

## **Networking for Innovation Advantage and Benefit for the Regional Development**

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### **INTRODUCTION: The importance of the regional economic development**

Europe passed through a hard crisis during the last two or three years, but now the economic development is obviously improving. For example, there is a strong economic growth in Germany stronger than during the last twenty years. The Federal Minister of Economics and Technology even speaks about full employment.

However, the economic development is not equal within the European countries. The development is also different within various regions. Especially rural areas and old industrial regions, which need a change of economic structure, have problems.

A good economic development is important for each region, it is important especially for the humans living here. The regional economic development depends on the global and the national development. But each region has also the chance by means of a suitable and target-oriented regional policy to organise the best possible economic structure as the basis for a successful economic development. There is competition between the regions and this competition will increase in the future. It is the big challenge for the region policy to constitute conditions of increasing wealth, economic growth and an employment with a high level.

More and more, a successful economic development requires technological progress and the corresponding structural change, and that globally, nationally and regionally. Sufficient innovations become increasingly the key factor and the driving force for the future economic development of countries and regions, of all branches as well as of industry, trade and service providers. Therefore, research, education and training, knowledge but also the fast transfer of research results into marketable products, services and processes become more important. Innovative companies, foundations of enterprises as well as Universities, research institutes and education institutions become increasingly the basis for economic progress.

At present, continuous improvements of products and processes belong to the important activities of companies and other private and public institutions. Without doubt, continuous improvements are necessary but these alone don't suffice in order to get success within the global economic competition. Necessary conditions are increasingly innovations, which really are novelties, especially also innovations that are quantum leaps. The electrical light was not invented by means of the continuous improvement of the candle.<sup>1)</sup>

Sufficient innovations and especially innovations, which are novelties and quantum leaps innovations, are important more and more for the regional economic progress. The future development of regions needs a creative aim-oriented regional policy as well as innovative companies, which have integrated a suitable innovation management into their business administration. Most European regions need more innovations that are creative and need economic growth to cope with the new global challenges.<sup>2)</sup>

In the past, the complexity of innovations increased noticeably. In the future, the complexity will further increase because it is more and more necessary to work within an interdisciplinary team in order to solve the present and future tasks and problems. In addition, the rise in knowledge accelerates more and more.

It is one of the consequences that individuals on their own are able less and less to provide the needed knowledge, the required skills, competence, and the necessary resources in order to solve the present and future complex tasks and problems. Therefore,

cooperation between appropriate partners becomes more important in order to remain competitive. Especially the aim-oriented cooperation of different companies, small and medium enterprises, research institutes, universities, private service providers and public institutions can create, quickly and effectively, innovations with high potential of added value. Therefore, networks and clusters have an increasing importance for the economic regional development as well as for an effective regional marketing.

## LAYOUT

### 1. Networks and Clusters

As mentioned above regions need successful innovations in order to gain prosperity. National and regional governments recognise the potential of regional networks and clusters as a major driver in regional development policy. Many of them have introduced significant measures to strengthening regional economies, creating new jobs and attracting new investors.<sup>3)</sup>

#### 1.1. Definition of Cluster and Network

What is the meaning respectively the definition of a network and of a cluster?

A network is a cooperation of several partners, for example the cooperation between companies, universities and other private and public institutions, which work together more or less. Networks are characterised by means of interactions and communication between the partners. Usually networks have common concrete aims.

Clusters are geographic concentrations of interconnected companies, specialised suppliers, service providers, firms in related industries and associated industries in a particular field that compete but also cooperate.<sup>4)</sup> This implies clusters are specific networks.

Despite the accepted definition, the notion of clusters is different in theory. But soft factors like a trusting atmosphere, free information flow, and a collaborative milieu seem to be important for clusters.<sup>5)</sup>

Clusters could be important because they allow companies to be more productive and innovative than they could be in isolation. Clusters could be also important because they can reduce barriers to entry and foster new business creation relative to other more dispersed locations.<sup>6)</sup>

As a consequence, clusters and regionally based networks have increasingly become the focus of public debates, national supporting initiatives, and academic research. Many studies have been published, analysing different aspects of governance, structure, competitiveness and so on.<sup>7)</sup>

There is a wide range of clusters in the real world. Clusters are very different regarding the emergence, the structure, integrated members, the size of interactions and communication, the governance, financing as well as other characteristics. There are effective and prosperous clusters but also unsuccessful clusters.

