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Electronic market as a strategic lever of an innovation virtual system - an integrative approach to territorial innovations management

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Electronic market as a strategic lever of an Innovation Virtual System

(an integrative approach to territorial innovations management)

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Abstract:

The electronic market phenomenon can be assumed as an empirical and operative base to analyze the evolutive trends of the global competitive environment and its key drivers.

In this paper, the electronic market analysis is focused on the search of new archetypes, useful for the territorial productive systems development models rethinking, according to the dynamics of the global economy knowledge based. The point of departure of our analysis is a deep revision of the “space” and “time” concepts in the economic processes that characterize the new paradigm of the digital economy, with the consequent formulation of new archetypes.

The paper is organized as follows. After a concise presentation of the electronic market main aspects, reflections and discussions are focused:

- on the meaning of the “space and time independence” as a new “golden rule” of the digital economy paradigm;
- on the formulation of a new archetype, the Innovation Virtual System, as a model useful to reconsider the spatial aspects of innovation production and diffusion and to rethink territorial productive systems development models, according to the dynamics of the global economy knowledge based;
- on an integrative approach to territorial innovations management useful for the public policies rethinking.

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1 Introduction

Global economy has produced a growing interest over the years about the role of space in sustaining enterprises competitiveness and about the importance of the territorial dimension in the growth processes (Bertuglia, Lombardo, Nijkamp 199; Bramanti, Maggioni 1997)¹.

Many scientific contributions are focused on the traditional conceptual schemes re- thinking, and try to understand the space-time dynamics of the economic processes in the new global competitive environment. Theoretical reflections about the territorial development dimension point out the necessity to consider territories with changeable boundaries, finalized to specific and precise objectives.

The new global economy dynamics push the analysts toward a more appropriate understanding of the “milieux” evolution laws. These analyses update the traditional conceptual schemes with new logical categories aimed at representing the sources of the territorial productive systems competitive advantage, and privilege the relative importance of attributes that highlight territories dual character: openness/identity, milieu/reseau, node/net, local/global.

In this paper the re-thinking of the traditional conceptual schemes is based on the analysis of the dynamic relationships between global economy and digital economy. This analysis assumes the electronic market phenomenon as its empirical base, because the electronic market, with the totality of its business to business, business to consumers/individuals, business to government relationships, highlights features of radical business transformations which have no comparisons in the past experiences.

These features allow to single out a new law, - anywhere, anytime workplace – which can be defined as a “space and time independence of the economic processes”.

This law, which can be interpreted as a “golden rule” of the new digital economy paradigm, underlines the following business transformations features:

- compression of the physical space (geographical distances erasing) and dilatation of the relational space between the Organizations;

- geographical indetermination of territorial productive systems: the global is visible in the local place, the local place is integrated in the global context;
- the growing of the inter-organizational learning flows density and variety, and consequently the increasing of the business environment innovative potential;
- the decreasing influence of agglomeration economies spatial context, because of information and communication digital networks development.

The meanings of this transformations suggest the introduction of new models which interpret the business space as an environment without physic boundaries, where people continuously extend their capacity to create new results, where new thought patterns are created and supported, where individuals learn how to learn together.

We propose to assume as framework of these new models the Innovation Virtual System archetype, where:

- System is conceived as a logical framework that synthesizes all business and no business agents and processes which interact and develop relationships/transactions in a varying spatial context;
- Innovation represents the key driver of the learning processes value;
- Virtual is the system attribute directly related to the “time value”, that shows the positioning of the System in the Information and Communication Digital Network.

Reflections and discussions are also developed to explore how this archetype can represent the dualistic dynamic states of the territorial productive system in the digital economy competitive environment. The results of this exploitation allow to relate the evolutive states of the Innovation Virtual System to openness, integration, responsiveness and cooperation properties of the territorial systems patterns.

