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Social capital as critical success factor for innovation development processes in industrialised regions, case study RIS-Silesia in the Silesia Voivodship (Poland)

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"Social capital as critical success factor for innovation development processes in industrialised regions, case study RIS-Silesia in the Śląskie Voivodship" (Poland)

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Abstract

Pace and success of transformation of traditional national economies into competitive network-based economies in a global environment in such countries like Poland - countries currently facing intensive economic reconversion - is mainly depending on the role and capacities of regional economic centres in initiating and developing pro-innovative processes. These economic centres, among which the Śląskie Voivodeship, are often characterised by long tradition in heavy, labour- and raw materials intensive industries such as the mining, metallurgic and chemical sector. The Śląskie Voivodeship is placed among the leading regions of Poland as for its social and economic potential. It is characterised by a high number of inhabitants (4.8m. people) living on a relatively small area (3.9% of Poland), resulting in a high population density (3.2 times more than the country's average). In 2000, the Śląskie Voivodeship was placed second in Poland (behind the Mazowieckie Voivodeship) as concerns its economic potential measured in Gross Domestic Product[1].

The Śląskie Voivodeship is currently playing a pilot role in Poland in developing networks and systems around a regional innovation strategy. More than 150 organisations (R&D institutes, institutes of higher education, SMEs, large companies, local governments, NGO's) are involved in this process.

The paper will – based on the case study of the Śląskie Voivodeship - include problem areas and solutions concerning development of pro-innovative co-operation networks and will discuss the issue of trust between organisations as critical factor in innovation strategy building and implementation processes. The document will also present a methodology related to intellectual capital, among which social capital, as key-condition in the above-mentioned process.

[1] Refers to 2000

1. TOWARDS A CREATIVE AND INNOVATIVE REGION

There is a growing consensus among regional stakeholders about economic development policies. They support the idea that innovation, entrepreneurship and creativity are significant philars for securing regional competitiveness in a global environment.

Regional entrepreneurship determines the level of life quality (eg. measured as HDI - Human Development Index)[2]. It also determines regional competitiveness. If we think of a region as a superior economic body, it have to imply the economic growth of the country (eg. Putnam R.D., Coleman J.S., Bourdieu P., Fukuyama F.)[3]. A research carried out in the Śląskie Voivodeship confirms a key-role of intellectual capital in the process of regional development (eg. Szczepański M.S., Wódz J. K., Stachowicz J., Bratnicki M., Machnik-Słomka J., Kordel P.)[4].

In practice, one could come across some statistical indicators of regional entrepreneurship (eg. an amount of Small and Medium Enterprises per thousand inhabitants), however regional entrepreneurship is more and more often associated with

[2] Used by the United Nations.

[3] Bourdieu P. 1986. The forms of capital. In Handbook of Theory and Research in The Sociology of Education, J.G. Richardson (ed.), Greenwood. New York: 241-258; Putnam R.D., Bowling Alone: America`s declining social capital. Journal of Democracy 1996, nr 6; .Coleman J. S. 1990. Foundation of Social Theory, Harvard University Press, Cambridge, Fukuyama F., Zaufanie – kapitał społeczny a droga do dobrobytu, PWE Warszawa 1997.