Clusters could be advantageous for the region. But the success isn't guaranteed with clusters. For example, the Ruhr area, the area between Dortmund at the East and Duisburg at the West, was a very successful region about sixty, fifty years ago. There were big coalmines, big steelwork companies, and a lot of appropriate component supplier. Though cluster was not a theme within the economic literature at that time there were in reality big and successful clusters covered almost the entire added value chain. But now this region is economically underdeveloped and a crisis region. Despite a lot of work, effort and also money the restructuring of this region isn't succeeded in reality up till now. Successful clusters alone are not enough in order to get enduring success.

#### 1.2. Competence Networks

Clusters need an innovative further development. Already in the ancient Greece was known πάντα ρεῖ, all is flowing. The changing of economy and society proceeds faster and

more intensively than before. Advantage within the competition is not longer bigness but quickness and innovation.

Furthermore, it is better for the member of the cluster and also for the region that clusters cover the entire added value chain and that clusters contain also different branches. The added value chain describes an interbranch cooperation of interconnected enterprises and other private and public institutions from the innovation up to the selling including also suppliers, service providers and other appropriate institutions.

It is not assured that a current successful cluster remains a successful cluster also in the future. Therefore, the regional policy, which decides to use clusters as a method in order to bring forward the region, needs also a suitable cluster policy. This policy requires trustful cooperation of all members of the cluster and the region as well as the further development of an innovative strategy, which makes possible self-supporting growth processes. Cluster policy requires a cluster management. A suitable cluster management requires the targeted governance of the cooperation. In order to develop long-lasting successful clusters it is necessary to govern a cooperation of very different partners. This is a difficult task. The cooperation, which makes long-lasting success possible, should be a network with following characteristics<sup>9)</sup>:

- The network should be focused regionally, but it should operate supra-regionally.
- The network should have a selected focus, for example Micro-Technology, Process Engineering, Optical Technologies, Transportation and Mobility or Bionics.
- The network should cover the different steps of the entire added value chain as well as different branches.
- Each partner of the network should interact intensely with the other partners; thereby it is possible to reduce the time period for the cycle of innovation respectively the time from the innovation to market.
- The network should generate innovation with a very high potential of added value chain and should transfer these innovation into marketable products and services. This requires not only a continuous further development but also real novelties and quantum leaps innovation.
- The surroundings of the network should be an area with a good infrastructure and suitable framework requirements; surroundings with a noticeable spirit of innovation are necessary.

In Germany, networks with these characteristics are called "Kompetenznetze", "networks of competence". Competence nets with a regional orientation are the method in order to develop successful clusters. If the Regional Policy would like to organise a cluster initiative in order to set up successful clusters or in order to increase growth and competitiveness of existing clusters, then universities and research institutes must be partners within these clusters respectively competence nets. Research is an important resource for ideas, which are the starting point of inventions and innovation. Education and training is necessary to qualify people who are able to realise innovation.

The German Federal Minister of Economics and Technology presents the best competence nets of Germany at a special Internet Platform: "Kompetenznetze Deutschland, networking for innovation". This is also a way of international business development. The Initiative "Kompetenznetze Deutschland" exists for eleven years. Meanwhile there are competence nets in many European countries and they are an important activity of business development for the European Union. In Germany, an Advisory Council is responsible to pick out the best networks. I am member of this Council for eleven years.

### **1.3. Advantages of Competence Networks**

Clusters and networks as well as competence networks are an important method of the Regional Policy and they should be the driving force for innovation, growth and employment within the Region. In particular competence, nets have the following advantages<sup>9)</sup> for the overall network, the members of the network and for the region:

- Enhancement of competence by means of cooperation. At present, there is a change in the innovation processes. The cycle of innovation become faster; innovation are more complex and increasing interdisciplinary and many times they have got a systemic character. Therefore, successful innovation requires more competences. Networking is a suitable method to obtain this one;
- Networks are a beneficial location factor within the international competition;
- Successful competence nets boost growth and employment of the region;
- Development of new fields of innovation. The trustful cooperation of different partners within a competence net along the steps of the added value chain initialise more new products, services, processes and procedures as well as structure and organisation than working alone without any cooperation;
- Working within a trustful and advantageous cooperation allows long-term and sustainable development for the partners and also for the whole net;
- Assurance of the place of location by means of protection of copyrights and inventions.