In this perspective, the Innovation Virtual System archetype is considered as an useful framework:

- to understand competitive development dynamics in which is growing the influence of immaterial assets and of the interactive learning processes;
- to re-think the public policies in the digital economy context by considering the strategic role of the integrative approach to territorial innovation management;
- to realize that territorial successful innovation is strategy based, depends on effective internal and external linkages, requires enabling mechanisms for making change to happen, happens within a supporting organizational context;

- to consider the Information and Communication Technologies networks as a strategic asset of the integrative approach to territorial management innovation;
- to identify an organizational structure like an Intelligent Agency which would work as a knowledge creating crew which provides a place where a lot of original experiences can be made, taking in account that highly subject insights, intuitions and hunches are fundamental for knowledge creation and innovation.

2 The main aspects of the electronic market.

In a systemic view, the electronic market phenomenon may be defined as the totality of Organizations internal and external transactions, which are regulated and managed via infrastructures and digital technologies. This definition springs from the main characteristics of the electronic market (OECD 1997):

- it refers to all the forms of economic transactions, involving enterprises and single individuals, based on the information and knowledge process and transmission through telecommunication channels (telephone, television, wireless, Internet);
- it concerns organization management, commercial transactions, and legal/financial/fiscal normative;
- it is practiced mainly by enterprises, Government Institutions and single individuals: the more frequent transactions are between enterprises or between enterprises and individuals, even if institutional innovations are supporting the development of enterprise-institutions relationships;
- it supports the global economy, allowing the enterprises, from one side to enter in the international markets, and from the other side to realize economies of scale and scope through an international distribution of their activities;
- it makes more competitive the products prices, it increases the organizations dynamism, it changes the consumers behaviors, with the inevitable implications at international level.

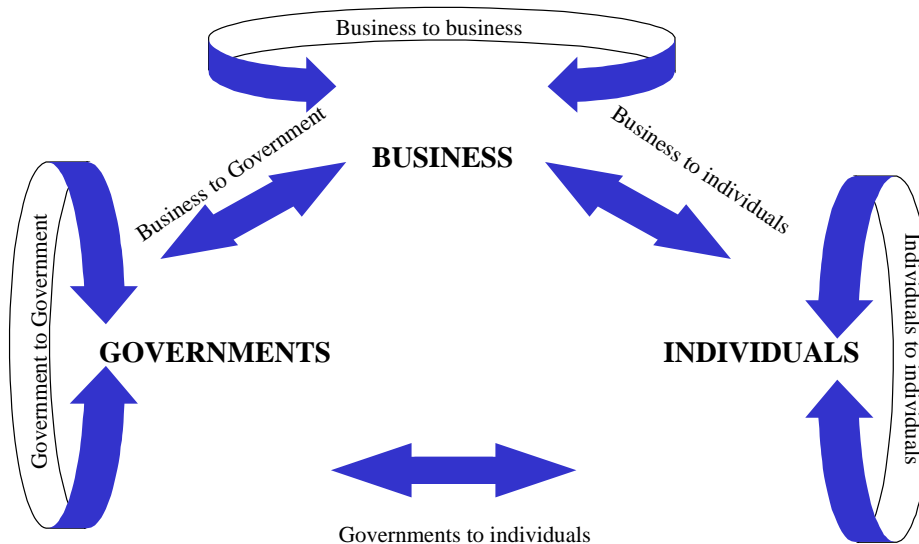
These characteristics are inferred from (Kalakota, Whiston 1997; Choi, Stahl, Whinston 1997):

- information distribution, products/services supply or payment activities via telephone, fax, computer nets or other electronic means;
- digital technologies applications in transactions and in business work flows
- tools that contribute to reduce the costs of the services, improving their quality and increasing their distribution speed, according to the enterprises, the consumers and the management expectations;

- tools that increase the ability to buy and to sell information on Internet, and to offer other on line services.

The electronic market relationships dynamic space is represented by distinguishing between business level, technological level and organizational level (figure 1).

Figure 1: electronic market relationships



Source: J. Kokuryo - Keio University, Yokohama (JP)

At business level, transactions happen between enterprises and consumers (business to individuals) and between the value system actors (business to business and business to government). Their main features are:

- complexity and continuity of the relationship between consumer's dimension and enterprise dimension of business: it is often difficult to trace these dimensions boundaries, especially if goods are immaterial or an enterprise is involved in both them. Some enterprises bypass the distributive channels, and sell directly to the final market, others use also the traditional distribution channels, and sometime distribution enterprises have an important role in the products production and planning.
- balance of the two business dimensions in the single enterprise strategy: enterprises plan their involvement in each dimension, according to the nature of the products and services they offer. For example, in the finance and in the publishing industries, enterprises tend to build an efficient and effective marketing interface with their consumers; in the aircraft industry

enterprises tend to realize useful interfaces with their customers (logistics and maintenance) and with their suppliers (planning, orders, production).

