

Bridging Research and Rural Areas: the Research Project “Development Dynamics and Increases of Competitiveness in Rural Areas”

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1. Introduction

The role of the interrelations between innovation and processes of change is widely analyzed and discussed in literature (Antonelli 2003, Geels 2004, McAdam 2004, Ottosson and Björk 2004). The understanding of those mechanisms capable to “qualify” such interrelations in determining positive results and impacts of the interventions adopted within a stable and long term framework, still remains a difficult and problematic task. Empirical evidence often confirms that the availability of financial resources is unlikely to be a sufficient condition to stimulate innovation spreading and the solution of static economic and social conditions. Similarly, the achievement of a specific program’s declared results not always drives to a substantial success of the initiative because, empirical experience confirms again, every initiative, no matter for its complexity or quality, can show a highly varying impact degree. The parallel actions of an engineering (technologies, scientific expertise, technical know how, etc.) and a specific cultural environment (mentalities, approaches, adjustment attitudes, etc.) in development can deeply influence impacts of these programs varying and altering quality and architecture of the relation networks between the agents involved (individuals, social groups, organizations). In case of a positive framework even simple initiatives adopted with limited financial re-

Abstract

This paper presents a brief overview of the project “Development Dynamics and Increases of Competitiveness in Rural Areas” (DICRA) aimed to define a managerial prototype useful to the creation of operational practices, the introduction of management tools and interpretative keys at a territorial level outlining specific social, economic and environmental indicators within identified operative platforms. The project, bridging research (and the related innovation supply) and a rural area (with its territorial resources, private and public subjects) is directed to contribute to facilitate the innovation diffusion at local level in different and integrated forms: research products, training activities, know how, expertise, learning visits, scientific partnerships, etc. A multi-dimensional approach, integrating the engineering and the human-cultural sides of development, is likely to provide concrete contributions to improve success margins when research centers meet local realities thus increasing the opportunity to achieve more efficiency and effectiveness when calibrating this supply to local innovation and development needs.

Résumé

Ce travail donne un bref aperçu du projet DICRA (Dynamique du Développement et Accroissement de la Compétitivité dans les Aires Rurales) visant à définir un prototype managérial utile pour la mise en place de pratiques opérationnelles et l'introduction des outils de gestion et de clés d'interprétation au niveau territorial. Le projet, à travers le rapprochement entre la recherche et l'organisation d'une aire rurale, vise à faciliter d'une manière directe et immédiate ce transfert des innovations au niveau local sous des formes diverses et intégrées, à savoir : produits de la recherche, activités de formation, savoir-faire, expertise, visites d'études, partenariat scientifique, etc. Une approche multi-dimensionnelle intégrant l'ingénierie et la dimension humaine-culturelle du développement pourrait fournir des apports concrets contribuant à accroître les marges de succès dans le rapport entre les centres de recherche et les réalités locales augmentant ainsi la possibilité d'aboutir à une meilleure efficacité et efficacité.

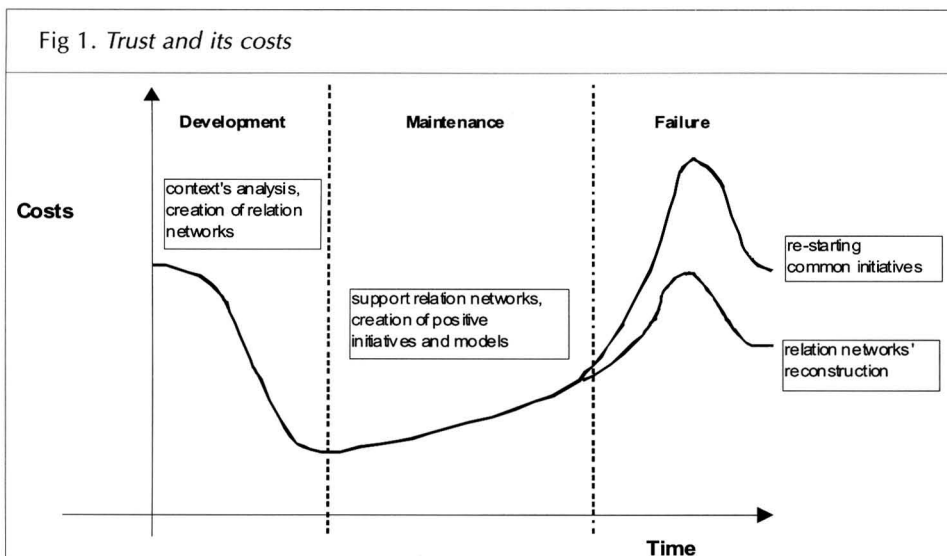
sources to boost innovation and growth are likely to produce deep impacts dramatically modifying methods, practices, techniques and above all mentalities while on the contrary, in case of highly quality scientific and technological actions, the weakness of this network can cause very limited impacts on the context’s dynamics. For this reason the identification and interpretation of those mechanisms capable to develop and enhance this network to grant an effective and substantial success of these actions, in terms of positive impacts, become a critical step useful also to identify and qualify those effective positive experiences in the inter-action among agents operating in a given rural area, on the base of identified processes,