### **1.4. Criteria of success for clusters and networks**

Usually people want to measure the impact of working. The Regional Policy wants to measure the success of clusters and networks or it wants to know why clusters or networks were unsuccessful. It depends of the objectives of the Regional Policy, if clusters or networks are successful or not.

Usually the Regional Policy intends to enhance growth, employment and the national income of the region.

These ones require innovation, require competence nets as described above, require knowledge, research, science, education and training in order to develop and realise successful innovation.

A successful competence net needs a future-oriented focus and a suitable number of high-performance cooperation partners along the added value chain, in particular<sup>10)</sup>

- large enterprises,
- small and medium enterprises,
- service providers,
- education and training,
- research institutes and
- universities.

But this isn't enough for a successful competence net. The success is determinate also through the network management and the government of the network.

According to my experience as member of the Advisory Council for "Kompetenznetze Deutschland; networking for innovation", the management of clusters plays a decisive role in the success of the respective clusters. The cluster management serves a functional purpose to provide a range of specialised and demand oriented services to its members. Cluster organisations help to channel, facilitate and provide access to facilities and services, which may include specialised research and test centres, consultancy, training and so on.

## **2. Cluster Management, Network Management**

The cluster management including the administrative organisation is important for the overall performance of the cluster and also for the competitiveness of the regional actors.

### **2.1. Tasks and Responsibilities**

Many interactions between the members of a cluster and many conjoint activities of the cluster members are important in order to obtain success and benefits. The communication among the cluster members is a decisive condition for interactions and conjoint activities. The communication among the cluster members depends to a great extent on the cluster manager, and how he or she is linked to the cluster members and how he or she is accepted by the cluster members.

The cluster manager also plays an important role in identifying and implementing demand-oriented services and added values for the cluster members, the corresponding cluster organisation should have sufficient staff to do so.

The Cluster Management can be realised by one individual person or by a person group or rather a team.

There are several entirely different approaches to the issue of the organisation of the cluster management in Germany but also in other European countries<sup>11)</sup>:

- Firstly: The cluster manager or the cluster organisation itself could be a member of the cluster.
- Secondly: The cluster manager or organisation isn't member of the cluster itself, but is entrusted with this responsibility by the cluster members.
- Thirdly: An external organisation (for example a service provider or the business development) takes the lead of the cluster.

There are many empirical analyses about the effectiveness of the cluster management<sup>12)</sup>. But there isn't any easy answer. The effectiveness of the organisation of the cluster management depends on the form of governance, but also on the structure, on the selected focus, on the financing, on the number of members and on other characteristics of the cluster.

Each cluster needs an individual solution and it is important to consider the individual structure of the cluster. It isn't possible to take a general form in order to organise the cluster management like a blue-line print. But in all cases the person of the cluster manager and his or her character as well as the way in which he or she takes the responsibilities for his or her tasks to govern the cluster, or how he or she is linked to the cluster members and how he or she is accepted by the cluster members is decisive.

In this context the result of many empirical analyses is remarkable: trust among the cluster partners represents an essential element of successful clusters<sup>13)</sup>. Trust is an important condition of communications, interactions and conjoint activities within the network. An aim-oriented working cluster management should have influence over the trust among the cluster partners.

The main tasks for the cluster management are the following activities<sup>14)</sup>:

- Initiation of the cooperation and setting-up of the network
- Financing of the network, in particular sustainable financing
- Acquisition of projects and of research- and development-funds
- Services for the network
- Increasing the number of members
- Increasing the cooperation among the members
- Information and communication
- Marketing and Public Relations
- Help and assistance in order to organise an international strategy
- Education and training, further education

## **2.2. The Network Manager and his Character**

Cluster Managers or rather network managers are the central persons, the integration persons of a network or a cluster. The success of clusters or networks depends often on the person of the manager, of his (or her) management style, his (or her) aptitude and his (or her) competence<sup>15)</sup>.

My experience within the mentioned Advisory Council has indicated that there isn't an archetype of the network manager. But it is possible to describe quality characteristics as well as knowledge, skills and competence, which should have got the network manager. These ones are<sup>16)</sup>:

- the ability to communicate.
- experiences in public relations and marketing,
- professional experiences within focus of the network or cluster and within the corresponding domain of the innovation,
- motivation capability in order to communicate the culture and the aims of the network as well as to establish trust among the network actors,
- understanding of the cooperation within networks; in this way the network manager is able to contribute to decisions over the aims and the strategy of the network; as well the network manager can define the roles of the several network partners,
- pronounced management experiences,
- the capability to take the role of the driver of the network or rather to be the driving force behind the development of the network, its aims, strategy and further development,
- acceptance of the members of the network.

