by the Internet system; (b) the massive increase of the international cash flows and ISD; (c) the significant increase of the international trade volume; (d) the rapid development of the global financial markets, considered to be a “weightless economy”; (e) the creation of “Porteris clusters”, a new “digital geography”, generated by innovation and technological clusters, actually made up of interdependent assemblies of competences, capability and local capacity; (f) the decrease in action and importance of the economically developed countries, in the favour of STNs and international bodies (UNO, IMF, Global Bank, OMC, OECD etc.), at the same time with the increase

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of the STN importance for the global trade; (g) the externalization of the activities of marketing, production and services, the creation of a new international financial and industrial structure; (h) the increase in number, applicative and restrictive force of the universally applicable standards; (i) the increase of legal and especially illegal migration of people and labour force, at the same time with the accentuation of “brain migration” to the most economically developed countries; (j) the optimization of the cultural relations at the global level, the informatic facilitation of the access to the universal cultural values, by implementing the concepts of “multiculturality”, “mobility” and “interchangeability”; (k) the universality of the English language and Anglo-Saxon concepts. In this section, are also presented the drives of globalization: scientific and technological innovations and the amplexness of the development of the electronic industry (drive I), the implementation and generalization of the usage of Digital Economy (drive II), the present politics of a neo-liberal type, considered to be the motive power of the globalization phenomenon (drive III), and the implementation and generalization of the usage of IT&C (drive IV).

2. Section 2, “The Impact of the “Digital Divide” and “Digital Inequality” Phenomena” starts with the analysis of the “digital divide” phenomenon, regarded as the virtual distance between individuals, generally considered, or geographical areas, seen at various economic and social levels, from the viewpoint of the common perspective on their opportunities, depending on the access to the facilities provided by IT&C and the usage of the Internet system for the whole range of human activities. These reasons have led us to the solution of treating this phenomenon from the viewpoint of the following essential aspects: **(a) the “digital divide” phenomenon and its impact on the contemporary world; (b) the amplexness of the “digital inequality” phenomenon and (c) the effects of the “digital inequality” phenomenon.**

The conclusions concerning the “digital divide” phenomenon, refer to analysing the level of access to the communications technology, basing the “digital divide” phenomenon on the dynamics of access to the Internet system – competition is the key to the Internet access –, studying the cost of the access to the residential and business phone systems and the reason of the decline of the Internet access costs. In this section, are presented the analysis indicators of the “digital divide” phenomenon: the ethnic factor and division are apparent in “digital divide”, the usage of the IT&C facilities and the Internet system by the industrial and business sectors, the access to the IT&C technologies and the Internet in the urban and rural regions, the access to the IT&C facilities and the Internet by the urban and rural regions, alternatives of access to the IT&C technologies (cable and satellite broadcasts and access). From the viewpoint of rendering the “digital inequality” phenomenon, we have presented the amplexness of the “digital inequality” phenomenon, its features, the present inequities in using the Internet, the differences in the on line usage capacity and the influence of the education level. The effects of the “digital inequality” phenomenon are rendered by the analysis of the population access to the Internet, the analysis of telephone usage, the analysis carried out in respect to age, the analysis of the access to electronic services and the usage of the Internet system in respect to the statistic indicators of population, at the same time with the usage of the Internet system at the level of governmental, corporatist and social structures (under the influence of some representative factors: the general usage of the Internet system, the usage of the Internet system in kindergartens, public libraries and communitarian centres, the typology of the equipment of access to the Internet, the type of the Internet provider, the analysis of the Internet usage at home/ outdoors, the accomplishment of the on line confidentiality and the promotion of competition and universal services.

3. Section 3, “Information Society – Knowledge Society, Definition, Objectives and Strategies”, contains the analysis of the human society evolution, seen as a systemic complex of interpersonal relationships, a historically determined uniform assembly, resulted from mankind’s activity to produce material goods and spiritual values, necessary for the individual and collective living. The Informational Society is strongly marked by the revolution in the IT&C domain, the

political actions and the innovative spirit. The revolution in the IT&C domain was foreseen by the predictions of the sociologist Alvin Toffler, concerning the society of The Third Wave, characterized by some defining elements: **(a) the complex phenomenon of knowledge; (b) the process of demassifying the markets, investments and production; (c) the essential role of the dynamic and continuous innovation flows; (d) the rapid and complete integration of the technical and economic systems; (e) the training of the digital technologies of information storage, transformation, processing and communication, seen, in their turn, by the quintet of data-knowledge-messages-images-sounds; (f) the usage of the technologies that will decisively determine the evolutions within all the fields of human civilization; (g) the complex and complete usage of the Internet system in non-academic fields, by involving a large number of users.**

The innovative policy and spirit imply the activity of innovation and usage of the essentially new ideas and concepts, seen as an integral part and coordinate of the present governmental and entrepreneurial policies; these policies lead to the general progress of society, by renewing, optimizing, transforming or converting the present techniques, technologies, products, components and services. There have appeared and been implemented new concepts and technologies, related to the field of socio-economic informatics and dedicated to the access of state institutions, companies and ordinary people to the networks of computers and distributed DB of all kinds. These transformations have generated new terms, in connection with that of information society, such as Information Technology-IT. Moreover, IT&C is present in many new fields: DB management, consumer services, office work, long-distance open learning, publicity, data and information transfer, commercial and bank transactions, insurance-reinsurance, telework, entertainment systems, teleshopping, telelearning, mobile telephony, medical services etc.

Information Society will ensure the democratization of the association, agreement and co-operation, by means of global data communications, public data and information transfer at a world level, on line co-operation by means of the Internet and/or other types of networks and IS¹ with a global character, with a view to achieving complex data processing, addressed to all the categories of professional/non-professional users. This society has as its main target the systematic improvement of people's living and working conditions, irrespective of their nationality, by development and intellectual stimulation, by indiscriminate and co-operative on line access to the IT&C facilities, by the access to the national and/or global data networks, to the Internet. The third millennium will bring the creation and effective usage of the knowledge society (SC), which will include the Information Society as well, given the fact that we can consider knowledge as the result of the action of some convergent factors – the semantics and action of information – for which reason the knowledge society will be based on IS-KS, which is a broader concept than SC, as a result of the primordial role granted to the tandem of information-knowledge in human society.

The concept of KS (knowledge-society) revolves around the society based on knowledge (knowledge-based society or knowledge-based economy).

Dependent on the phenomenon of knowledge, Knowledge Society has the following particularities: **(a) the extension and thorough study of scientific knowledge and the truth about knowledge; (b) the usage of knowledge management by organizational and technological knowledge; (c) the approach and implementation of technological knowledge production by the phenomenon of innovation; (d) the maximum dissemination of knowledge for all people, mainly by the Internet, electronic books and e-learning; (e) IS-KS is represented by the parallel concept named “the new economy”, characterized by profound innovation processes, defined by the assimilation and transformation capacity of the innovative knowledge, for developing new products, services and symbols; innovation will be the powerful and profound determinant in SC, by aiming at increasing productivity in respect to the energetic, material and natural resources and the**

¹ IS-information System

protection of the environment, for which reason, in this new society, the companies that bring technological innovation, on the basis of some proper and particular knowledge structures, will be favoured and determinant; the innovative companies will be created by the co-operation between the companies of different sizes and academies, private/governmental research institutes etc.; **(f) “the new economy” is focused on maximizing the influence and usage of the Internet system**, seen as the principal market for IS-KS, at the same time with increasing the importance of the value of assets, within which knowledge will play a special part; **(g) IS-KS will be of an ecologist type**, because it will lead to developing goods, services and symbols by scientific and technological knowledge, plus their combined management, with a view to implementing some technological and biological organizations and transformations, meant to save the accomplishments of the human civilization; **(h) IS-KS will be a new stage in the human culture**, given the fact that the culture of knowledge will become primordial, at the same time with the involvement of all the forms of knowledge (technical, economic, architectural, literary, artistic, philosophical etc.). In the future, mankind has to approach and think over the perspective of founding a society of the second generation, the society of truth, spirit, conscience and morality (STSCM).