rather than extemporaneous factors, which could be cloned and applied in other contexts.

The creation, identification and development of a dynamic cohesive relation network among agents in a rural area are strictly linked to the action of a large number of variables and factors and to those specific peculiarities which characterize for example the agents involved, the territory where they operate, their interrelations, the output resulting from their interrelations, the expectation/frustration balance, imitation and external contacts, trust/mistrust balances, etc. (Von Zedtwitz et al. 2003, Lundstedt and Moss 1989, Holt 2002). The actions of these multidimensional factors confirm again that success/failure of innovative initiatives cannot be exclusively linked to the availability of fi-

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financial resources. Of course, without investments devoted to this aim for example SMEs (Small and Medium Enterprises) and research centers will afford these initiatives with a very limited “enthusiasm” (Layden and Link, 1992). So far, so obvious. Yet, the “human factor”, embodied in a local knowledge and context (culture, mentalities, expectations, etc.) can play a critical role in generating a substantial change for the individuals and within the organizations involved (De la Mothe and Paquet 1998, Feldman and Masard 2001) to enhance innovative initiatives and prevent the erosion of the individuals’ spirit of initiative and creativity. The failure of a development programme (mis-allocated investments, inefficient and corrupted agencies, ossified bureaucracy, etc.), always implicates long run visible and hidden costs both at economic and non economic level: past negative experiences (or considered as such) can nourish oppositions to the next innovation processes. Trust reconstruction is likely to be a key step to grant an effective start up to any innovative action: yet, trust doesn’t automatically grow up but it must be continually developed and supported and this operation requires concrete “costs”. The higher the incumbent mistrust, the higher the costs in terms of trust re-building and the higher the failure margins of the whole action of trust reconstruction. Furthermore, these costs can be multidimensional because mistrust affects not only the involved relations but it easily influences very distant relation levels through contagious chains. Therefore, once trust is lost, its regeneration becomes a very difficult task involving huge costs and considerable efforts (figure 1). Supporting scientific partnerships between research institutions and SMEs in the effort to inject innovation in a rural area can thus cope with several obstacles which can be resumed into three macro problematic issues:

- Accessibility – even when specific schemes, programs and funds are available, many public and private subjects in a rural area find concrete obstacles (or considered as such) to access to research output, from universities and other research institutions. Research is seen too far and not ad-

equately involved in those specific issues and needs of a rural reality;

- Monopoly – local public and private agents feel that “innovation power” is biased in a very circumscribed sphere (which often uses an obscure language) detaining its own logics, rules and interests;

- Insecurity – a sense of mistrust frequently accompanies a conceptual, psychological and cultural distance between research and rurality. The implementation of such partnerships rarely produces the expected results.

Continuing market adjustments, concentration pushes, increasing competition among local, national and international forces represent consistent reasons for the compensation of these gaps at territorial level.

In the same time, it is essential to acknowledge that each concrete innovation process lies on a consolidated environment and on former innovative processes. Each innovation process thus creates the pre-conditions for the following one: inherited production and management methods, existing communication patterns and strategic synergies as well as environmental conditions and social balances constitute the bases of a “local knowledge”, precondition to outline the context within which innovation will operate (Engwall 2003).