**In summary:** The Network manager has to manage a cooperation of partners with different aims and interests. For it the network manager needs especially the capability to motivate, to communicate, to convince, to bring together also difficult partners with different aims, to create trust among the network partners, to devise feasible visions. These ones require a cooperative mentality, enthusiasm, passion, but also the ability for aim-oriented, structured work.

The network managers can have got different experience before their work for the network or cluster. It depends on the characteristics of the network, which special experiences are suitable and needed. In general, the manager could have experiences as:

- networker,
- networker and technical expert,
- technical expert<sup>17)</sup>.

## **3. The RESITA-Network and its advantage and benefit for the regional development within the area of the involved universities**

Success for the region requires sufficient, effective and efficient innovations, namely continuous improvement of product, services and processes, real novelties but also quantum leaps innovations.

Doubtless successful innovations need knowledge, science, research, education and training requires new ideas and the transfer to inventions to a qualitative and quantitative sufficient extent.

But ideas and also inventions aren't enough. Ideas and inventions become innovations, if market success is gained in the real life. It requires hard work and it is a difficult business to gain success on markets with increasing regional, national and global competition.

Ideas, inventions and innovations need an appropriate surrounding and especially a creative and trusting atmosphere, free information flow and a collaborative milieu<sup>18)</sup>. The region needs not only the "hard factors" but also "soft factors" like spirit of innovation and others as mentioned above. These ones are necessary also for the clusters, networks or competence nets. In addition, trust among the network-partners is needed in order to create ideas, inventions and innovation.

Each region and each network could possess the same "hard factors" like knowledge, science, research, education and training; at least they have the same possibility to obtain these ones in the today's information and communication age.

Nevertheless, the success of the regions or the networks is different. In my opinion the differences are to a great extent explained by means of the mentality and the activities of the network manager; his enthusiasm, his passion, his vision, ideas and persuasive power, his prognostic view of outlines for future developments, his ability to create trust and optimism are decisive factors of success<sup>19)</sup>.

My opinion is based on the experience of my long-lasting membership within the Advisory Council "Kompetenznetze Deutschland, networking for innovation".

Universities and research institutes must be essential partners within an innovative cluster, network or competence net. Therefore the University of Rouse is an important partner for industry, trade, service providers and other actors which want to bring forward the region.

But the cooperation of universities with the industry, trade, service providers isn't without any difficulties.

The business world on the one hand and the academic world on the other hand have different aims and interests.

The business world aims at benefit and economic results.

The academic world aims at qualification by means of education and training as well as at new knowledge by means of research.

It could be an important task of the network manager to bring together both worlds and their specific advantages in order to organise a trustful and successful cooperation oriented towards the aims and interests of the network and the region.

The University of Rouse itself is a member of a special network. The University of Rouse is partner within the Resita Network. This is a network for education and training as well as for research and development with the subject "Entrepreneurship and Innovation".

Partner within the network are professors with the special scientific field entrepreneurship and innovation from the following universities:

- Albania, University of Tirana, Faculty of Economics
- Austria, University of Applied Sciences Salzburg
- Bosnia and Herzegovina, University of Zenica, Entrepreneurship and Innovation Centre, Faculty of Economics
- Bulgaria, Rouse University Angel Kunchev, Faculty of Economics
- Croatia, Josip Juraj Strossmayer University in Osijek
- Germany, University of Applied Sciences Worms, Faculty of Economics
- Germany, University of Applied Sciences Trier, Umweltcampus Birkenfeld
- Macedonia, University American College Skopje
- Montenegro, University of Montenegro, Faculty of Economics
- Romania, University Eftimie Murgu Resita, Faculty of Economics
- Romania, Academy of economic studies (ASE) Bucharest
- Romania, Polytechnical University Timisoara
- Serbia, University of Beograd, Technical Faculty Bor
- Slovenia, GEA-College of Entrepreneurship Ljubljana

Partners of Cooperation:

- Germany, Institute for European Affairs INEA, Düsseldorf, Ljubljana
- Germany, Association of the Faculties of Economics and Management of the Universities of Applied Sciences

The following activities could be realised within the Resita Network:

- Exchange of module structures and descriptions of entrepreneurship and innovation management modules;
- Exchange of course material;
- Development of programs for mobility of lecturers / guest professorships;
- Development of programs for the mobility of students;
- Development of a joint MBA program;
- Joint research projects in the field of entrepreneurship and innovation management;
- Proactive exchange on the formation and implementation of centres of entrepreneurship and innovation.