Knowledge Society will be based on certain fundamental vectors, seen as instruments capable of allowing and ensuring the assimilation and transformation of the society into the Information Society, subsequently acknowledged by the acronym IS-KS. The technological and informational vectors of IS-KS are represented by the Internet, extended and developed in time and space, the e-book technology and the intelligent agents. The main managerial, cultural and social vectors are: the knowledge management for organizations of any type, kind or size, the management of moral usage of knowledge at a global level, the educational system based on the IS-KS methods (e-learning), the healthcare system at the social/individual level, studies of biological knowledge of genomic interest, the increase in using some fundamental factors of human knowledge, the protection of the environment, meant to ensure a LONG-LASTING SOCIETY, by increasing the usage of the management specific for knowledge.

The organizational and functional vectors of IS-KS are new methods concerning the development of the activities at home. The implementation of the e-activities of a virtual community type, Tele Centre, Cybermarketing, TeleEducation, TeleShopping, TeleMedicine, the implementation of the adaptations made by using computers, telephony or digital television, at home or at work, the information state.

IS-KS will be able to be achieved under the conditions of the existence of an “Information State” that will use the concept of “e-government”, by means of which will be developed and used new technologies in the fields of data communication and information technology at a national, regional or global level, addressed exclusively to the functions of the state and oriented towards the information requirements of the citizen; there will be used the concept of “e-commerce” by which the techniques of e-purchase will be monitored, at the same time with the usage of some specific technologies and an adequate pan-European legal frame. The information state will dispose of an intelligent transport system, connected to a global system of modern transport, which ensures the technical and economic optimum and the general security, by rapid and reliable access to the new communication systems and pan-European/global digital services.

The citizens of this state will be provided with on line healthcare, the usage of some medical technologies of an intelligent type, the health condition monitoring at a national level, including the total access to BDD with a medical specificity or for monitoring the critical situations concerning the health condition of the population. The information state will be characterized by the concept of “e-participation”, addressed to the people with disabilities, and by the access to the communication, media and information substructures for people with disabilities.

There will be implemented **home activities addressed to the citizen: (a) new forms of working (telecommuting, virtual office, telework etc); (b) e-activities (virtual community, TeleCentre, Cybermarketing, TeleEducation, TeleShopping, TeleMedicine etc)**. The Internet

will be architecturally, operationally and functionally complemented by the satellite systems: Intranet and Extranet. The information state will act through the government, agencies, companies, social institutions, schools, universities, cultural institutions, churches, dwelling places etc. Information services, such as e-government, e-commerce, e-banking, entertainment systems, teleshopping, telelearning, mobile telephony etc. will be implemented.

The information state will be based on the idea of "Internet Society", which, in our opinion, will be a virtual construct, made of electronic media of transmission and operating systems of the "self-aware" type. The approach scale is universal, for which reason the information state will be connected with the universal political, economic and spiritual media, by activating a theoretically infinite number of computers used for providing on line data and information worldwide. Briefly, the information state will be characterized by new basic concepts, out of which we mention: cheaper Internet, e-research, e-security, e-education, e-working, e-accessibility, e-commerce, e-government, e-health, e-content, e-transport etc. The information state will be non-exclusivist, because it will provide a society for all the citizens initiated in handling data and information stored in various BDD in time and space and operational on various heterogeneous NC, at a national, regional, European or global level. IS-KS will be based on the market opened by the Internet system, for which reason we can talk about new connected concepts: Internet economy, new economy or digital economy.

The actual creation of the new economy takes into consideration the following elements: (a) knowledge becomes an economic factor, which leads to the increase of the importance and usage of the intangible assets within the production of economic value; (b) information in general and the Internet system in particular will significantly influence the companies in the market economy; (c) the development of a sustainable economy must be done only within IS-KS, by re-orienting the economic thinking. The new economy is characterized by some fundamental aspects: (a) creating the premises for the implementation of IS-KS and reaching a stage of an ecologically sustainable society; (b) creating and using knowledge in the economic field, especially by involving the innovation phenomenon; (c) the development of innovative companies, mainly created by joint-venture between companies-universities-governmental/public/academic research institutes. "Knowledge economy" is dependent on the increase of the role and amplexness of using the information concept.

In our opinion, it comes out that the "knowledge-based economy" has the following features: **(a) the focus on the electronic market of the Internet type²; (b) the legislative and economic encouragement to found companies that induce technological innovation on the basis of some proper and particular structures of knowledge; (c) the usage of knowledge management under the reign of the organizational and technological knowledge; (d) the prevailing completion of the production of technological knowledge by means of innovation; (e) the increase in importance of the value of intangible assets, especially of knowledge, at the same time with using these goods at full capacity, according to a new spirit; (f) the maximisation of the influence and usage of the Internet system, seen as the main market for IS-KS; (g) the development of some profound innovation processes, by means of the innovative knowledge capacity to assimilate and transform; (h) the development of new products, services and symbols; by the decisive contribution of innovation of all kinds, with the declared purpose to increase productivity in respect to the energetic, material and natural resources and the protection of the environment; (i) the creation of a society of the ecologist type, by implementing some technological and biological organizations and transformations, with a view to preserving the accomplishments of the human civilization; (j) the maximum usage of scientific knowledge and the truth about knowledge; (k) IS-KS will ensure the premises for a rapid approach of the society of truth, spirit, conscience and morality (STSCM)³; (l) the**

² Davidescu, N – Generalisable Programme-products, Concepts and Development Methods, Scientific Symposium, ASE, Faculty of Accounting and Management Information Systems, 1998

³ SASCOM: the Society of Truth, Spirit, Conscience and Morality: STSCM

maximum dissemination of knowledge for all the citizens (the Internet system, electronic book, e-learning etc); (m) IS-KS will be a new stage in the human culture, by the predominance of knowledge culture and the involvement of all forms of knowledge; (n) the intense and intensive usage of knowledge, applied in the field of economics, especially by encouraging the phenomenon of innovation; (o) the provision of IS-KS sustainability in respect to the priorities of preserving a non-polluted environment; (p) the development of a new economic thinking and new economic rules, applied in accordance with the semantics and specific phenomenon of IS-KS accomplishment.

4. Section 4, “Social Structures and New Life Patterns in Information Society”, approaches the time-space paradigm of IT&C, which will allow for every “user” to be connected to a SI⁴ of a certain level, size and complexity; deep changes will take place within the fields of organization and work processes, by the introduction of some new social structures and life patterns. IT&C and IS-KS will induce fundamental changes within all the fields of the economic and social activity, by altering life and work style, at the same time with recording some beneficent influences on personal and social life.