[4] Szczepański M.S., Kapitał społeczno-kulturowy a rozwój regionalny i lokalny, Prolegomena, Kapitał społeczno-kulturowy a rozwój regionalny o lokalny, ed. M.S. Szczepańskiego, Wyższa Szkoła Zarządzania i Nauk Społecznych w Tychach, Tychy 2002; Wódz J., Wódz K., Lokalny kapitał społeczno-kulturowy i lokalni liderzy zmian., [in]: Kapitał społeczno-kulturowy a rozwój regionalny i lokalny, ed. M.S. Szczepańskiego, Wyższa Szkoła Zarządzania i Nauk Społecznych w Tychach, Tychy 2002; Kordel P.: Zaufanie a proces tworzenia strategii przedsiębiorstwa, Organizacja i Kierowanie 2002, nr 2, s. 77-89; Bratnicki M., Dyduch [in].: W poszukiwaniu wyceny kapitału społecznego, Organizacja i Kierowanie 2003, nr 1, s. 3-15; Stachowicz J.,Walukiewicz S.: Setting up Proinnovative Networks in Poland, [in:] Peripheries, Centers and Spatial Development in the New Europe (eds. Eskelinen H., Tervo H., Pekkala S.) ERSA 2003, Helsinki, Finland 2003; Stachowicz J., Machnik-Słomka J., Kaźmierczak M.: Social – cultural aspects of the functioning of an institutional network, which is the base for the regional pro-innovating strategy implementation, ERSA 2002, Dortmund/Germany, August 2002; Machnik-Słomka J., Społeczne aspekty tworzenia parków technologicznych i przemysłowych w tradycyjnych regionach, Uniwersytet Śląski w Katowicach, Wydział Nauk Społecznych, 2002, praca doktorska; Stachowicz J., Kordel P.: Budowanie relacji zewnętrznych przedsiębiorstw jako podstawa ich sukcesu, [in:] Globalizacja i integracja gospodarcza a procesy restrukturyzacji i rozwoju przedsiębiorstw (ed. Borowiecki R., Jaki A.), AE Kraków 2003, s. 277-284; Stachowicz J., Kordel P.: The Strategic Meaning of Social Constitution of Supplier-Customer Relations in Poland Organizations, [in] Conference Papers, 24th Annual International Conference Strategic Management Society 2004, San Juan, USA 2004.

regional social capital (eg. Cappelini R.)[5]. A regional entrepreneurship refers to an increase in entrepreneurial activities of regional stakeholders (organizations, institutions and regional inhabitants). Regional entrepreneurial behaviour is described by four attributes (absence of any of them excludes entrepreneurial character of activity[6]: *innovation* in wide Schumpterian definition; *progressive character* of activities; *responsibility* of particular persons and organizations for the risk taken; *social responsibility* for the results of the activities. This conception of entrepreneurial behaviour was defined by J. Stachowicz.[7] Our observations have been accepted by the State Committee for Scientific Research in Poland as a research[8], which primary results are presented in this article:

a) entrepreneurial activities of organizations, institutions and inhabitants imply the extent of regional entrepreneurship;
b) a direction of regional development is implied by social behaviour of people described by[9]: loyalty, obedience, functional participation, social participation and supporting participation;
c) an entrepreneurial behaviour of regional stakeholders is shaped on the basis of social capital defined by[10]: rightness, trust, openness, competences, loyalty and consequence (there was a seven digit scale used, where '1' was a very low level of social capital and '7' was very high);
d) entrepreneurial behaviour[11] is characterized by: evolution, innovation, responsibility for the risk taken, social responsibility (J. Stachowicz);
e) regional entrepreneurial behaviour relates directly to the inner-potential of the regional stakeholders' social capital;
f) becoming an entrepreneurial region is a process;

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[5] Cappellin R.: Territorial knowledge managemrent: Towards a matrics of the cognitive dimension of aglomeration economies, [in:] Networking for excellence, Warszawa 2002.
[6] Stachowicz J.,Walukiewicz S.: Setting up Proinnovative Networks in Poland, [in:] Peripheries, Centers and Spatial Development in the New Europe (eds. Eskelinen H., Tervo H., Pekkala S.) ERSA 2003, Helsinki, Finland 2003
[7] ibid
[8] KBN Paper No. 2/H02D/032/25 supervised by Stachowicz J. , Zarządzanie kapitałem intelektualnym w regionalnych sieciach proinnowacyjnych" Centrum Badań Przedsiębiorczości i Zarządzania PAN, Wydział Organizacji i Zarządzania Politechniki Śląskiej
[9] Bolino M.C., Turnley W.H., Bloodgood J.M.: Citizenship behavior and the creation of social capital in organizations, Academy of Management Review 2002, nr 4, s. 505 – 522.
[10] Schindler P. L., Thomas C. C.: The structure of interpersonal trust in the workplace, Psychological Report, 1993, nr 5, s. 563-573.
[11] Stachowicz J.,Walukiewicz S.: Setting up Proinnovative Networks in Poland, [in:] Peripheries, Centers and Spatial Development in the New Europe (eds. Eskelinen H., Tervo H., Pekkala S.) ERSA 2003, Helsinki, Finland 2003

g) regional entrepreneurial initiatives are the elements of the process of becoming an entrepreneurial region;
h) an incerase in entrepreneurship depends upon efficiency of the regional initiatives management.