- interchangeability of the two business dimensions: enterprise can migrate, through specific applications, from one dimension to the other. The automobiles producers, which use the telecommunications nets to support their production and maintenance activities, and to communicate with their concessionaires, could use the electronic market applications to directly sell to the final market through virtual points of sale.

At technological level, electronic market enables three principal market functions: accessibility, transaction, support.

Access is translated:

- in enterprise-market permanent contacts to transfer information about products/services and market needs;
- in structured (EDI) and unstructured (telephone sale) information exchange;
- in a public telecommunications strong use;
- in computer based communication (e-mail, on line banks);
- in an extensive use of the private nets (LAN and WAN) on Internet, Intranet and Extranet platforms.

At organizational level, electronic market working involves appropriate nets and media configurations. These configurations need integration of the processes inside and between the firms/Organizations that produce and distribute products and services in the electronic market. This involves:

- information flows automation;
- information flows interconnected systems;
- organizational changes of the firm/Organization processes;
- new competencies and new jobs;
- business processes integration inside and between the firms/Organizations.

Nets configuration involves:

- a public access, through the connection to the public telecommunication net (Internet);
- a private access, through the connection to the telecommunication nets which use the Internet protocol, but work inside a single firm/Organization or inside a closed group of firms/Organizations and consumers (Intranet and Extranet).

Media configuration involves choices about:

- telecommunications terminal (mobile phone, fixed phone, fax);
- computer terminal (personal computer, server, mainframe);
- broadcast terminal (land transmission, by cable, by satellite).

The processes and phenomena highlighted, justify to assume electronic market as a significant empirical base for rethinking traditional interpretative models concerning local economy and global economy relationships.

3 Rethinking space and time variables of the economic processes

The electronic market phenomenon points out “crucial issues” analogous to problems that the physicists had to face at the end of last century and the beginning of this one. The experimental proof of the light speed constancy required a drastic change in ideas about the space and time variables, which had always been considered two entities entirely independent. The discovery of the atomic and sub-atomic phenomena involved the formulation of the new laws of the quantum mechanics, based upon the dualistic behavior of the matter (wave - particol) and on the uncertainty principle, with the overcoming of the traditional concept of trajectory, valid for the macroscopic phenomena. The quantum and relativistic mechanics have been the result of some decades of scientific job, to frame the new physical phenomena in the classical physics conceptual framework. Likewise last decades have seen many scientific contributions focused on traditional model rethinking, concerning the territorial productive system dynamics, because of new phenomena related to digital economy.

The traditional logic model of the industrial districts (Becattini 1992; Brusco 1996) has evolved, and has been upgraded with the “openness” attribute, because of the two local/global dimensions simultaneous presence (Galli 1991; Garofoli, Vazquez 1994); this territorial productive system local/global dualism has interpreted in terms of openness/identity (Bramanti 1995; Camagni 1991), milieu/reseau (Camagni, Quévit 1992; Maillat, Quévit, Senn 1993) , node/net (Dematteis 1990; Suarez Villa 1997; Lipparini, Lorenzoni 1996; Sabel 1996; Scott 1993).

The “milieux innovateurs” logic model, because of the presence of the two dimensions local/global, has been enriched with new attributes and reflections focused on the comprehension of the milieu evolution laws.

The “active space” logic models try to offer a new paradigm, by characterizing the active space as a field of strengths, whose output depends on its ability to create an efficient mix between cohesion, innovation and strategic behaviors in a systemic-evolutive context (Ratti 1997).