2. Project’s values and principles

The role and effects of cooperation between research and enterprises in order to make a productive tissue more competitive and dynamic are well known in literature (Hagedoorn, Link and Vonortas. 2003, Martin 2003, Combs and Link 2003, Scott 2003). Yet many rural SMEs usually cannot deploy internal human resources specifically devoted to research and development (R&D) or lack the information and contacts necessary to undertake innovative initiatives. The definition of cooperation links with research centers should represent a strategic step to fill this gap. In this perspective knowledge is assumed to act as a key-factor both in terms of explicit knowledge (direct know how) and tacit knowledge (hidden know how). In this perspective, the issue poses many critical questions: the problem is not how generate increases in knowledge’s volume, but rather how make knowledge productive, how identify relevant agents and innovation needs, how develop an operative relation system among agents, etc. Furthermore, empirical evidences confirm that knowledge, information, relevant agents and relation networks are not enough to make knowledge productive because putting knowledge into practice implies that the individuals, groups and organizations involved have the right skills, motivations and attitudes.

The considerations mentioned above and the issues of knowledge management (KM), represented the main inspi-

ration for the definition of the project “Development Dynamics and Increases of Competitiveness in Rural Areas (DICRA)”. The idea of the project derived from a common interest in researchers and public administrators in the analysis and interpretation of those processes that govern the creation, dissemination, and upgrading of knowledge to fulfil organisational objectives directed to inject and support innovation in a rural area. Project DICRA, however, is aimed to extend this principle within a more holistic concept through the emerging of a set of principles, values and tools useful to govern organisational, decisional, institutional and business process design, thanks to specific innovative processes, applications, and technologies, that can help to increase a rural area’s competitiveness, the quality of life for the communities involved and the creativity and ability of the economic subjects to deliver business value. In this perspective, working, communicating, co-ordinating and collaborating together on projects with common objectives are essential opportunities to learn, to influence, to turn analysis into practice.

Bridging scientific research and a rural area on realistic bases entails some crucial implications. Scientific models in fact are just models, an approximation to reality which work when certain parameters are fixed or certain influences are ignored. Therefore, links between research centers and a rural area become tools to put knowledge into concrete action: it means that knowledge is thus tested thanks to continuous adaptation processes in which it is constantly transformed and potentially improved. For this reason, the effort to inject innovation thanks only to an evaluation about a rural area’s innovation interests and needs (innovation demand) could be an ineffective step if not supported by a parallel analysis about the innovation supply. Firstly, it means that the possibilities to create these bridges essentially depend on scientists’ and researchers attitudes about “getting their hands dirty” or how they should spend their time or a solving problem approach eventually available within research institutions and centers. Secondly, these collaborations pose also important questions about the nature of what a research center can concretely offer to a rural area in terms of innovation and technologies (Phaal et al. 2004). Innovations can show in fact a very different nature according to their features for example (Franklyn 2003) “need spotting” innovations (providing answers for known problems), “solution spotting” innovations (finding a new way of using an existing piece of practices/techniques), “mental inventions” (dreamed up ideas with little reference to outside world) or “random events” (situations from which innovation arises from something they were not looking for). For this reason, an analysis about the nature of the innovations produced and their distribution in the above mentioned categories can provide indications about the predisposition to develop scientific partnerships: the prevalence of “mental inventions” (even if high quality scientific findings) could limit the innovation supply from the re-

search center which a SME can be potentially interested in. These considerations open the way to further problematic dimension: a rural area can suffer a condition of a lack of information which acts as a bottleneck in business and in development as a whole. Uncontrolled or mismanaged knowledge flows can generate the opposite condition: an “information overload” which can confuse and discourage the involved agents and generate new forms of bottlenecks. The possibilities to properly select the necessary information to adequately develop efficient and effective knowledge flows are thus linked to dialogue capabilities and synergies among subjects founded on reciprocal trust. Therefore, collaborative actions must be convincing: the more trust is enhanced, the easier it is to engage dialogues, the more likely that it will achieve synergies. These dialogues and synergies should always take into consideration the different agents’ nature and visions. For example, when developing, supporting and managing partnerships between research centers and rural SMEs, it is essential to remind that the economic view of innovation rarely coincide with the pure technical and scientific one. Empirical evidences can confirm that these two visions are divided by a substantial antithesis: science and economic production share a different concept of “utility” of innovation and economic logics are different from technological ones. This condition is often translated into divergences in approaches, interests, communication, practices, etc... which must be carefully analyzed, evaluated and (eventually) solved.