IT&C will imply various changes of a physical, functional or organizational nature within all the structures of society, by changing the social structure, workday, work form structure, governmental, business, commercial, educational, informational and organizational structures⁵.

The interaction between IT&C and the flexible work forms induces a triple perspective: organizational, temporal and spatial. The new work forms are influenced by IT&C through: work flexibility, the quantity of teleworking, the time vector, teleworking and voyages. There will emerge new forms of interior design, endowment with computing techniques and telecommunications, including the emergence of new transport solutions for eliminating the time and space restrictions of the telecommuters’ circulation, with foreseeable implications, in time, on the dimension and structure of the transport systems. The influence of IT&C on social change leads, in our opinion, to the emergence and strong influence of social informatics, seen as the science that uses a finite set of concepts, technologies, CASE design instruments, Internet software facilities, computing systems-telecommunications of national nature, associated software-firmware technologies, specialized staff, elements that allow the design of IS and their usage in the field of IT&C, in interdependence and dynamic-functional connection with the social, cultural, institutional, organizational, managerial environment, the public access to information of social nature, scientific communication by e-journals, the public access to the Internet system, the usage of this system for performing some activities of social nature, e-activities (e-commerce, telework (for managerial and commercial purposes, telephone operators and offices etc.), telecommuting, cyberMarketing, teleShopping, teleEducation, teleMedicine etc.), new organizational structures (virtual office, virtual community, teleCentre etc.)⁶.

Social informatics will impose e-commerce in respect to the classical markets, the possibility to facilitate the disappearance of the Gutenberg civilization and its replacement with the von Neumann civilization, the assertion of long-distance open learning, the achievement of an informational boom concerning e-journals, the global implementation of virtual libraries, the global generalization of the virtual government, including the development of various SIG types⁷. Major

⁴ SI: Information System

⁵ Rosca Gh. Ion, Marian Stoica, New Work Forms and Activities in the Knowledge and Information-based Society, in the volume “Information Society-Knowledge Society, Concepts, Solutions and Strategies for Romania”, Expert Publishing House, 2001.

⁶ Davidescu, N., Internet-Shopping Operations by Local Virtual Networks (VLAN), Informatic Opportunity for Developing Countries, 2005

⁷ The Bologna Declaration of the ministers of education from 28 European countries and the majority of the candidate states, June 19th 1999

changes will occur in the community life and at the social level; competitive and efficient bidirectional relationships between IT&C, social informatics and social organization will be implemented.

In our opinion, social informatics will allow the multidisciplinary application of the design and usage of IT&C in a dynamic and functional interaction with the social, cultural, institutional, organizational, functional managerial environment etc. Social informatics will influence public life at a global level by the worldwide usage of the Web technology, by means of which people everywhere will access and get the information they need, in different forms and formats, in real time, at minimum costs and delivery time; the total replacement of the classical education by the active instruction with on line access to the Internet is to be expected. It will thus lead to the design and implementation of some IS based mainly on the facilities of the Internet system and IT&C, seen as technical-social-virtual networks (RTSV), which will ensure the development of some informational and electronic spaces, the generalization of e-journals, the extension of the discussion forums, electronic systems of teleconferences etc. It is expected to emerge practical solutions concerning the info-social-virtual cells of administration (CIVA), made of various elements, fundamentally based on the facilities of the Internet system: human structures, informational structures, organizational structures, managerial structures, training structures, information structures of the hardware type, information structures of the software type, usage techniques and methods etc. In our opinion, we can talk about various types of social access to the IT&C and Internet resources: social access at the personal, organizational, regional, departmental, political and scientific level.

Telecommuting is a multiply characterized concept: (a) telecommuting means “working a day or two per week in a secondary office or at home, being electronically connected to the headquarters”; (b) telecommuting is considered to be a long-distance work form; (c) telecommuting is working at distance, which means that a person can perform their work from a different place than the one where is/are the person/people who directly monitor them and/or pay them for the work they performed; (d) telecommuting is working at distance, combined with telework; (e) SCAQMD and TAC define telecommuting as “homework or work in a satellite work centre (an alternative workplace), by using means of electronic communication or of any other type for staying in touch with the regular workplace”; (f) “Telecommuting is homework or work in an alternative workplace, by using means of electronic communication or of any other type for staying in touch with the regular workplace, instead of the physical movement to a farther workplace”.

The virtual office is a work system that allows the performance of activities in a distributed way in time and space, by changing the proportion between working at the headquarters and working in satellite spaces, at the same time with the intensive and extensive usage of the Internet-Intranet-Extranet systems by the employees, in many places and at different moments⁸. The notion of virtual office defines a series of domains based on the concept of telecommuting, being an alternative solution of various work patterns, with a relative degree of mobility of action at a certain stable workplace; the essential ways to reflect the virtual office in respect to the employee’s amount of freedom: telecommuting with complete mobility, homework, telecommuting with flexible hours, semi-mobile telecommuting, random telecommuting and the telecommuting completely distributed in time and space.

Telework implies using IT&C and NC⁹ with the purpose of replacing/reducing the standard work pattern performed by the big companies, by the fact that the telecommuters from various fields of activity (management, accountancy, financial audit, services etc.), physically and logically interact with people/goods in an insignificant proportion of the daily/monthly working hours. Conceptually

⁸ Rosca Gh. Ion, Marian Stoica, *New Work Forms and Activities in the Information- and Knowledge-based Society*, in the volume “Information Society-Knowledge Society, Concepts, Solutions and Strategies for Romania”, Expert Publishing House, 2001.

⁹ NC-network Computers

speaking, telework has three components: flexwork, homework and telecommuting. In our opinion, telework is a spatial and temporal distribution method of a company by means of which is implemented the concept of “virtual organization”, which is meant to allow overcoming the restrictions of time and space that exist in a standard way; telework can be regarded, in a complementary way, as a method used by the managers with a view to improving the performances of the companies and to adapting to the conditions provided by the environment.¹⁰ Briefly, telework is a contemporary form to re-organize the organizational structures, by which the development of the “virtual organizations” is ensured.

The e-activity of the Cybermarketing type is based on the development of virtual marketing, which preserves the techniques specific for the classical marketing, but, besides, has a series of operational and analytical advantages, focused on specific methodology, interaction with the organization and client-orientation. Cybermarketing is objectively client-oriented and thanks to the facilities, costs and efficiency of the virtual world based on NC placed all over the world, the marketers have new opportunities and can address to new market shares, in accordance with the demands of the clients and global markets; in their turn, clients widely use the Internet services for obtaining information about the market, products, services, prices, delivery terms, financing systems, service, repairs etc. The main objective of the cybermarketing activity is providing the best conditions for making and developing some on line offers of products-services, by complying with the following parameters: (a) using the Web technology; (b) using the static/dynamic mathematical models specific for the pure theory of the marketing science; (c) using some diversified methods and models of message communication within the complex processes specific for cybermarketing; (d) implementing the best communication options.

The e-activity of the TeleEducation type is the technology of transferring information of a formative-professional nature, exclusively by the Internet-Intranet-Extranet systems, as a result of overcoming the factors related to time and space, in which the assimilation process gets focused on the learning phase, to the detriment of teaching and knowledge transfer process.¹¹ The e-education system has had a rapid development by the emergence of new technologies: (a) “Distance Education” and “Distance Learning” of the synchronous/asynchronous type; (b) “Open Learning”; (c) “Open and Distance Learning”¹².

