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Model of regional management instruments in economy based on innovation and communication

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ERSA 2002
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Model of Regional Management Instruments in Economy Based on Innovation and Communication

Abstract

Coping with the growing international competitiveness as well as with social problems is associated with development of regional topics. Perceiving of the notion of the region and what it encompasses becomes a crucial element of stimulating development. This approach is permanently exposed to new challenges and requires further studies with regard to its essence. Competitive situation of the expanding EU and status of economic transformations caused by globalisation as well as issues regarding creation of the information oriented society are the basis of challenges for creating solutions that are more effective in the international rivalry. Demand for new methods of regional development, and especially activation of the local economy potential becomes one of the more important factors of changes development in economy and enterprise management.

On the basis of practical prerequisites and polls regarding regional development it has been attempted to define prospects and tendencies for development of these issues and to prepare a set of tools, mechanisms that form development infrastructure, i.e., constant element of development and stimulation of transformations to which the region is exposed in its technological, economic, social and environmental changes.

Studies produce a picture of the system aimed at evolutionary development based on values and maintaining of its developmental potential. Description of the regional structure elements including control instruments forms a picture of a whole gamut of possibilities of regional influence and complexity. Situational character and innovative processes may ensure the regional role and maintenance of the position in economical connections.

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Model of Regional Management Instruments in Economy Based on Innovation and Communication

New regional policy

In the theory of economy the regional approach has been reoriented since the 70's. It develops further in line with the solutions of the expanding Europe. Former centralised paradigm of regional development based on levelling developmental disproportion by means of budgetary funds redistribution to weaker regions had limited possibilities of stimulation, especially with regard to differences in intra-regional development.

The following changes were the basis for reorientation of regional policy:

- existence of endogenic factors and mechanisms of development,
- further liberalisation of economy and higher dependence of enterprises on local setting,
- intensive development of networking and acceleration of technological progress,
- modification of traditional notions,
- change of the role of the state - from a monopolist to a co-ordinator,
- co-operation of small and medium companies with a local government in order to fulfil regional needs,
- development of numerous institutions which became subjects of regional policy while participating in development.

In the new concept of regional policy the economic development of a country is a sum of regional development and depends on the developmental potential in regions, contrary to the former overall approach to the economy.

Using the performed synthesis of regional development policy as well as statements regarding the future (Pietrzyk 2001) one should get prepared for the third phase of the region development approach based on knowledge processes. Due to these reasons globalisation and communication opening significantly support local development potential. Opening of the region requires a new approach to management so that it would be possible to obtain an appropriate level of innovation as well as sustainable development.

Challenges of transformation

Variety of economic, social, environmental and intellectual challenges facing societies, their governments and local authorities (especially in the case of states that restructure the economy), diverse, interrelated and dynamic character of changes require permanent expansion of methods and solutions applied to regional development.

A more comprehensive approach to a region should be searched for, combining interdisciplinary approach with effectiveness of changes and actions. Corporate character of the region (Kukliński, Wawrzyniak) prompts the support of an economical approach which is more model oriented, approach based on actions and transformations offered by management sciences. These issues develop gradually with regard to the region, which results more from practice than from theoretical approach. For instance strategy, strategic analysis, project management, monitoring and recently benchmarking are willingly used in studies on development although the authors of such studies face numerous problems regarding their interpretation and essence (e.g. strategy, Mazurkiewicz 2001). Another example is application of the notion of management to city management and to management of public administration offices. Autonomous character of regional network players points attention not only to management itself but to the need of regulation/co-ordination included in the notion of *governance*, associated with local communities self-government.

In the case of solving regional issues an interdisciplinary approach criticised by the purists of scientific methodology may be an advantage. Knowledge describing mechanisms and processes in region development does not have to stem from one scientific discipline but from many. Management which is cohesive with regard to science and essence may be performed by means of components described by different disciplines suitably to the contents of individual issues. Separating of the methodology and obtained in it picture of given reality from the description itself is a step towards separate combination of all descriptions into one entity which explains an interdisciplinary problem. As it has been remarked by one of the theorists of organisation "[...] the more sophisticated the technique and technology the people use, the more complex is organisation [...]" (Bielski 1997, p.9). It is not an explanation for presented activities but an observation which helps to tackle an issue that is being solved.