Project DICRA has been designed to act as a convergence point, through the development of a constantly updated relation network, for expertise, know how, experiences and capabilities from different subjects placed in very different dimensions. This should contribute to make knowledge more productive, in a wider extent, transforming Knowledge Centers (SMEs, research centers, local development institutions, innovation supporting agencies, etc.) into Knowledge Networks through the improvement of the interconnections among these different local nodes of expertise. The focal point of the issue is that serious difficulties derive not by managing “explicit” knowledge, but “tacit” knowledge which is harder to express, make it visible and codify. With regards to this, project DICRA is thus aimed to: a) convert tacit knowledge in a more explicit form in documents, processes, prototypes, practices, approaches, etc. involving human resources as a territorial structural capital and b) enhancing tacit knowledge flows through better interactions between territory’ agents.

3. Project’s structure and goals

DICRA is the result of an agreement between the Institute of Chemical Methods (I.M.C.) of the National Research Council of Italy (C.N.R.) and the Municipality of Vitorchiano (a 4000 inhabitants village in the province of Viterbo, about 100 km north of Rome in Central Italy). This area is characterized by traditional agricultural and rural activities,

small scale industries and mining activities for the extraction of a typical grey stone (peperino) widely used in building construction since ancient times. This area is presently exposed to sudden and consistent migration flows from urban centers (Viterbo, 55.000 inhab. – 7 km - and Rome) with consequent specific residential problems and coexistence of consolidated agricultural vocations with new semi-urban activities, needs and issues. The territory is thus coping with a complex transformation process affecting economic, human and environmental resources with peculiar impacts in landscape, employment, planning and administrative management.

The project is structured into some macro-intervention areas as described in figure 2. Due to the complexity of the problematic network involved, the project has implied the constitution of a Coordinating Group which operates in loco for the development and management of the relation networks necessary to stimulate links among territorial subjects among which contacts between research (and the related innovation supply) and territorial private and public subjects play a strategic role.

The main task of the coordinating group is essentially a) to provide a constantly updated context's analysis; b) define analytical and operational approaches and tools directed to c) the definition of concrete realistic strategies for a sustainable development in social, environmental and economic terms. All this should drive to develop operative systems for the creation of a network of networks through a process based on four pillars:

- individuation – Accuracy in the identification of those elements at the base of the context, the characteristics and relevance of the subjects involved, stimulating, in the same time, their capability to recognize presence and dynamics of territorial resources (human, environmental and economic capital) as specific peculiarities of the area;
- involvement – stimulate, support and improve subjects' capability to be engaged in the system;
- integration – stimulate, support and improve subjects' capability to be functionally and effectively structured with-

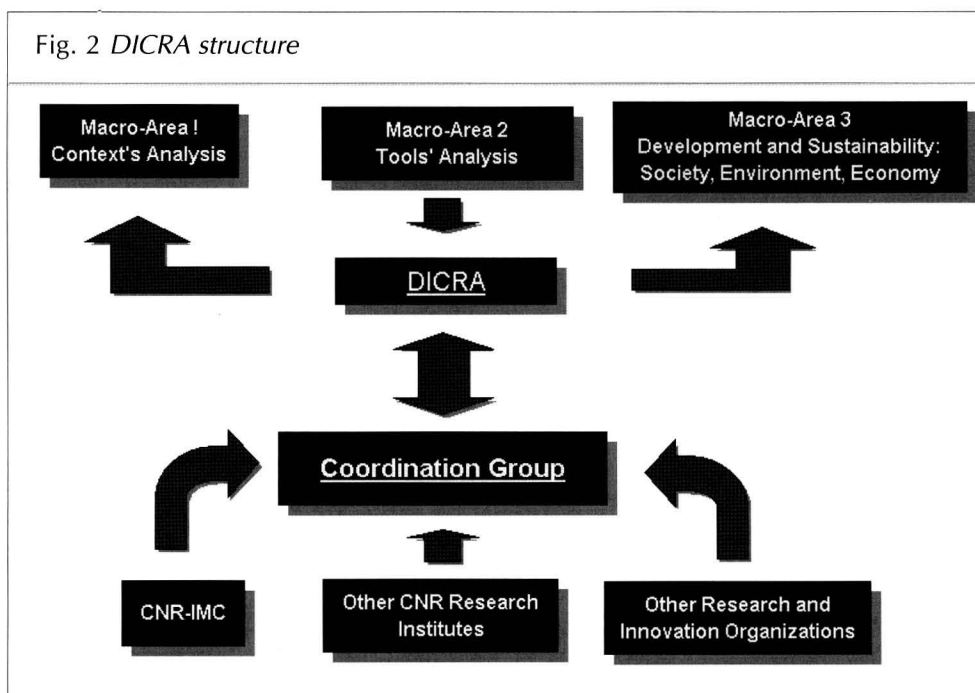
in the system;

- cooperation – stimulate, support and improve subjects' capability to concretely “act” within the system.