To manage a regional initiatives is to create social capital and stimulate other tanglible and intangible assets of the region so there is a growth of regional value measured as an increase of regional entrepreneurship. We describe entrepreneurial activities on the basis of *intellectual capital* (i.e. social and cultural capital – for more explanation refer to BK 266/ROZ1/2003, ed. Stachowicz J.[12]) that is represented by *regional stakeholders*, *social capital* and *abilities* (regional stakeholders' tangible capital; social, political, legislative and technological environment). A social capital is a resource that is derived from the relationships among individuals, organisations, communities or societies[13]. In fact, this definition does not portray the capital itself but resources i.e. human capital and tangible capital that become this capital – they imply an increment in regional entrepreneurial activities. A level of regional entrepreneurship is associated with organizations which operate within the region, i.e. with the sum of these individual activities. A level of entrepreneurship, however, is not a basic sum of separate activities undertaken by the organizations, but it is also a relult of the interactions between them. Social capital '**sc**' is crucial for the process of creation of entrepreneurial regions and a success depends upon it. Social capital management relies on a specific features of the region (cultural capital or human capital), but we are able to influence them intentionally by means of well known rules of strategic management and project or knowledge management.

A process of a regional social capital management aims to stimulate entrepreneurship activities along with regional partners. This increase could be planned and controlled intentionally. According to the approach applied in the article, transferring from moment T_0 to T_1 is a managed process. It can be organised intentionally, partners can be selected and created, an intellectual capital can be built up; it is possible to control the incerase of the regional entrepreneurship.

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[12] Stachowicz J., Machnik-Słomka J., Kordel P., Kałuża J., Kaźmierczak M., Wróbel P, BK 266/ROZ1/2003: Management of regional initiatives such as: clusters, science and technology parks form the perspective of the social capital beneficiary in the region. Ed. Stachowicz J., Management and Marketing Department, Silesian University of Technology in Gliwice.
[13] M. C. Bolino, W.H. Turnley, J. M. Bloodgood: Citizenship behavior and the creation of social capital in organizations, Academy of Management Review 2002, nr 4, s. 505 – 522.

2. THE RESEARCH MODEL OF A SOCIAL CAPITAL MANAGEMENT ON THE REGIONAL LEVEL

The assumptions made above are a spinal cord of the research run in the Śląskie Viovodeship under the supervision of J. Stachowicz. The following institutions are involved in the programme: Centre for Research on Enterpreneurship and Management (Polish Academy of Sciences), Upper Silesian Agency for Enterprises Restructuring Co. in conjunction with other institutions.

A cognitive purpose of the above-mentioned research programme is to analyse the process of human capital management of initiatives that are vital to the region; this is mailny an elaboration and implementation of the regional innovation strategy (the RIS-Silesia Project). It is also the puropse to collect useful recommendations on the capital management within the Śląskie Voivodeship. As a research object, the RIS-Silesia Project is a kind of laboratory of entrepreneurial region management.

Our research object is a 'region' conceived as a regional initiative: the notion 'region in view of regional initiative' (or **RvRI** for short)[14] includes partners engaged (directly or indirectly) in regional initiatives. The research encompasses a set of organisations, institutions and people involved in the realisation of the initiative.

The research procedure for the article includes the following steps:

1. a diagnosis of social capital at the key moments for the project completion, among others: an initiation of the project, completion of analitical studies, beginning of an implementation phase. The diagnosis includes the analysis of tangible and intangible capital, focusing on the social capital analysis in particular (the following dimensions of social capital have been covered with the analysis: rightness, trust, openness, competences, loyalty and consequence). A survey has been carried out to explore social capital linkages within the stakeholders group in more details. The research has been undertaken as a PhD study and based on a construction of four-dimensional profiles (trust, loyalty, solidarity, social responsibility)[15]; the results show a low rate of social

[14] The abbreviation RvRI means 'region in view of regional initiative'.