E-education makes some fundamental demands: (a) to actually use the IT&C technologies in all the institutions of academic education; (b) to redefine teachers’ activity and to change their attitude towards the e-education technology; (c) to change the structure of the teaching materials, to create and use virtual courses; (d) to change students’ attitude towards the general approach to tele-education, the system of consulting the virtual materials and the virtual systems of preparation-examination; (e) to create and actually use some organizational structures that are new from the viewpoint of their role and functionality (virtual schools, high schools and universities, tele-education centres, tele-classes etc.); (f) to stimulate students’/graduates’ desire for continuous study.

The e-activity of the Teleshopping type performs the selling and purchase of goods and services, know-how, software, firmware, by the massive, complete, efficient, operative and competitive usage of the IT&C elements and Internet-Intranet-Extranet services; due to extensively and intensively using the facilities of the Internet system, this activity could be also named

¹⁰ Rosca Gh. Ion, Marian Stoica, *New Work Forms and Activities in the Information- and Knowledge-based Society*, in the volume “Information Society-Knowledge Society, Concepts, Solutions and Strategies for Romania”, Expert Publishing House, 2001.

¹¹ The Bologna Declaration of the ministers of education from 28 European countries and the majority of the candidate states, June 19th 1999

¹² www.forrester.com: the site of the Forrester Research magazines, which publishes articles in the field of e-learning

InternetTeleshopping. Teleshopping is structured in e-sub-activities¹³: tele-selling and tele-purchase. The social and psychological premises take into consideration the study of some dual coordinates: the social approach and the psychological approach, based on studying the social impact of teleshopping, its usage area, functioning mechanism at the macro-, mezzo- and microeconomic level, as well as establishing the strategies, methods and techniques of the social adaptation of the citizens to the new information technologies, overcoming the social conservativeness, including the elimination of the cognitive, social, informational, behavioural, emotional, traditional disabilities etc. The minimal structure of the systems based on Teleshopping must contain the following standard sub-systems: cybermarketing, presentation, input transactions, supply-transport, storage, distribution (output transactions), invoicing-deduction¹⁴, computerized accountancy, IT financial accounting audit¹⁵ and DB administration.

The e-activity of the TeleMedicine type is the technology that allows medical data exchange, by means of IT&C and the Internet-Intranet-Extranet services, with a view to increasing the quality, capability and capacity of the medical act, medical education of the citizens or provision of top-quality healthcare services; from another point of view, telemedicine is the process of using medical information and services, in conditions of professionalism, rapidity, selection, efficiency and cost-effectiveness of the IT&C conditions and the Internet-Intranet-Extranet services, by fully complying with the scenarios of modern medicine: (a) the implementation of a selective and professional monitoring of medical data; (b) the beneficent usage of IT&C in the field of modern medicine; (c) the instauration of a modern management addressed to increasing the rapidity, efficiency and quality of the medical act; (d) the provision of an information system meant to bidirectionally transfer medical data from one location to another.

The main objectives of telemedicine are: (a) to increase the evaluation quality of the medical act, medical diagnosis and long-distance treatment; (b) to virtually overcome the distances between the doctor-case-patient-treatment-post-treatment, by non-differentiating the close cases from the distant ones; (c) to provide a quality medical act, in the conditions of a minimum response time, information on the patient's state in a record time, providing treatment by means of the Internet-Intranet-Extranet systems and the interactive monitoring of the patient's post-operative condition; (d) to increase the efficiency and accuracy of the medical act; (e) to provide medical treatment as close as possible to the patient's workplace/ residence; (f) to provide continuous professional training of the medical staff (doctors and nurses); (g) to provide a quality medical expertise, based on the data offered by means the Internet, in an appropriate time for patients, irrespective of the distance between the doctor and the patient; (h) to efficiently use the complete/insufficient medical resources; (i) to increase the response rate of the patients in difficulty; (j) to offer the possibility to ignore the time and space factors by means of the IT&C factor; (k) to ensure the security, protection and confidentiality of the data concerning patients' health condition.

In order to complete the IT projects of telemedicine, we propose a creation-implementation methodology, by covering the following stages: (a) Programming the accomplishment of the telemedicine IT project, elaborating the feasibility study, completing the business plan, contracting the necessary work to carry out the IT project, allocating the financial funds, establishing the beginning terms, local responsibilities, coordination from the specialized minister; (b). SITM¹⁶ completion; (c). The stage of SITM implementation; (d) SITM current exploitation and (e). The development of new constructive versions of SITM.

¹³ Stoica Marian, Ghilic Micu Bogdan, Types of Work and Informational Activity, ASE Printing House, 2000, ASE Library, quota 122140.

¹⁴ Rosca I, Em.Macovei, Davidescu, N., V.Raileanu, Financial Accounting Information Systems Design, E.D.P., 1993

¹⁵ Davidescu, N., IT Accountancy Handbook, Tribuna Economica Publishing House, 2002

¹⁶ SITM: IT system of telemedicine

The technical and economic evaluation of the telemedicine IT projects is appropriate in the case of running complex telemedicine projects, carried out by many medical organizations, for which reason their acceptance and actual usage are imposed by the following requirements: (a) to use the IT&C substructure; (b) to maximize the security and confidentiality of the data concerning the patients, cases and treatments; (c) to have a medical licence; (d) to supervise the telemedicine policies; (e) to elaborate standards and protocols related to the medical field; (f) to obtain a maximum reliability during the actual work; (g) to sort out the economic, technical and legal aspects; (h) to adopt a payment system addressed to remote communities and to people with a minimum living standard.

5. Section 5, entitled “Virtual Organizations, Activities and Businesses”, brings to the foreground the concept of virtual organization (OV), also known as e-organization. OV represents complex configurations of dynamically structured companies, geographically dispersed, with a variable degree of independence, which generate superior performances by adapting to the dynamics of home/international markets, as a result of strongly involving the IT&C facilities and the variability of the organization forms and manifestation typology of the network-like organization and the digital economy. OV is a system by means of which the component functional entities have potency and multiple superior capacities, due to a synergetic adaptive and dynamic phenomenon¹⁷. OV is based on several fundamental elements¹⁸: (a) objective; (b) connectivity; (c) technology; (d) delimitation; (e) information substructure and (f) meta-management. OV is a co-operative form, focused on common interests and agreements concerning dynamic businesses, in which the co-operative units provide the specific competences, which can be disseminated by means of some co-operation on the vertical and horizontal scale, so that, during the OV performances, it could be perceived as a unique homogenous and particular entity. OV has the capacity of self-organization, a phenomenon according to which the e-organization and its members dynamically and automatically interact, thanks to a mutual co-existence, based on the optimum balance between meta-organization and the creation of some socially acknowledgeable values¹⁹. The OV characteristics consist in adaptability, dynamics, organizational optimum, the involvement of common synergies. The minimum conditions for providing OV inter-operationality are the following: (a) the identification and attribution of a profitable business, compatible with the potential OV members; (b) the acknowledgement of synergic competences; (c) the co-operation and mutual trust of the OV members; (d) the possibility of the maximum usage of IT&C for rapid and efficient connection of the OV members; (e) the possibility to implement new virtual organization solutions: virtual teams, virtual projects, temporary/permanent OV, minimum/average/maximum virtualization, OV made of company networks, virtual industrial company, virtual corporation.