The implementation of these steps should drive to define and optimize operational models capable to identify and interpret those elements responsible in the generation of reciprocal positive influences in a wider extent. The creation of good examples and models on realistic bases are essentially directed to the achievement of a substantial public good rather than a provision of technical expertise through conventional

process of technological transfer. This public good is thus essentially linked to the possibility to activate constructive small scale processes of “change” at local level which can

influence, thanks to imitation and synergies, mentalities and approaches to the achievement of continuing improvements and positive impacts based on incremental innovations. In this way cooperation initiatives between research and SMEs become a component of a management prototype aimed to stimulate circulation and flows of innovations from which



it will be possible to “decant” experiences, practices and operational models.

The evaluation of a “territorial capital” (considered as a complex system of subjects, economic, human and environmental resources and their interrelation) is referred to the following operative platforms:

- Technology and science – definition of a set of indicators about quality of life (environment+human resources+cultural and historical heritage) through the introduction of scientific approaches
- Economy – variations in productive quality, dimension and structure, analysis of endogenous and exogenous factors and flows
- Finance – analysis on capital and financial flows: how these resources remain in the area or leak out
- Politics – norms and regulations, transparency of bureaucracy actions, social norms, action adopted to stimulate local activities environmental protection, sustainable use

of natural resources, landscape management, etc.

These platforms are analyzed in order to highlight some crucial dynamics such as:

- the effects of the evolution of a rural area, multi-level impacts, extinction of traditional agricultural and non agricultural activities and the development of new ones, environment modifications and its quality levels, migration flows from urban areas, landscape planning and management, innovation injection, etc.
- analysis of components and elements of territorial competitiveness in a global context, territorial imagine, openness, public affairs management, etc.
- definition of strategies to improve competitiveness at global level.

As mentioned above, the whole project encompass the idea of “territorial competitiveness” on the base of a perspective wider than the pure economic one. In conventional terms, competitiveness is usually defined as the capability to efficiently operate in the market place. The empirical experience provides however many examples of rural areas producing cheap row agricultural output but in a declining social scenario and catastrophic environmental conditions (Sen 1997, Henderson 1999). This is to show how ambiguous the term “competitiveness” can be in a wider perspective. This widening in the idea of competitiveness pushes to re-consider the principle of efficiency in the market place reconnecting economic growth to environment and human multigenerational progress (sustainability).

On the base of these principles, competitiveness becomes a dynamic factor crucially linked to human and environmental progress thanks to the improvement and strengthen of common actions for the creation of positive bridges among sectors and subjects useful to maintain in loco resources and higher shares of added values. In this way it is possible to identify a wider range of components of this “territorial competitiveness” on the base of the combined action of differentiated potentials:

- environmental potentials – capability to protect and promote environmental resources considered as a specific capital for social and economic development
- economic potentials – capability to produce and keep in the territory higher shares of added values through the implementation of innovations, improving human skills and spirit of initiative, increasing adjustment capabilities, promoting quality and characteristics of local output and services
- social potentials – capability to effectively and efficiently “act” improving consciousness, responsibility, social cohesion and participation
- potentials connected to the global context – capability to efficiently and effectively co-operate with the outside world stimulating an adequate flexibility degree to cope with the effects of globalization (migration, competition for other economic areas, etc.).