[15] Stachowicz J., Machnik-Słomka J., Kaźmierczak M.: Social-cultural aspects of the functioning of an institutional network, which is the base for the regional pro-innovating strategy implementation, ERSA

links between the stakeholders of innovative ideas (such as technology parks). The stakeholders can be characterised with attributes like: disloyalty, manipulation; overestimated aspirations and ambitions; indifference, closeness to other people's ideas and activities; untrust, rather cynicism; lack of integrity: saying 'they' instead of 'we'.

2. there are three main variables defined for each project (initiative) in the model: human capital and tangible capital, social capital and abilities arising form social, financial, legislative and institutional structure of the region.

$$\boldsymbol{Earl} = \mathbf{f}\ \{\boldsymbol{Hc} + \boldsymbol{Tc}, \boldsymbol{Sc}, \boldsymbol{A}\}\ ,$$

where ***Earl*** is 'Entrepreneurial activities on a regional level', ***Hc*** is 'Human capital', ***Tc*** is 'Tangible capital', ***Sc*** is 'Social capital of the region' (encompassing inner-social capital of regional partners as well as social capital uniting regional partners).

A comprises regional abilities related to finances, regional legislative or social policy. Social capital is a central variable described on the basis of the following attributes: rightness, trust, openess, competences, loyalty and consequence. According to the assumptions applied in the research the ***Earl*** varialbe should have a considerable increment in time resulting form proper social capital management.

The research techniques applied are:

- an interview
- participation research (the authors of the article are involved in the RIS-Silesia project directly as: Member of the Steering Committee, Member of the Project Team)
- results of the desk research (e.g. analysis of demand for innovation and its supply, integrated analysis of regional economic sector, regional innovation strategy document)

3. there has been a SWOT analysis carried out for the above-mentioned variables which qualify the model. The analysis indicates opportunities and threats (in relation to social capital, tangible capital and chances), strengths and weaknesses (in relation to social capital).

2002, Dortmund/Germany, August 2002; Machnik-Słomka J., Social aspects of science and technology parks foundation in traditional regions, University of Silesia, Dept. of Social Sciences, 2002, PhD research.

Although the equations of entrepreneurial activities presented in the article are a simplification of dynamics of entrepreneurial activities, they are necessary to carry out the empirical research. It also seems, that they can explain to a large degree the entrepreneurial activities which are described with: a potential of ideas and activities, their innovativeness, responsibility for the risk taken (necessary to gain a return on investment), responsibility towards regional society.

3. THE RIS-SILESIA CASE STUDY: A WELL MANAGED PROCESS OF REGIONAL ENTREPRENEURIAL GROWTH

The RIS-Silesia Project is achieved in the Śląskie Voivodeship (Poland), which is percepted as a region with re-idustrialization process, with traditional trades, degraded grounds.

Silesia is located in the southern corner of Poland and shares borders with the Czech Republic and Slovak Republic. Three airports serve the region, of which one is an international airport at Katowice-Pyrzowice. Two major international motorways run from south to north (Gdańsk – Bratislava) and east to west (Lvov – Leipzig) and a good network of main roads serves the rest of region. Upper Silesia has a dense network of main roads serves the rest of the region. Upper Silesia has a dense network of rail tracks and a good rail transport system.

The Śląskie Voivodeship is placed among the leading regions of Poland as for its social and economic potential. It is characterised by a high number of inhabitants (4,8 m. people) living on a relatively small area (3,9% of Poland), resulting in a high population density (3,2 times more than the country's average). Śląskie Voivodeship can compete in respect of amount of firms, academies and research and development institutions etc. with no one region in country. However not amount but quality determines about efficiency of these institutions but the researches under RIS – Silesia are not so optimistic. This table presents basic data on the Śląskie Voivodeship (Basic data on the Śląskie Voivodeship in 2001[16]).