Virtual activities essentially contain virtual work and virtual team, elements focused on virtual work organization, regarded as an optimizing planning of business networks, meant to bring a maximum degree of virtualization in the form of OVs, being a basic component in the so-called “business network” system, by which we understand cooperative strategy elaboration and management, and innovative strategies quantification. Under such circumstances, there appear and develop the network organizations (OR), which have as essential objectives the creation and transfer knowledges, regarded in the sense given by IA. The ORs accomplish the role of creating an environment for social exchanges, being tributary to some fundamental principles that allow the

¹⁷ Bogdan-Ghilic Micu, Marian Stoica, *Virtual Organization*, Economic Publishing House, 2004

¹⁸ Rosca Gh. Ion, Marian Stoica, *New Work Forms and Activities in the Information- and Knowledge-based Society*, in the volume “Information Society-Knowledge Society, Concepts, Solutions and Strategies for Romania”, Expert Publishing House, 2001.

¹⁹ Stoica Marian, Ghilic Micu Bogdan, *Types of Work and Informational Activity*, ASE Printing House, 2000, ASE Library, quota 122140

conceptual definition of virtual work: (a) integration levels; (b) voluntary connections; (c) OR members; (d) multiple leaders; (e) cooperation. The OVs are able to develop strategic partnerships focused on the co-evolution of synergic community members, through business ecosystems; the “eco” attribute defines the efficient collaboration substructure of the OVs, from the viewpoint of attracting competences, skills and global opportunities, accomplishing objectives, lowering costs, permanent transformation, trans-frontier action, global presence.

The new developing tendencies of the OVs have led to the conceptualization of a business network model that holds some essential characteristics: client, dealer, integrator, business system and electronic services. The educational process in the OV is a strategic component, being given the fact that for having a value, the information must be processed in knowledge, after which they are translated into processes and results. Organizational education is the product of imposing some ideas resulted from the large spectrum of the following disciplines: management science, production management, strategy, sociology, organizational theory, cultural anthropology and informatics etc.; organizational education is perceived as a social construction that converts the information (data plus knowledge) generated at individual level, into explainable and operational actions usable for achieving purposes and objectives of the OV. The organizational education takes into consideration the process (education is a process with an unlimited time and space progress) and the effects (we take into consideration the elements accumulated by the study system). The education approach in OV is a process of tacit and outspoken information generation and spreading.

The virtual team (EV) is generated for carrying out some complex projects at the OV level and characterized by using some collaboration tools (telephone, e-mail, NC , DB of any type). The EV is a system of solving some social/particular character activities through the highest involvement of e-activities (e-commerce, telework, telecommuting, cybermarketing, teleshopping, tele-education, telemedicine etc.), of some new organizational structures (virtual office, virtual community, telecentre etc.) or of some new classical information concepts (SI, NC , SC, information processes, Internet, Intranet, Extranet, FS, WS, etc.). EVs are interdisciplinary work teams, inter-organizational or inter-sectorial, organized at the OV level, in order to accomplish some strategic objectives.

The specialized aid software for virtual system work is globally called “groupware”, being addressed to providing on line multidisciplinary interactions in real time, by web-conference, e-mail etc.; groupware contains software support modules focused on the implementation of the following essential functions: (a) the dynamic and convergent administration of the electronic documents; (b) the interdisciplinary on line dynamics (electronic messenger, software instruments for simultaneous on line communication, conversation progress through typical Intranet system instruments); (c) the AI development (the automation of production flows, the computerization of the OV staff’s training activities, the implementation of multimedia applications, virtual usage of writing boards, the usage of audio-video technology, the implementation of “virtual reality” typical elements).

The essential characteristics of the EV are²⁰ 1: (a) EVs are created according to the principles, structure, organization and management of the real teams; (b) EVs are partially made up of truly virtual elements; (c) EVs guarantees the finalization of the contracted projects; (d) the assignment of a maximum importance to the trust in the hired staff. EVs mainly use telework through which fixed costs may be minimized (rents, running costs, parking etc.); working in an EV may bring substantial benefits to commercial, bank businesses, insurances, local management units etc., by optimizing the communicational relationships between the client and the hired staff. Furthermore, the Internet paradigm eliminates the logical signification of geographical limits, time restrictions or national/regional aspects; the EV is the best example of no frontier community or time restrictions, the fundamental role resting with the construction, maintenance and development of the trust between the EVs members, regarded as a defining feature of virtual collaboration. Trust is associated

²⁰ Stoica Marian, Ghilic Micu Bogdan, Types of Work and Informational Activity, ASE Printing House, 2000, ASE Library, quota 122140

particularly with the security in usage of communication systems and between the EV partners. These EVs must dispose of an associated management controlled system, with the increase in importance of the OV's culture and values.

"Outsourcing" and electronic business refer, in the virtual context, to the specificity of electronic business and to the universal standards of electronic business for reporting, informing and analyzing.

There appears the orientation towards electronic businesses addressed to clients at a global level (AFE), derived from technological platforms that came from the OV's exterior or contracted from the exterior, through the phenomenon called "outsourcing"²¹.

The "plug & play" abilities especially created for business software become available and ready to be delivered by service dealers – (ASP) or for electronic business solutions (EBSP). The successful AFE models can be applied to all the dimension areas of products, processes and distribution channels, if they deliver innovative and competitive solutions for clients; the organizational culture and the technological smart type synergies may bring high performances for the AFE through the efficient signalization of changes in the business model and through the activation of dynamic connection processes.

Evolutions towards a new AFE generation are recorded over the actual e-commerce paradigm level, towards a model delivered by AFE, focused on the solution of value chains and goods-services. These solutions use independent and ultra-fast applications and connections, meant to allow adaptation and connection to adding new connexions, at the same time with the possibility to delete other connexions in real time, on the basis of a well-balanced calculation model (EDM), which mixes the best solutions focused on NC, FS, or WS. The inter and intra-organizational design must consider the structure and the influence of cultural, strategic, technical, organizational or geographical agents, which will lead, in our opinion, to the definition of the next AFE strategies²²: (a) AFE strategy conception; (b) knowledge management strategy; (c) self-control management strategy; (d) structural innovation strategy; (e) strategy of the income increasing economy; (f) performance control strategy; (g) organizational culture strategy.

The fundamental tendency of the OV development consists in moving towards the implementation of process - oriented network businesses; the OV's transformation into a network organization (OR) may be accomplished by giving a structure to the business relations strongly based on the IT&C usage and co-operation between internal/external partners, at the same time with the involvement of the highest abilities in information age.

The AFE's transformation into a network and the specification of the IT&C's role for the course of this complex process have as a starting point the OV's computerization degree, which describes the number of computerized charges at the OV's level through an integrated SI. The stages of carrying out the OV's computerization process are: (a) computerization of elementary functions; (b) computerization of functional domains; (c) integrated processes designing; (d) global integration at the OV level; (e) global integration and network substructure establishing.

The universal standards of electronic business for reference, informing and analysis, make the semiotic approach possible, while the business reference is seen as the "public reference of the financial and business company operation data"; there are two types of business reference: the internal and the external reference.