Some models identify the territory dual character. In these approaches territory is considered as a particular place (local) and, at the same time, a connection between that place and all the possible other places (global). Local and global are introduced as two ends of the same learning circuit (Rullani 1997), which are both essentials, but also not referable one to the other. It is therefore necessary to practice both them, finding their possible complementarities (Vaccà 1995; Anastasia, Corò 1996; Galli 1991).

Our paper tries to study in depth this question by exploiting the physics field analogy, rather than by compelling the traditional models updating. The forecasted “crucial issues” point out questions as: is it possible a depth rethinking of the space-time variables meanings in the competitive advantages generation and dynamic reproduction phenomena? Is it possible to identify a new archetype to understand the patterns of the local/global dualism in the territorial productive systems dynamics?

The electronic market processes allow to explore appropriate answers to these crucial issues. These processes represent in fact the empirical and operative base which proves the space and time independence as a “golden rule” of the digital economy and a driving force of the global economy knowledge based (Romano, Passiante 1997): “The anywhere, anytime workplace, enabled by Information and Communication Technologies erases physical and temporal boundaries of information work”. Work can be performed from a variety of locations, including employees’ homes. Office becomes a system rather than a place. Network becomes a repository for the time-independent communications of people who access the communications of others where they are able”. Competition doesn’t come from competitors only, it comes from everywhere. When information becomes digital and networked, walls fall and no business is safe (Tapscott 1996)

From this “golden rule” the following inferences spring:

- compression of the physical space (geographical distances erasing) and dilatation of the relational space between the Organizations;
- geographical indeterminacy of territorial productive systems: the global is visible in the local place, the local place is integrated in the global context;
- the growing of the inter-organizational learning flows density and variety, and consequently of the business environment innovative potential;

- a decreasing influence of agglomeration economies spatial context, because of the information and communication digital networks development.

These conceptual implications point out that “time value” is a critical variable for the competitive advantages generation and dynamic reproduction: the “time value” determines the spatial boundaries of innovation production and diffusion.

According to these considerations, we propose the Innovation Virtual System as an interpretative archetype of the territorial productive systems in the global context, where:

- System is conceived as a logical framework that synthesizes all business and no business agents and processes which interact and develop relationships/transactions in a varying spatial context;
- Innovation represents the key driver of the learning processes value;
- Virtual is the system attribute directly related to the “time value”, that shows the positioning of the System in the Information and Communication Digital Network.

Innovation Virtual System is therefore conceived as an environment without physic boundaries, where people continuously extend their capacity to create new results, where new thought patterns are created and supported, where individuals learn how to learn together. This logic category may be considered as the whole actors, mechanisms of interaction, dynamic transactions, that are functional to the acquisition of sustainable competitive advantages, both at microeconomics and macroeconomics level, all regulated by the space and time independence “golden rule” of the new paradigm of the digital economy.

4 Innovation Virtual System versus local/global economy

Innovation Virtual System evolutive states are related to its virtualization levels, i.e. to the time value of the economic transactions/relations, and consequently to the variety and intensity of its inter-organization learning flows. An high virtualization level means an high propensity of the Organizations for global behaviors, expressed in terms of openness, integration, responsiveness and cooperation properties of the territorial productive systems. In this perspective, Innovation Virtual System evolutive states determine the relative rank of local/global behaviors.

The openness property characterizes development processes toward network of business and no business Organizations that inter-operate. Organizations become closer to their customers and citizens, and amplify and diversify the processes of knowledge creation that fuel innovation, that's the processes by which new knowledge is created within the Organizations in the form of new products, services or systems (Senge, 1990; Lundvall 1994). The openness attribute speeds up

Organizational learning processes, both in the epistemological (tacit-explicit knowledge) and ontological (individual, group, Organization, inter-Organization) dimensions (Nonaka, Takeuchi 1995).

The integration property shows the territorial productive system equilibrium between cohesion and external connections, which increase the virtuous mechanisms of the dualism local/global. Integration amplifies and diversifies the territorial productive system marketing processes, because it amplifies the space boundaries for possible choices, according to the novelty of markets and novelty of technology: new solution to existing problems, competition on quality and features, novel combinations of existing technologies, technology-markets co-evolution (Tidd, Bessant, Pavitt 1997).