[16]Source: Regional Innovation Strategy of the Silesia Voivodeship 2003-2013, Upper Silesian Agency for Enterprises Restructuring Co. Katowice 2004 based on Statistical Yearbook 2002, Office of Statistics in Katowice, ISSN 1640-0097

No.	Basic characteristics	Figures
1.	Population	4,8 m. people (second place behind the Mazowieckie Voivodeship)
2.	Area	12,3 thousand km^2 (14th position before the Świętokrzyskie and Opolskie)
3.	Population density	393 persons/km^2 (3,2 times more than average in Poland)
4.	Administrative structure*	19 urban districts, 17 country districts, 166 municipalities
5.	Level of urban development	Urban development rate is 79,3 % (the highest in Poland)
6.	Higher education	192,6 thousand students which amounts to 38,5 students per 1000 persons (the average is 44 students)
7.	GDP per capita **	19,5 thousand PLN, 10,1% higher than the national average
8.	Number of economic units in total:	403,4 thousand economic entities (11,9 % of all entities registered in Poland)
9.	Employed in agriculture, hunting and forestry	213 thousand persons (12,6 % of all employed in the Voivodeship)
10.	Employed in services	856,7 thousand persons (50,8 % of all employed in the Voivodeship)
11.	Unemployment rate***	15,7 % (less than the average, which is 17,5 %)

* From January 2002 – 167 communities.
**Refers to 2000.
***In January 2002, unemployment rate was 16,2 %, whereas the national average was 18 %.

Common aspiration contained in "Regional Innovation Strategy of the Śląskie Voivodeship 2003-2013" (elaborated under RIS – Silesia project) accepted on 25th August 2003 by the Sejmik of Śląskie Voivodeship is so as the Śląskie Voivodeship be seen as a Creative and Innovative Region (Enterprising). Such a region where because of co – operation of institutions voivodeship can became a serious partner on european and global level in the range of economical, scientific and technological activity.

Some criteria have been adopted to verify the dynamics of the strategy performance. Selected intentions which should be observed in particular stages of implementation of activities resulting from the strategy are presented below:

- **1** Regional Innovation system based upon networks between business support institutions, the R&D sector, local self-governments and companies ready by 2005
- **10%** rise per year in the number of registered patents from 2008 on
- **100** new innovative SMEs established, based upon technologies from R&D institutes and institutes of higher education by 2008
- **1 000** SMEs engaged in about 15 local and regional clusters by 2008
- **10 000** students per year involved in innovation and entrepreneurship promoting activities from 2005 on

Carrying out these criteria depends on involvement of specific institutions of the R&D sector, institutes of higher education, business support institutions, finance sector institutions, local governments, and large companies and – which is the most important – small and medium enterprises in the Śląskie Voivodeship in determined undertakings which promote create and implement innovations.

The Śląskie Voivideship is the first region in Poland that have adopted its own innovation strategy. The RIS-Silesia experiences reveals that the most important thing is to invest constantly in human resources, social capital which enable the optimal use of existing capital.

Update on developments during the project:

RIS – Silesia project is accomplished by using methodology adopted in EU countries. European Commission in co – operation with Regional Policy Directorate General and Enterprise Directorate General initiated under the programme „Innovations and SMEs" within the Fifth Framework Programme and the tenth Article of European Regional Development Fund special programs for creating regional innovation strategies (RITTS/RIS). Program of actions under RIS – Silesia agreeably to UE methodology is planned for 32 months period and divided into three stages:

Stage 0 – definition, the target was to build agreement

Stage 1 – making analysis

Stage 2 – evaluation, monitoring and valuation efficiency of undertaken actions

When the project RIS-Silesia started in November 2001, the Śląskie Voivodship counted about 403 400 companies, of which 356 100 were entities of natural persons and non-trading companies which equals to 88,3%. It represents a growth of 31% in comparison with 1995 (271 200). The number of companies acting by virtue of commercial law in the same time has increased by 3,9%, from 11 900 in 1995 to 19 600 in 2001.