The origin of OV reference processes resides in the typical primary activities and operations that set the system of creation-supply of the financial reports. They are particularly used at a global level the GAAP, IAS and IFRS accountancy standards which present considerable layout and content differences; the financial statements have a different significance, which implies making some

²¹ Business services and European Integration, 1999, ASE Library, quota 108713

²² Stoica Marian, Ghilic Micu Bogdan, Types of Work and Informational Activity, ASE Printing House, 2000, ASE Library, quota 122140

conversions between the standards, with a view to guaranteeing the comparability between the financial reports obtained through various standards. Business globalization demands a similarity between the semantics of financial indicators and reports, even if these are obtained by applying some different standards of reference. The syntactical level considers the methods of registration, presentation and transfer concerning the financial informing, while the empirical and physical levels are ensured through the technical structure employed by AI developed on the Internet. The thesis proposes the usage of the XBLR electronic business standard.

The reference oriented on the XBLR standard employs the financial report concept created and compatible with the Internet/Intranet/Extranet systems²³. XBLR is a system of reports, totally compatible with the capacities of the Internet system, being the result of some professional organizations' research, the most representative being ICPA/IACP²⁴.

The "Electronic commerce" technology contains digital technologies and intelligent agents (software agents) used in the Internet e-commerce operations which are models of operation specific to the informatic applications of electronic commerce, techniques and associated methods. The concept of electronic commerce considers the financial and the operational commercial transactions through electronic methods, the electronic transfer and exchange of data, the transfers of capital, as well as the activities specific to the operations using credit cards.

The electronic commerce may be synthetically defined as the modern technology exclusively focused on businesses that may be automatically developed between consumers, organizations and dealers and that generate the automation of commercial processes, the increase of developing speed and service – product quality, the minimization of transaction costs and fixed prices, in terms of a maximum transparency, an acceptable security and a minimum response time, at the same time with offering some maximum possibilities of locating commercial data and exhaustive processing of all these, through the activation of the Internet/Intranet/Extranet systems and the utilization of the NC, at the same with the involvement of some competitive informatic technology and new models of e-commerce (B2B, B2C, C2C, C2B, G2C, G2G, non-business, collaborative) and with the maximum security of the transacted data.

The purpose of the electronic commerce consists in integrating the networks of businesses, corporations, governmental agencies, independent dealers/ clients/ collaborators into a unique community, able to determine the unique management, communication and controllability, with the help of the local NC, no matter what hardware/software platforms are used at the local level; the integration demands to stock the data on a digital format, at the same time with the necessity of ensuring the quality of the used human resources.

The electronic commerce mainly includes the informational processes of selling-purchase, products-services-information barter, through the NC and the Internet/Intranet/Extranet systems, trained as a follow-up to using some dedicated components²⁵: (a) on line component; (b) communications' component; (c) services' component; (d) business processes component. The electronic commerce minimally contains the following elements²⁶: (a) typical substructure; (b) e-commerce users; (c) dedicated AI; (d) typical payment methods; (e) principles and solutions regarding the design of dedicated informatic applications; (f) creation of Web-BD interfaces; (g) implementation of some typical e-commerce models; (h) utilization of some e-commerce standards; (i) involvement of some methods and techniques for the informatic applications of the e-commerce type; (j) specificity of data security in e-commerce systems; (k) legislation specific to the e-

²³ Intranet Product Site, http://tips.iworld.com/_frames.shtml/main/html

²⁴ ICPA/ IACP: American Institute for Public Accountants

²⁵ Stoica Marian, Ghilic Micu Bogdan, Types of Work and Informational Activity, ASE Printing House, 2000, ASE Library, quota 122140

²⁶ Rosca, Ion Gh., Cristina-Mihaela Bucur, Carmen Timofte-Stanciu, Octavian Paiu, Mirela Visean, Electronic Commerce. Concepts, Technologies, Applications, Economic Publishing House, Bucharest, 2005

commerce operations. The concept of e-commerce has determined the emergence of some other complementary notions, such as the e-business and the mobile-commerce.

The digital technologies and the intelligent agents (software agents) used in the on line e-commerce operations contain elements of hardware, software, firmware, IA, communication systems, standards, norms, security, specific websites and legislation systems associated to the domain etc. The e-commerce systems use two models of on line commerce: B2B and B2C.

The operation models specific to the informatic applications of electronic commerce are the following²⁷: (a) Business-to-Business (B2B), Business-to-Client (B2C), Consumer-to-Consumer (C2C), Consumer-to-Business (C2B), non-profit organizational businesses (non-business), intra-organizational businesses (Intra-Business), Government-to-Citizen (G2C), Government-to-Government (G2G), Government-to-Business (G2B) and collaborative. These models are described in details in the contents of the thesis.

The manageable element in payment systems consists of electronic money (“digital cash”/“electronic cash”), considered as electronic transactions accomplished through any type and architecture of NC, used in the transfer of financial funds or of electronic payments between partners, seen as societies, and the OFBM; the electronic money may be seen in two manners: as a debit or as a credit, while the concept of digital cash is used as a different currency and the transactions associated to this type of cash are perceived by means of an external exchange market. The electronic money is of the following categories²⁸: (a) credit/debit card; (b) e-cash; (c) digital checks; (d) electronic coupons and tokens; (e) bank checks; (f) smart cards. The basic features of the electronic money are: (a) on line authorization; (b) issuer’s nature; (c) transferability; (d) money format; (e) loading variants; (f) valuing financial currency data. The OFBM accredited to manage the AFE, the dealers, the issuers and the intermediary firms actually meet different types of risks, among which the most important refer at the next elements: (a) transaction abandoning; (b) risk of fraud; (c) message modification; (d) operation errors; (e) duplication/ spoliation of devices; (f) theft. The typology of electronic payment systems is given by: (a) on line payment systems using electronic currency (e-Cash); (b) payment systems using smart/ debit card; (c) payment systems using electronic checks; (d) payment systems focused on bank cards through the SET option (Cyber Cash); (e) payment systems using micro-payments with memorized debit/ smart card sums²⁹. The domains of activity associated with the systems based on electronic money are: (a) effective electronic transactions (depositing and payment operations); (b) obtaining, collecting and operating; (c) clearing.

The economic implications that the creation of the electronic commerce applications implies, contain, in our opinion, the elements that refer to the stages of creating the informatic applications of on line commerce, the economic-financial establishment of e-commerce projects through the E-commerce Business Plan and the SWOT analysis, the intention of creating projects of on line commerce through the Cash Flow report, the use of synthesis financial-accounting indicators of the e-commerce companies through the “Balance Sheet”, the offer of dividends to the e-commerce companies’ shareholders through the “Shareholders’ Equity” report.