The responsiveness property shows the Organizations propensities toward flexible organizations, continuously and immediately adjusting according to changing business and no business conditions; the responsiveness is therefore related to time management, considered as a source of competitive advantage.

The cooperation property characterizes the evolution of the territorial productive system organizations toward cooperative infrastructures. Human thinking, planning, information and knowledge processing, decision making, actions, are diffused with electronic speed. Cooperation determines opportunities for organizations learning processes broadening and diversification through alliances (subcontract, cross licensing, consortia, strategic alliance, future joint, network), and it increases opportunities to learn from new market and technological competencies, in other word to internalize partners' know how (Tidd, Bessant, Pavitt 1997).

Summarily, the properties described previously, can describe the territorial productive system Organizations propensity to evolve toward permeable structures, without physical boundaries that separate them from their environment, able to look for and to apply the most effective strategies to continually integrate and exchange value with their suppliers and clients/citizens.

By enhancing these properties, the Innovation Virtual System evolutive states contribute to rise the positioning levels of the territorial productive system Organizations as to the new competitive environment.

For the enterprises and the institutions, the positioning can be defined in terms of:

- global presence: market boundaries are defined by the computer nets diffusion; small enterprises can also operate at a planetary level;
- competitiveness improvement: enterprises and institutions can be closer to their customers (information, assistance, support);
- mass customization: on line interactions between firms/institutions and consumers/citizens, increase the opportunities to know the customers specific needs;
- firm/institution value chain optimization, in terms of value chain shortenings e/o substantial changes (time to market reduction, distribution channels shortening);
- substantial cost saving due to a lower human interaction;
- new business opportunities related both to the existing markets redefinition, and to the identification and exploitation of opportunities about completely new products and services.

For the consumers/individuals the positioning concerns:

- global choice: consumers can choose products and services independently from their geographical location;
- better services quality;
- products and services customization: consumers can get personalized products and services at a competitive price;
- rapid answer to the requests: consumers can get products and services quickly and without constraints related to local suppliers stores;
- substantial price reductions: enterprises and institutions costs savings may be directly converted in lower prices for consumers;
- new products and services.

5 An integrative approach to territorial innovation management

Discussions and reflections about the meaning of the Innovation Virtual System, offer a systemic view of complex relationships existing between digital economy and new business competitive environments.

This representation point out strong signals which have to be captured and exploited for designing conceptual schemes useful for the territory government policies reinventing.

These signals concern:

- necessity of a new set of planning strategies which have to consider the markets evolution from regional and national contexts to global contexts;
- need of new organizational structures, which have to be built around competencies, flexibility, teamwork and empowerment;
- shift toward consumer driven planning: enterprise must know its customers and competitors at the local and global levels;
- Information and Communication Technologies networks as social and organizational transformation enablers.

These signals have to be considered as key drivers in order to accelerate the evolutive states of the Innovation Virtual System, with the consequent convergence of the territorial productive systems toward states of openness, integration, responsiveness, cooperation.

Therefore the public policies rethinking has to be related to a strategy aimed at accelerating the evolutive states of the Innovation Virtual System; this means to assume, as a cultural framework, an integrative approach to territorial innovation management. This approach requires the collective actors to think more like business, by developing products, markets and customers. The benefits of business and government cooperation, related to the different cultures, traditions and institutions integration, allow leaders to respond constructively at all levels (Parker 1996; Freeman, Perez 1988; Prisco, Silvani 1997).

The fundamental elements of this approach concern (Tidd, Bessant, Pavitt 1997):

- clearly articulated and shared strategic vision;
- appropriate organizational structure which enables high levels of creativity;
- appropriate uses of teams (at local, cross-functional and inter-organizational level) to solve problems;
- long term commitment in education and training to ensure high levels of competence and skill;
- extensive communication, within and between the organizations;
- organization continuous improvement activities;
- internal and external customer orientation;
- positive approaches to creative ideas, supported by relevant reward systems;
- processes, structures and cultures suitable to institutionalize individual learning and knowledge management.

These elements point out that a successful territorial innovation management is strategy based, depends on effective internal and external linkages, requires enabling mechanisms for making change to happen, happens within a supporting organizational context (Hirschman 1958; Cappellin, Antonelli, Capitani, Ciciotti, Lassini 1995).