The main objective of this network is the improvement of students' qualification in the specific fields of entrepreneurship and innovation. The student should develop the ability to create innovation and to found a firm.

Another goal is the development and enhancement of the intercultural competence of the students. This capability is an essential condition for international cooperation.

Important activities within the network are summer schools for students with the topics "Business Plan" and "Innovation Management, Generating Ideas". The participants in the summer schools need knowledge and understanding of the theme. On this basis, the students have to solve a concrete task within international groups; the students need the ability to apply knowledge and use know-how to complete the task and solve problems. But the students need also the competence to use knowledge, skills and personal, social and methodological abilities. During the summer schools, the students must work within an international group; therefore, they need also the ability of intercultural cooperation.

The mentioned abilities and the mentioned themes become more important in the future. The change in our world, particularly the increasing competitive pressure, the rising rate of innovation, the fast growth of knowledge and the cumulative complexity require increasingly knowledge, skills and competence as mentioned.

The Network-Universities consider these developments with their activities of education and training.

In addition to education and training are research and development further important tasks of the network.

The cooperation between the partners should enhance and improve the spirit of innovation and the development of innovation skills as well as the initiation and realisation of innovations in the respective regions of the network universities.

In the past, especially the subjects "Entrepreneurship" and "Contribution to Innovations" have obtained an increasing importance at Universities.

From the perspective of the regions cooperation of universities with companies and firms as well as the topics entrepreneurship, innovations and university-driven foundations of enterprises are particularly important to the development of regions. Universities are – as mentioned above – an essential partner within a regional innovation-oriented network.



## CONCLUSIONS

Pooling of capacities and experience of several universities can provide the participating regions with access to the knowledge and the results of research not only of the University within the respective region but also of the universities within the network.

Collaborating within a network could enable the intensive mutual exchange of information. In this way, all universities could learn from good experience and best practice of the other partners as well as also from failure. All universities of the network, their students and the respective regions could benefit from the cooperation. It is also an aim of the academic Resita-Network that all regions of the involved universities should get advantages and benefit.

The qualification of the students of the network universities can be improved: The universities can use the different strengths and experiences within the network in order to improve particularly the skills of the students to apply the theoretical knowledge and to solve concrete, complex tasks of the real life. Thus, the general qualification can be improved to solve unknown and future tasks and problems. By the way this one is an important learning outcome within the framework of the Bologna Process worded within the European Qualification Framework.

Furthermore, the summer schools and other common lessons of the study programs make it possible that the students gain experience in intercultural cooperation. This one is an important condition in order to manage international projects with get increasing importance considering the global competition. By the way, it is an important aim of the Bologna Process for the next decade to enhance the international mobility and to strengthen the qualification of the intercultural cooperation.

Over and above that, the network universities will carry out common research projects in the future. Especially projects of empirical research could support the regions by means of analyses about options of the regional development, but also generating ideas for innovations and enhancing and improving the regional spirit of innovation and optimism for the future.

It is true the activities of each university within the Resita Network are only few projects compared to all activities of the universities, but it is possible to multiply the network activities, if these ones are linked with projects within the universities, particularly with engineering projects, and if could be included these activities in regional networks or rather in the establishment and further development of a suitable competence network.

But let me say again: Not only "hard factors" but also "soft factors" are decisive for success. Doubtless, regions need aim-oriented knowledge on the basis of research, education and training, need the cooperation of important regional actors within innovative and dynamic networks, need also humans with a high-level qualification. In addition to knowledge, research, education and training regions and networks need also humans with the appropriate mentality, with enthusiasm and the capability, to inspire the region and the member of networks.

I'm convinced the Resita-Network in which the University of Rouse is a very active and dynamic partner and a powerful driver will contribute to the regional development within the area of the involved universities.

An Arabian proverb says: How ever is satisfied with what is gaining up until now has lost already.

I wish you that Rouse is a region of winners.

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**The paper is reviewed.**