We suggest that the e-commerce systems’ implementation should be made by taking the following steps: (a) establishing the implementation strategy, (b) selecting the e-business solutions with respect to the companies’ typology, (c) choosing the model and the architecture of implementing the BD, (d) quantifying the demands for creating the electronic commerce websites, (e) implementing e-commerce applications of the B2B type, (g) the economic and financial

²⁷ Intranet World Online site, <http://www.internetworld.com>

²⁸ Stoica Marian, Ivan Ion, E-activities in Information Society, Economic Publishing House, 2002, ASE Library, quota 122184

²⁹ www.fv.com: the site of the First Virtual payment system by cards with a value stored on smart card/debit card

implementation of the e-commerce systems projects through the E-commerce Business Plan and the SWOT analysis. We foresee for the “start – up” companies the use of e-commerce Business Plan and the SWOT method, by following the next stages: (a) defining the SWOT analysis usage steps; (b) identifying the target market segment; (c) establishing the analysis indicators of the e-commerce business; (d) determining the security segment; (e) calculating the level of cost-effectiveness; (f) making a synthesis of the e-commerce business plan; (g) establishing the contents of the e-commerce business plan (mostly containing the description of the e-commerce business, the marketing plan, the operational plan, the management and the reorganization of the business, identification and analysis of the SWOT’s risks, the financial plan); (h) monitoring the activity of the e-commerce companies: the cash flow from investing activity³⁰, the cash flow from financial activity, the effective discounted net cash flow (DNCF) statistics of the on line commerce project (TFNND), the cash flow statistics, the synthesis financial accountable indicators of the e-commerce companies through the balance sheet.

6. Section 6, entitled “Strategies, Programmes and Courses of the Information Society Approach”, starts with the description of the RNSI project, which determines the implementation in the National Society of Romanian Post Office of a computerized network created for “pay desk” operations with national practicability; the RNSI network will computerize periodical and random activities specific to the National Society of Romanian Post Office. The regular activities computerized through the RNSI will consist of payments of toll and tax, payments for water and sewage services, payments to the suppliers of electric power and thermal energy, gases, sanitation, and will consist as well of the creation of some payments for commercial services (such as the selling of products and services, the progress of some saving and consignment operations, the FBM services, the selling of insurance products and pensions, the transactions for mutual/investment funds etc.); the payment to the providers of fixed and mobile phone communications, Internet services, radio-TV, CATV programmes, of local-urban-interurban transport services, associations, the payment of some leagues-clubs dues will also be computerized. The RNSI will ensure the payment of individual fees for postal services, contravention fines, registration taxes/ stamps, entry/ participation taxes, as well as payments for renting/ making reservations for trip tickets, hotel suites, tourism agencies, sell/ reservation of concert - show tickets, lottery tickets etc. The random computerized activities through the RNSI will be the distribution of owner/ investor certificates or the distribution of subventions at different economic moments, the census of the population or the organization of referendums on various topics.

We further describe the main projects, systems and services computerized in Romania among which we mark: the informatic services of information dissemination, the project called “The Implementation of Evaluated Technologies of Communications”, the information system concerning the labour force, the information system for the electronic referendum, the informatics system concerning the public acquisitions (e-ap), the project concerning the creation of on line video conferences, the informatic project concerning the creation of “Cyber Centres”, the information system concerning the customs services, the information systems dedicated to management processes modernization, the information systems for invoicing with the help of web technology, the project called “The Implementation of Digital Data Funds and The Creation of Digital Libraries”, the information integrated systems of the local public administration, the government focused on the IS-KS (“e-government”) and the computerization of the FBM domain. This computerization of domain is focused on the following objectives: payment methods computerized through the electronic currency, the use of SWIFT system, the systems of the dealer account and the electronic checks, the use of smart cards, the operation of FBM transactions using electronic money (it implies the use of

³⁰ www.corpvs.org: the site of CORPVS for accounting and legal consulting, contacts with lawyers, notaries, taxation consulting and consulting for owner associations etc

some technologies exclusively dedicated to the IS-KS: ATM, electronic wallet, virtual wallet and e-cash), the implementation of the electronic wallet card manageable in the European Community (CAFE), the implementation of the virtual store, the use of digital signature in the FBM and the financial accounting domains, "the electronic office holder" (electronic-banking, Internet-banking, mobile-banking, UniBank, e-Bank) and the TeleBanking services.

For each of these computerized systems and services, the Ph.D. candidate integrally presents some original solutions that consist in principles, objectives, utilized concepts, roles, computerized functions and processes, direct advantages, long term anticipations, constructive premises³¹, informatic solutions and suggestions, constructive versions, beneficiaries, the applicability area etc.

This section continues to describe the concept, features, functions and the system's functional variants, the international standards and principles of e-learning worldwide accepted. In our opinion the complete definition for the e-learning system may be: the system that allows learning that concentrates on information technologies, being the system able to deliver information (data, knowledge, media etc.) on all types of hardware systems (any type of computers, NC, Internet, Intranet, Extranet) and software tools (BD, BC, BF, BG, indexes etc.), by means of technical data supports (hard-disk, floppy-disk, memory-flash, video-cassette, CD etc.), with a view to implement an on line learning system (on line learning/ web learning), and with the implication of some actors (teacher, tutor, instructor, pupil, student, master, doctor, trainee etc.) and some classical education systems (schools, high schools, universities, national academies, research institutes etc.)

The characteristics of the e-learning systems are: (a) providing multiple interactions between learning and informatics; (b) using the IT&C coupled with other informatic elements; (c) the possibility of trans-academic and trans-national relation with other educational actors; (d) providing the minimum time of assimilation, distributed training, low costs of the operative working, style and productivity in the assimilation processes, learning efficiency, group learning possibility, but only through an organized national/international system, (e) access to the information stored and applied in a large variety of formats and appearances, in the form of data, knowledge, media.

The main purpose of the e-learning system is to ensure an integrated initiative meant to determine the implementation of the following key-functions: (a) the implementation of an e-learning system in the areas of management, business and competitive development; (b) the adequate implementation of some direct programmes of Leadership and Business Management; (c) the creation of a programme exclusively associated with the development of functionality, efficiency and modernization of the client company executive which will regard the centre of the managerial competences by activating a strategy game based on the company's initiatives, anticipations and fundamental changes, parallel to the possibility of applying the e-learning processes; (e) the formation of a professional management-decision making team; (f) on line support for the employees of the beneficiary company, for the managers and the functional services employees (it is carried out through the dynamic, continuous and real time interaction with the instructors of the organization which delivers relied services for the e-learning processes).

The e-learning implementation models are based on the IS-KS educational system paradigm focused on three e-learning implementation models: distributed rooms (dri), independent education and long-distance open education. The international worldwide accepted standards of e-learning are the ADL, IEEE, IMS (the fundamental pilot-standards of the Advanced Distributed Learning), which are described in detail in the thesis.

The defining elements of the e-learning standards and norms initially refer to the e-learning standard objectives: (a) elaboration and spreading for the public interest of the e-learning standards which will be used in designing, implementing and unitarily exploiting the e-learning systems; (b) the designing firms, dealers and clients of the e-learning systems must develop the specific activities

³¹ www.forrester.com: the site of the Forestre Research magazine, which publishes articles and reviews in the field of e-learning

of design, implementation and exploitation through harmonization and collaboration, in order to maximize the use of e-learning systems; (c) we propose founding a worldwide council of designers, dealers and e-learning system users which will have to deal with mutual arrangements integrally accepted by the actors who operate in the activity of on line learning; (d) the members of this worldwide council (hereafter called "Council") must support the activity of this global organization through the following actions concerning the guarantee of the conformity between the council's technical directives, the international newly designed e-learning and AI standards, at the same time with the accomplishment of the co-work between the council, auditors and users. The specific principles applied in the design, implementation and unitary exploitation of the e-learning systems are: (a) the usage of some concepts, global standards and solutions of designing, creating, implementing and exploiting, accepted by the council's members; (b) levelling the usage of international on line learning standards; (c) development of some unitary e-learning concepts (UC, US, OE etc.); (d) unitary training of specific demands (reuse, reproducibility, neutrality of informing methods, interoperability and maintenance, personalization, compatibility, completeness, formalization, pedagogical flexibility, clear classification of educational objects, life cycle etc.).