Since 3 November 2001, the RIS-Silesia project has been carried out for a period of 32 months within EU 5th Framework Programme. The project consortium includes: the Śląskie Voivodeship Board, the Upper Silesia Agency for Enterprises Restructuring, the Upper Silesia Agency for Regional Development, the Institute for Chemical Processing of Coal - Branch Contact Point of the EU 5th Framework Programme, the Regional Development Agency Nord-Pas de Calais (France) and the Limburg Development Agency (GOM-LIM) (Belgium). The project manager is nominated by

GOM-LIM. About 160 institutions have been involved in the process of information exchange and in particular activities supporting objectives of the project.

Between October 2002 and February 2003 four analyses have been implemented, engaging over 400 small and medium enterprises, 30 support centres and 60 R&D centres in individual interviews and thematic meetings. The reports from the analyses served as work documents during conferences of the Regional Innovation Forum on preparing the regional innovation strategy in March and April 2003. The project RIS-Silesia was one of the first projects to deliver the Regional Innovation Strategy in CEEC in 2003. The Strategy is the result of engagement of over 600 organisations in individual interviews, workshops, seminars and conferences between March 2002 and May 2003. Supported by the baseline "Imagination creates Reality", it contains three strategic fields, namely: 1. Increasing the share of very innovative companies in the total number of small and medium enterprises, 2. Increasing the exploitation of research and development potential and 3. Assuring efficient Regional Innovation System based on mutual confidence, creativity and excellence. Each of these fields includes strategic aims and operational objectives. In August 2003, the Regional Parliament of the Śląskie Voivodship accepted the Regional Innovation Strategy of the Śląskie Voivodship for 2003-2013.

Already in October more than 200 people registered in nine regional groups covering nine thematic fields of the strategy. These groups met twice in 2003 to define methodologies and actions for implementing the strategy. Their work resulted in a first list of 25 actions that were discussed during the Steering Committee meeting in January 2004. In February 2004, the project team prepared the first Implementing Programme for 2004-2008. This programme defines nine priorities and will include concrete actions to be implemented in the near future. After the Steering Committee accepted the first draft, about 300 organisations received this programme in order to define their actions. Already by April 2004, about 80 project-proposals have been sent to the project secretariat. The proposals showed to be covering different items but they also had overlapping elements. Therefore, the Steering Committee urged the RIS-project team to start discussions with project initiators in order to set up integrated packages of projects. In the context of Structural Funds, the Implementing Programme has an empowering impact on the organisations, confronting them with concrete questions on how and for whom preparing projects. The project team had the pleasure to present about 30

regional project proposals during the final meeting of the Regional Innovation Forum on 19 May 2004.

During this final conference, 91 key-organisations in the field of innovation, local governments and companies signed the declaration titled "Creative Region of Innovation". This declaration includes the main philosophy behind the development of the regional innovation system in the Śląskie Voivodship with major focus on "networking creative people". There was a mutual agreement that the social acceptance of the strategy is a fact and that the time is ripe to act together for the sake of the region.

At the moment the RIS-Silesia Project is being at the last phase – an implemantation of the Regional Innovation Strategy of the Śląskie Voivodeship and the strategy implementation system has been prepared to facilitate this process. The Regional Innovation Strategy is going to be implementated via the following executive programmes:

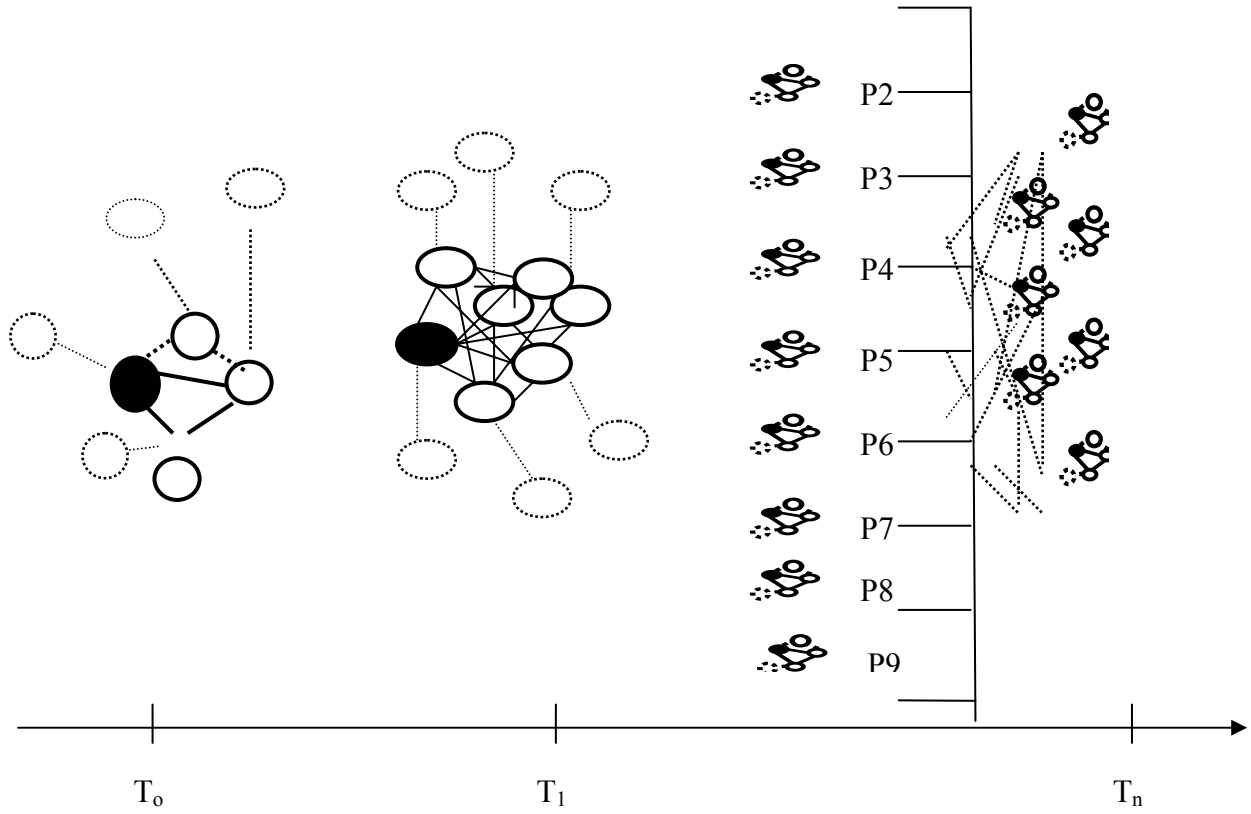
- Executive Programme 2004-2008
- Executive Programme 2009-2013

At the moment the first Executive Programme is being elaborated. About 80 projects under 9 priorities have been submitted. In the framework of the implementation system: Steering Committee, Co-ordination Unit, Regional Innovation System Managing Unit will be established. 9 Expert Groups are to be created to assure an efficient implementation of the Regional Innovation Strategy.

4. RESULTS OF THE RESEARCH

According to the research procedures presented in point 2, there have been quality tests such as 'individual review' and 'research by participation' carried out. The studies lead to the conclusion that social capital of the examined group – (the project team – people involved in the implementation of the RIS-Silesia Project) is a function of interactions between specific behaviour.

The study of T_1 period seems to confirm prior assumptions. However, in this case a significant increase of potential has been observed in the following dimensions: rightness, loyalty, competencies, and trust in particular. A perfect situation has been presented in the T_n period. It shows the required level of social capital within the examined group in context of the research on the RIS-Silesia Project.



Explanations:

T_o – T_n – a year

– the project team, people and institutions interested and participating in the RIS-Silesia Project

…… - direct and indirect links and relations (social capital elements)

P1-P9 – priorities of the RIS-Silesia Executive Programme

P1: Development of Regional Innovation System

P2: Creation of the Regional Information System for SMEs

P3: Creation of the Regional Financing System for SMEs

P4: Support of the effective utilization of market opportunities

P5: Change in the Śląskie Voivodeship image

P6: Innovative culture in the region

P7: Regional economy supported by strong technological clusters

P8: Development of innovative economy based on networks

P9: Supporting of innovative bodies creation.