4. Some initial activities and results

DICRA started its activities in march 2004. During this period the coordinating group has been engaged into two interrelated sides: an analytical and an operational side. The implementation of both sides required the predisposition of some workshops aimed to establish first contacts with the local agents. We were aware that this would have been a critical as well as extremely difficult task: at the beginning, invited people said in fact that they worried that this would be “another talk shop”. It has been thus necessary to focus these workshops on things that really matter and directly involve (thanks also to informal contacts) key-persons potentially capable to activate Positive Word of Mouth (PWOM) processes. In these preliminary workshops local public administrators, researchers and scientists, producers, and other local agents gathered together around very practical issues for the creation of first contacts between researchers and producers. Standing in situ, the coordinating group had the possibility to support these initiatives with continuing talks and opinion exchanges with local subjects and other agents operating in the territory in order to define, calibrate, test, optimize and implement analytical models and the related operative actions (discussion-correct problem identification-suggest solutions). Local subjects, even if rarely share the same visions about the same issue, know, better than the “experts”, the evolving problems of the local context and they also understand what motivates people and, fundamentally, have the power to make solutions work or fail.

These workshops seemed not to produce immediate results and appeared as rather demoralizing experiences, with a limited attendance and scarce resonance: nonetheless they activated relevant impacts in the mid-run because the few attendees were fundamentally the key ones to start with them common actions functioning as positive models and examples for others (imitative chains) and creating the bases to ignite many operative initiatives, presently in progress, and concrete occasions for a constant greater mutual understanding.

4.1 Analytical side

This problematic side is presently carried out thanks to the definition of some analytical models useful in the description of critical phenomena occurring in the creation and development of complex system based on relation networks. We started focusing this analysis on the dynamics of an empiric binary system (scientific partnership between a SME and a research center) as the simplest form of these systems. To describe the functioning of such a system we adopted some theoretical models described in literature (Bouchaud and Potters 2000, Mantegna and Stanley 2000). Even if these models have been developed for the description of phenomena distinctive of other disciplines, they show however interesting analogies (and useful interpretative keys) with the present analysis. The creation of this

model, which cannot be described here in details, is linked to some basic parameters such as the number of agents N and the number s of behavior strategies the agents hold. The quantity of the total information available for each agent (which is re-integrated into the system thus acting as common binary information source) is identified by μ and P representing each single valued of the total information μ : for this reason μ is the result of a combination of a certain number of data (P). In particular, the information available in a specific time t is expressed by $\mu[t]$ where $\mu[t] \in [0 \dots P - 1]$. The adoption of a specific action a by each agent firstly depends on the amount of information available μ and the choice of a certain strategy R which motivates a . In this way, the action of a single agent is expressed by a^{μ}_R which represents a reply (-1/1, action/correction, yes/no, do/undo, etc.) to each single value P of the total information μ . The possible strategies are thus 2^P . The agents hold a range s of strategies which are graded on a S scale on the base of their previous successes/failures in the adoption of the respective single strategies. The net action of the agents $A[t]$ is hence defined by:

$$A[t] = \sum_{R=1}^{2^P} n_R [t] a^{\mu}_R$$

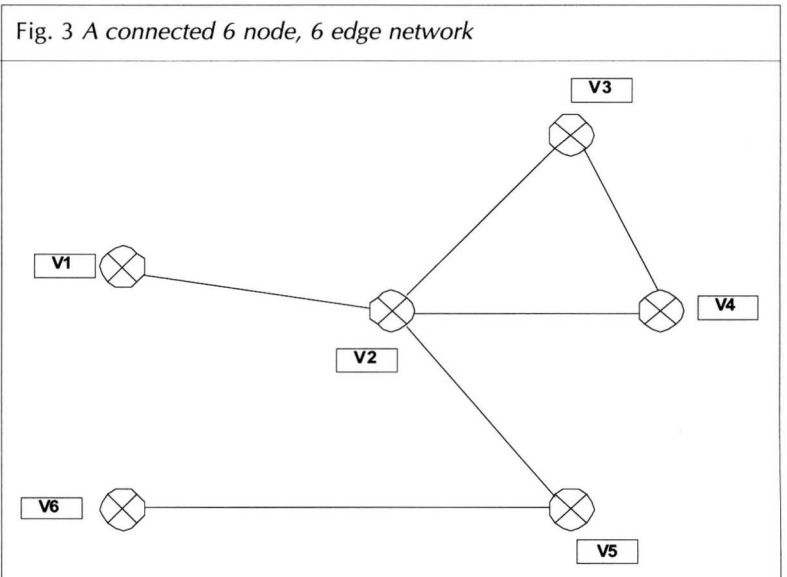
where n_R indicates the number of agents using the strategy R . The agents will tend to choose the best strategy which hits the higher score S_R : the strategies' classification is hence updated on the base of the benefits g_R in order to achieve a $S_{R.[t+1]} = S_{R.[t]} + g_{R.[t+1]}$.