This approach effectiveness is enhanced by exploiting the five disciplines proposed by Senge for a Learning Organization, that's (Senge 1990):

- building a shared vision: that's developing shared pictures of the future to foster genuine commitments;
- personal mastery: is the skill of continually clarifying and deepening personal visions and the capacity to see reality objectively;
- mental model: this is the ability to uncover personal internal pictures of the world, to scrutinize them, and to make them open to the influence of the others;
- team learning: this is the capacity to think together, by sharing ideas, dialogue and discussion;
- system thinking: system thinking sees wholes, not parts, and interdependencies, not just isolated events. This is the discipline that integrates all the preceding disciplines, by showing their common emphases or interdependencies and changes.

An useful methodology for an effective application of the territorial innovation integrative approach processes may be the strategic marketing planning methodology to the territorial productive systems management (Kotler, Haider and Rein 1993). The idea underlying this methodology is that territorial systems, if they want to succeed, must use the tools of business, because they are competing for resources. In the local/global dualism dynamics, the territorial system must understand that they compete with other systems for factories, start-up firms, tourist, educated residents (Valdani, Ancarani 1997; Van den Bergh, Bromezza, Van der Meer 1994)

They must be market conscious and market driven in the digital economy global context. Territorial productive systems must establish information, planning and control systems that allow them to monitor the changing environment and to respond constructively to changing opportunities and threats. The main concepts and tools used -auditing, vision and goal setting, strategy formulation, action planning, implementation and control- , allow local Institutions to apply the integrative approach to territorial innovation management. Therefore this methodology contributes to develop collective learning processes, and it can be carried in a various ways.

A Local Intelligent Agency, made up of citizens, business people and local and regional governments, can represent the suitable organizational structure for this methodology diffusion.

The Local Intelligent Agency can develop the following tasks(Kotler, Haider and Rein 1993):

- interpreting what is happening in the broad environment;
- understanding the needs, wants and behaviors of specific internal and external stakeholders;
- building a realistic vision of what the territorial productive system can be;
- creating an actionable plan to implement the vision;
- building internal consensus and effective organization;
- evaluating at each stage the progress being achieved with the action plan.

In order to speed up the Innovation Virtual System evolutive states, the Intelligent Agency would operate as a knowledge creating crew which provides a place where a lot of original experiences can be made, taking in account that highly subject insights, intuitions and hunches are fundamental for knowledge creation and innovation. In other words, the Intelligent Agency, by developing interactions with the market and the outside world, would stimulate ideas, perceptions, mental models, beliefs useful to plan development processes based on virtuous mechanisms between territorial productive system marketing factors (infrastructures, attractions, people, image and quality of life) and target markets (good and service producers, corporate headquarters and regional offices, outside investment and export markets, tourism and hospitality business and new residents) (Kotler, Haider and Rein 1993).

In this way, Intelligent Agency becomes an enabler of the Innovation Virtual System evolutive states, because it enhances behavioral codes, such as:

- developing a shared strategic vision, where individuals learn together;
- establishing a working-learning environment, rather than creating a planning event;
- facing the competitive challenges in a generative way, rather than adaptive, because of the historic significance of the transformation under way;
- creating the new rather than adapting and fixing the old.
- planning as continuous learning;
- giving empowerment to act;
- planning thought as action;
- involving people in the transformation process;
- shifting away from inward thinking to include Organization external business relationships.

The pilot project “Intelligent Region”, promoted by the European Union, fits in our perspective about the public policies rethinking. This project assumes in fact the learning economy as a

framework for territorial productive system (Morgan 1998). The project considers as success factors for regional development:

- innovative capacities, in terms of willingness to take risks and to fail occasionally in order to succeed. This requires a companies and individuals willingness to learn and to re-skill when needs or opportunities arise;
- networking capacity, in terms of willingness to interact with and absorb knowledge from others;
- a capacity to transfer knowledge, as willingness to obtain knowledge from outside and to “trade” knowledge with others;
- open processes for regional Agency development. This means the overcoming of regional economic development traditional models, which have created policies and strategies frequently static or closed, and the concentration on a development policy continually open to refocusing or re-engineering (Meirion 1998).