Fig. 1. The evolution of work on the RIS-Silesia Project

The results show that throughout the project completion, which was divided into three phases, social capital increased, as well as the number of organizations, people engaged within the project and the quality of relations between them (illustrated on the

figure above). This could be achieved thanks to the consequence in the project management and a well-defined structure and programme.

We estimate that the increase in social capital in the key elements of the RIS-Silesia Project was distributed as follows:

- At time T_o, when a preparation phase was under way and at the beginning of phase 0 of the project – socal capital indicator measured in the 6 dimensions described in this article (on the scale from 1 to 7) showed: rightness (4), trust (1), openness (1), competetence (3), loyalty (2), consequences (3). At the beginning of this phase there was some people from a few institutions involved, including two foreign institutional partners.
- At time T_1 on the first phase of the project – social capital indicators measured in 6 dimensions desribed in this article (on the scale form 1 to 7) showed: rightness (5), trust (2), openness (2), competence (4), loyalty (3), consequences (4).
- At time T_2 on the second stage of the project – social capital indicators measured in 6 dimensions desribed in this article (on the scale form 1 to 7) showed: rightness (5), trust (4), openness (4), cempetence (5), loyalty (4), consequences (5).

The results presented above show how social capital has been rising throughout the project implemetation. However, it has not achieved the highest numbers and still requires some further actions to be made. The experiences resulting from the RIS-Silesia Project and the ones from other countries working on similar projects show, that for the project creation and its implementation, a neutral agent is necessary, because it stimulates activitites within regional innovation system and prevents from stabilization and stagnation.

A perception of an entrepreneurial region adopted in the article and the research model presented, is the best methodology for the creation of an entrepreneurial region. However, one should remember that this process needs to be managed continuousely to utilize social capital.

Within a thirty-two months period when the Regional Innovation Strategy under the RIS-Silesia Project was being implemented, a friendly environment for the development of innovations has been created as well as an atmosphere for joint, integrated actions of partners that had been used to work separately before. Individual regional institutions that represent industry, science and self-government were

engaged in the works of Expert Groups. They prepared proposals of actions to be made. The Regional Innovastion System is going to be based on the co-operation network and on information exchange system between R&D institutions and supporting institutions, companies and supporting organizations. There is a strong representation of themtic and sectoral networks in the Śląskie Voivodeship that could shape the regional innovation system. These institutes are (eg.):

- Silesian Consortium of Institutions for the Support of Enterprise Development, comprising of SMEs supporting institutions
- Silesian Research and Development Institutions Council, created by R&D institutions from the Śląskie Voivodeship
- Regional Conference of University Rectors, associating Universities involved in R&D activities
- Science and industry centres for advanced technologies
- Network for the regional system of technology transfer development
- A network of science and technology parks and incubators
- Other networks initiatives arising from the idea of the innovation strategy

The issues resulting from the accompanied interviews regarding time T_0 revealed some fundamental *barriers* and *threats* that unabled the use of existing potential and made it difficult to manage. Among the most important barriers hampering entrepreneurship are: organizational barriers, ambitions of individuals and economic entities, mentality, low level of social responsibility.

The key success factors, which have influenced the RIS Project positively are:

- support form self-government
- institutional and organizational potential
- support from social and economic institutes
- the Project Leader
- clear vision and the programme of the project
- well prepared project proposal
- good management system and continuous monitoring of work; flexibility
- effective internal and external communication system
- trust as a base for co-operation

- the application of social capital creation methodes
- consequence in complex projects management
- comprehensive and up-to-date information relating to results of the work
- individual approach to institutions, direct contacts with them
- good preparation of work, expert groups (groups stability)
- good quality of researches carried out under the project, which were a solid base for further work.

We could optimisticly assume that our project and its further consequent implementation will transform our region into an entrepreneurial area. Consequently, it will lead to the increase in life quality and competitiveness across the region .