The main goal of this system is focused on the generation of increases in μ in such a way to organize and structure them in "knowledge". It is important to note also that the system's goal is not to generate increases in the amount of information for each agent but rather increases in the total amount of system's information which acts as a convergence point for its circulation and exchange. Through the analysis of the emerging elements of the system (research projects, training and educational activities, seminar, visits, etc.), interviews and questionnaires, we produced some indicators to evaluate how both agents progressively calibrate their actions on the base of their strategies, system's convergence/divergence diagrams, the progressive gratification generated by the system and the wealth (satisfaction) of the individuals (i) who concretely act within an organization/agent. At present we have outlined some analytical models and we are testing them on some sampling cases evaluating in the same time those variable reactions occurring within the system related to four macro-behavioral patterns: a) *resistance* (the original knowledge context is seen by the agent in contrast with the new one); b) *change* (the new knowledge context completely replace - substitution - the old one); c) *incorporation* (the renewed context is adapted in the previous one) and d) *trans-mutation* (alteration of the previous knowledge context through the adop-

tion of the renewed one with the creation of a further new original knowledge context).

A further analytical step involves the definition of models useful to describe more complex systems graphically represented as a collections of points (vertices) connected by a variety of lines (edges). In literature many studies have been conducted about these systems using the graph theory which poses many mathematical problems (Newman 2001, Newman 2003, Albert and Barabasi 2002, Bollobas 1998).

Of course we are trying to adapt many considerations of these theories on "global networks" to achieve an optimization of some empirical questions distinctive of our analysis, for example through the evaluation of these global network's properties: defining if the system is connected or disconnected is in fact one of the most important property to look at (figure 3). The definition of an analytical model to describe and evaluate the connectivity status of the system is essential to understand if all the system's components are adequately involved in the processes thus determining the diffusion degree, through the edges, of eventual impacts and results among vertices (agents). Other crucial interpretative keys can arise evaluating local vertex properties for example the number k of edges attached to a vertex (*degree* of a vertex) or the description of variety of degrees in the network summarized in the *degree distribution*. This property is extremely important for the description and development of dominant hubs within the network with a large number of paths passing through these hubs (i.e. V2 in figure 3). These dynamics are essentially expressed by "power laws" which could be synthetically biased in the "Pareto law". These systems in fact are not formed by purely random interrelations but they show some "preferential attachment" degrees: in general new edges attach preferentially to vertices with large degree k . Simulations confirmed that power laws come from networks where there are hubs or vertices with more edges attached than the majority of



vertices: in a large extent, the processes leading to the formation of stable connected networks *require* some type of “preferential attachment” (Vazquez 2003).

At present, we are studying some representative sets of models of networks evolving due to aggregation processes and the effects of “condensation” of edges in presence of hubs adding to this analysis the effects of Positive Word of Mouth (PWOM)/Negative Word of Mouth (NWOM) (Proykova and Staufer 2002, Solomon et al. 2000) in the enhancing this hub’s condensation power and as partial explanation of an initiative’s success/failure as model for imitative actions.

Outlining these basic models of networks evolving due to aggregation processes can provide on the one hand the description of a network’s structure biased on cohesive blocks and groupings and a measurement of “cohesion” and “embeddedness” in their links (relations, imitations, synergies, alliances, etc.) derived from graph based concepts. On the other hand, these models are transferred and tested in the project’s operational side in order to describe, model and optimize strategies and tools to a) develop realistic collaboration networks (in particular scientific partnerships research SMEs); b) strengthen these networks and evaluate their effective impacts and c) improve the condensation capability of some focal subjects in the system (i.e the coordinating group and other key agents).

4.2 Operational side

During this period many initiatives have been developed and implemented in order to create positive connections among territorial subjects providing information (i.e. about types, agencies and procedures to access to financial resources), tools, and strategies stimulating in particular partnerships and collaborations between researchers and entrepreneurs in the agro-food sectors and in other rural economic activities. All the initiatives have been calibrated on a previous analysis of the CNR-Institute of Chemical Methodology (CNR-IMC) characteristics and scientific supply evaluating its percentage distribution among “need spotting” innovations, “solution spotting” innovations, “mental inventions” and “random events” along the main institute’s research lines (food products’ traceability, products’ quality and certification, storage techniques and improvements of products’ shelf life, water and waste management, pollutants’ analysis, etc.).