The design of on line learning systems focused on the strategic correlation between the business's objectives, the system's infrastructure and the staff training results' evaluation must start from the premise that in the actual process of instruction, the companies' staff exclusively operates with hardware, software and firmware instruments, for which reason the creation of these systems must be based on four important elements of the instructional design, the large dimension systems' development and implementation³²: (a) performances' quantification in relation with the accomplishment of the business objectives; (b) establishment of the objectives and the instructions specifications; (c) the design of the e-learning system, the creation and check of the e-instruction results.

This section also contains the use of the Six-Sigma methodology, the preoccupation for recovering the investment of e-learning systems, the steps to follow in the quantification of the cost-performance proportion, the paradigm implementation and the on line learning advantages, the specific requirements of the e-learning applications and the on line learning advantages, as well as the viewpoint of the national project concerning the computerization of the education process.

7. Section 7, entitled "The Economic Effects Foreseeable through the Implementation of Information Society–Knowledge Society" contains the description of some effects that we consider IS-KS will be able to generate and that will have or not a beneficent role on mankind. It has been observed a number of **14 effects that include in their turn other effects**. The synthesis of these effects is the following: **(1) general economic effects; (2) digital business organizations in virtual organizations, in the context of digital economy and IS-KS; (3) initiation of some alternative economic systems and the comparative and competitive advantage that the electronic commerce generates; (4) the change of the game's rules in the prices fixation at the same time with the electronic commerce influence on the consumers in the age of globalization and IS-KS; (5) the emergence of the cybernetic consumer and the role of the Internet-Intranet-Extranet tandem; (6) the change of the competition's character in IS-KS, at the same time with the emergence of a new tendency towards monopolization and fusion in the field of IT&C; (7) the diversification of the electronic markets, media manipulation and Internet subculture; (8) the maximization of the role of intangible assets and their management, as well as the amplification of the role of knowledge and knowledge management; (9) the influence of the creative work and new perspectives concerning the work in e-economy, as well as the change of the character of the financial markets and the emergence of "competent money"; (10) the emergence of the**

³² www.forrester.com: the site of the Forrester Research magazine, which publishes articles and reviews in the field of e-learning

creative age and economy, at the same time with the maximization of the intellectual property's area and influence; (11) perspectives of the "leap-frogging" division and the "next generation" networks; (12) the economic, social, juridical and psychological effects of the new labour forces; (13) the economic effects of the electronic commerce applications; (14) the initiation and application of some innovation policies, integrated at the level of the European Union (the Lisbon Strategy and the Barcelona Objective).

IS-KS, the defining of some IS dedicated to IS-KS, the legislation specific for the IS-KS's design, creation and implementation and the characteristics of the new forms of work, the specificity and typology of the e-activities, the social, economic, juridical, psychological effects of the IS-KS. There are also presented the fundamental elements for the chosen theme, among which we mention the virtual organizations and activities, the "outsourcing" and the virtual businesses, the e-commerce technology, the electronic payments or the economic implications of carrying out the applications of electronic commerce.

The development of a pertinent inference is employed to specify the globalization's multiple senses, the concept of a system, to define the Internet's contribution, the reasons concerning the opportunity and the creation of the IS dedicated to the IS-KS implementation, the new forms of work, the concepts relative to the virtual community, the virtual organization, the virtual activities, the "outsourcing" and the electronic businesses in the virtual context, the payments made in the systems of electronic commerce or the economic implications of carrying out electronic commerce applications in the IS-KS.

The global number of people with superior education and experts increased, but mankind has more problems. If refer to the TeleMedicine technology, be may acclaim that there are multiple opportunities, complex medicines, but in fact, people suffer from health problems. In the same context, the extremely efficient and competitive e-commerce technology, has not generated richness for the majority of the inhabitants of Earth, the major part of Mankind being poorer and poorer.

On the contrary, mankind has recorded so many problems, that the dream to live in IS-KS or STSCM becomes almost utopian, although, on the whole, the technologies necessary to the complex and total computerization of the human society have been conceived or the e-education Technology can rapidly generate the long awaited lift up in the superior education of individuals, given the fact that there are people who read very little, watch TV a lot or have a minimal degree of knowledge flattened by the massive access to the Internet; writers to write in the last 50 years were many, yet study goes worse and worse. People are obsessed and tired of other occupations, such as the increase of the billionaires and millionaires reported to a global level or to nations, while the number of true values continuously and surely, alarmingly decreases. In addition to that, Mankind has complex ethnic and religious problems consuming the financial, human and spiritual resources, the latter ones having the possibility to be used, as an optimistic alternative, to the approach and insertion of IS-KS and STSCM.

Mankind considers, through the organisms with mondial calling, objectives regarding welfare, happiness or cooperation, but records problems most of the times insuperable and to the highest extent unsolvable. Mankind has found, after important efforts, the way to achieve welfare, but it does not know how to obtain a global context axed on cooperation, commerce, information and knowledge, elements which scale off the opportunity of achievement of STSCM, axed on a society of second generation, which will demand pretentious edges called truth, spirit, conscience and morality. Humans have conquered the outer space, since they reached the Moon or other planets, but they did not succeed in getting the profound cognition of all defining elements of peoples and ethnics; we could support the idea that humans have remarkable accomplishments regarding the cognition of the structure of the atom and global atmospheric climate, but they do not have arguable results concerning the cooperation of any type and nature. A fortiori, mankind desires to create a DURABLE SOCIETY of second generation, -STSCM-; in this regard it learned to make ample and utopist plans, on the background of some global achievements with a minimal degree of complexity,

while mankind hurries without preparing before and waits for the favorable moment to implement IS-KS and IS-KSOM, as long as it is optimally necessary. By means of IS-KS, mankind will use computers at a global level, due to some global systems, suggested in the thesis, it will possess multidimensional and exhaustive information, but it will have to solve problems concerning intercontinental, interregional, interreligious or interracial communications. Problems concerning the role and application of great personalities, the discharge of the possibility to obtain important and rapid profits, the atrophy of superficial and petty relations between individuals, leaders or nations will have to be rapidly, totally and ultimately solved, in parallel with the existence of the times when the necessity of sincere actions among global actors has to become omnipresent.

On the contrary, mankind will be able to find enough time to solve all the difficult problems, in order to trip rapidly and soon the IS-KS coordinates; in the present context, the nations of the world have to start qualitative actions and projects regarding qualitative mutations of all types and categories.

Prima facie, the factors of decision of mankind will have to act in such a way so that the entire world might be seen as one person, and a certain person be seen as the entire world; moreover, mankind does not need to regret the faults of the past, because these belong to the past. We must be happy they happened, because this is the only way the nations of the world can be convinced that the effective achievement and operation of the IS-KS and STSCM characteristics and performances will be approached with trust, hope and optimism. We consider that mankind does not have to bustle much, given the fact that the global events favorable to the global development, *causa finalis*, IS-KS and STSCM, will be accomplished when human society least expects, considering that “everything happening has a reason” (Garcia Marques, Reflexiones).

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