A second enabler of Innovation Virtual System, related to the its virtual level, is represented by the Information and Communication networks, which have to be planned in order to deliver and diffuse information and shared knowledge throughout Organizations.

The strategic relevance of this second enabler springs from the electronic market processes analysis too. A world communications network becomes essential to exploit a global market, to enable more horizontal Organizations, to redefine the supplier-customer relationships, particularly at to global level, and to enable the role of public and private schools.

Future competitiveness for a territorial productive system becomes increasingly dependent on a flexible Information and Communication infrastructure, which has a strong effect on the virtualization level of the Innovation Virtual System.

In a recent paper about models and theories related to the spatial diffusion of technological innovation the attention is focused on two majors determinants of the region innovation potential (Davelar, Nijkamp 1997). These determinants are identified in the agglomerations economies (spatial concentration of people, firms, institutions and so on) and in the social overhead capital (which allows to realize those basic services without which primary, secondary and tertiary productive activities cannot function). Their value is related to their capacity to develop information flows between firms and people, and therefore more frequent learning opportunities. Generally, the agglomeration economies are considered not transferable across regional boundaries. In the perspective of the digital economy, information superhighways development (of which Internet is the actual precursor), and electronic market, highlight evident signals of agglomeration economies transferability.

This means that the asymmetries between territorial productive systems in their innovative potential, related to spatial concentration of the agglomeration economies, can be reduced notably, by upgrading the social overhead capital of the Information and Communication Infrastructures strategic asset. In other words, it is possible, by increasing the virtualization level of the Innovation Virtual System to reduce the innovative potential dependence from the spatial context of the agglomerations economies.

Consequently, the Information and Communication Technologies infrastructures must have a strategic role as an asset of the integrative approach to territorial innovation management. This role must be translated in action plans about the Information and Communication infrastructures realization. Action plans must face the principal problems of the "Internet Economics" (Mcknight, Bailey 1997):

- technological specificity and economic characteristics of the digital nets;
- Internet costs analysis and development models;
- information safety;
- regulation of the interconnection between net managers;
- public tools to support the Internet development: subsidies, public investments in the digital systems development.

Through these action plans policy makers can support the virtuous circuit: efficient access to the infrastructure for consumers and service providers → growing opportunity of contents transmission → demand growth → supply of nets and services at reasonable prices.

6 Conclusions

The electronic market phenomenon analysis, as the macroscopic effect of the virtuous relationship between Digital Economy - Global Economy, highlights the necessity of territorial productive system development models re-thinking. The space-time independence -anywhere, anytime workplace – has been assumed as “golden rule” for a new archetype, the Innovation Virtual System – to exploit the dualistic character properties of the territorial productive systems in the global competitive environment. The virtualization degree of the system allows, on one side to assess the openness, integration, responsiveness, cooperation properties of the territorial productive system, and on the other side to evaluate the system actors positioning in the global competitive context. This new archetype, in which are codified the indetermination of the territorial productive system

and the continuous amplification and diversification of its inter-organizational learning flows, is useful for new public policies cultural frameworks, compatible with the new competitive environment dynamics.

Three components of this framework have been underlined:

- the adoption of an integrative approach to territorial innovation management, useful to face the digital economy and competitive environments new challenges;
- the assumption of the Information and Communication infrastructures as a strategic asset for the competitiveness of the territorial productive systems in the global competitive context, because they amplify inter-organization learning flows related to the agglomerations economies;
- the characterization of a Local Intelligent Agency as an enabler of strategy based collective behaviors and effective internal and external linkages.

In these terms the Local Intelligent Agency is conceived as an organizational context supporting the integrative approaches to the territorial innovation management.

Footnotes

¹ An useful review is presented in:

- C. S. Bertuglia, S. Lombardo, P. Nijkamp (1997) “ Innovative behaviour in space and time” Ed. Springer;
- Bramanti A, Maggioni M (1997) “La dinamica dei sistemi produttivi territoriali: teorie, tecniche, politiche” Ed. Franco Angeli

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