The redaction of the “institute’s radiography” was accompanied by sector analyses, in particular oil and wine sectors, in order to outline: 1) production/processing volume; 2) sector structure; 3) existence of technical problems and how they are usually solved; 4) trade strategies and prices adopted; 5) expectations; 6) priorities. This analysis immediately highlighted a) the prevailing presence in the area of a large number of small scale family farms thus implying the definition and implementation of specific actions directed to stimulate producers’ aggregation in a critical mass for example through cooperatives; b) clear pushes to

improve products’ and processes’ quality and c) the need to shorten distribution systems and improve trade conditions for agricultural products.

It has been necessary to support these actions with the creation of links and contacts with development agencies and institutions operating in the area for example Business Innovation Center (BIC), Chamber of Commerce, etc. and with a constant overview about opportunities and procedures provided by *ad hoc* rural development programmes such as LEADER+ and Rural Development Plan of Lazio Region (PSR).

An example of this kind of initiatives is represented by the presently in progress project for the creation of a network of farms’ shops of local typical and organic agricultural products. This project is based on a system characterized by a strict collaboration between producers, associated in a cooperative, the local municipality (local typical productions as social and public good), a producers’ organization and research (CNR-IMC). This is a double faced initiative: on a one side, the interaction of these agents is aimed to improve and stabilize product’s quality, its testing, packaging and labelling using also a common distinctive brand. The other intervention facet is directed to identify and implement all the procedures requested for the creation of the distribution network and improve trade conditions.

Another operational example has been represented by the definition of an agreement between CNR-IMC and a cooperatives’ organization for an innovative and sustainable treatment of water and wastes from oil production thanks to a pilot plant to be installed in a local farm capable to transform these wastes, using also wastes from crop and animal production, in high quality fertilizer to be adopted also in organic farming.

Other initiatives involved also rural non agricultural sectors. For example some workshops have been held for the peperino mining sector between sector entrepreneurs and the Central Italy Innovation Relay Centre at CNR (CIRCE) to introduce and show new sector technologies in particular to define potential possibilities to use waste powders from stone processing (problem) in components for cement production (solution).

In all the initiatives, DICRA coordinating group is acting as “synchronization hub” within the related systems providing information and strengthening links and contacts among the subjects involved and outlining analytical management tools to evaluate the systems’ net action and to keep the whole process under control.

5. Concluding comments

The creation, development and strengthen of a network of contacts and relations have to be considered as strategic factors in order to stimulate a sustainable rural development thus overcoming those pushes towards isolation (at economic, social and psychological level) and static behaviours and attitudes. This network, re-connecting material/non material resources and human capital as basic com-

ponents of development as a whole, together with the identification of actual and potential forces capable to positively affect productive and social tissues, is a critical pre-condition in order to make investments for innovation and development effective and efficient. In this scenario, innovation can concretely act as a turning point for a static and repetitive status generating profits, a better resource allocation, well-being, a diffusion of initiative attitudes, etc. A trend toward a static condition has to be considered as a potential source of opposition to a change process. According to an economic, technological, management and psychological point of view, routine always represents an easier path when compared to unknown consequences of innovation. Realistic highly convincing actions to a) break down static trends biasing resources in investments for innovation and b) stimulate induction and imitation (innovation clusters) could concretely contribute to generate impulses of investment waves which will tend to exhaust at the beginning of a next concentration of innovation clusters.

Mobilizing skills and expertises and stimulating knowledge and information flows, are likely to be useful steps for a correct strength's potentials identification (and on the opposite side a weak conditions' identification) necessary to increase the territorial competitiveness in a broader extent. The project "Development Dynamics and Increases of Competitiveness in Rural Areas", bridging research and a rural area, is directed on the one side to contribute for local SMEs to improve business-enabling conditions, access to finance and business information, stimulate capacity-building potentials. On the other side, the inclusion of cultural and human components in the idea of development, which should always support economic measures and actions, can provide essential elements in widening the spectrum and depth of intervention initiatives confirming again that there isn't an unique way to development but approaches and methods should be adapted to specific local contexts and historical circumstances to the achievement of an adequate individual and social well being.

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