Despite the newness of the aforementioned approach to a region there are still numerous challenges that this approach should be able to cope with.

The main problems are as follows:

- permanent increase of international competition and necessity of permanent readiness to organisational changes. It refers to the whole economic potential of a region and not only to those that are supported in development by means of specially prepared programmes.
- need to increase development dynamics through creativity - not only on an enterprise level but on a level of teams and individuals. Increase of connections variety for individual tasks.
- need to not only learn permanently but to improve skills, training etc.,
- areas and phenomenon of developmental disproportion within the region.
- obtaining external benefits through searching for not only partners but teams with certain personality and competencies.
- shortening of time and expectation of reliability that prevent formation of new competencies, which is associated with trust and development of social capital in the region.

In new conditions a region becomes an economic basis where preparation to market activities and independent development or search for new opportunities either regional or global take place. Capability of independent development becomes a key parameter in assessment of every organisation. However, regional complexity should be well investigated so that these capabilities could be used in the most appropriate way (Fritsch 2002).

The areas of budgetary expenditure for development and operation of non-governmental organisations become an economic sector which prevents developmental disproportion. Non-market development means providing such capabilities for units, groups and entire organisations (incubators etc.) so that they could return to market activity. Pace of transformations is defined externally and individual development is determined by participation in a co-operating community.

Practical coping with challenges of regional development and competition should in theory take into account the following additional elements:

1. taking into account a situational approach to development which ensures adjustment flexibility as a basic paradigm of understanding changes in the region and perceiving of an organisation,
2. accepting individual development of citizens as a basis of development,
3. considering development in terms of entire self-governed community and within the boundaries of the region, and not only innovation networks,
4. ensuring practical conditions to implement European values, especially subsidiarity.
5. treating regional development in the category of evolutionary co-operation (Stewart 2000), including:
 - preparation and ensuring regional conditions for knowledge creation and development of autonomous entities and all citizens as a basic factor of the developmental process,
 - adopting an evolutionary change as a basic paradigm of development and regional innovation (single change in which entities obtain lowering of transaction costs and increasing of external effects on the activity level of individuals, groups, organisations and their clusters and finally on the level of region, which ensures synergism and an increase of developmental potential),
 - subjecting evolutionary changes to a control which balances external control of region development as well as internal one (self-control of individual players participating in development of a region).

Treating a region in terms of evolutionary co-operation means that practically all players in regional development become stakeholders for each other and exert mutual influence. With regard to the market play co-operation has a loose character but on evolutionary conditions which ensure synergism while further developmental capabilities are maintained by the communities. The market play itself does not take into account the evolutionary processes so in certain circumstances it may die down. Maintaining the market flexibility shows an organisation as an organism permanently capable of development (Edvinsson s.45).

Management sciences as well as regional policy so far have treated a human being instrumentally deriving inspiration from military methodology. But knowledge management, values and the notion of competence require thorough investigation of this developmental trend of these disciplines and show that subjective treatment of a human being in an organisation is inevitable. Underlying the permanent education, creativity and ability to participate or co-operate with regard to knowledge creation, and in consequence comparative competitiveness is only a part of developmental basis of each human being who finds satisfaction in work and participation in teams that enable further individual development. All persons participating in a market rivalry are also participants in a democratic society and are commonly responsible for development of a given self-governed community. This community is open to migration and creates development through social division of labour in accordance with its own identity and sense of collectivity. Because of that both an organisation and region must adopt subjective role of each human being in actions he or she performs - subjective

role of a human being who is a member and co-creator of development but also subjective role of a human being who is a direct or indirect recipient of performed work. This also refers to a human being who wants to join and contribute new values to a broader system of connections. In this way an approach to management in a region should to a larger extent take into account the fact of co-operation within the organisation than processes that take place between an organisation and its setting.

Apart from organisational (social) knowledge individual and team competencies become important, that is capabilities, access to social processes and resources that ensure development regardless of non-market or market activities. Development is a result of co-operation and occurs regardless of participation in the market. Lack of development means developmental disproportion in the region.

The notion of competence derived from management should be referred not only to enterprises, networks but on the whole to the capability of regional co-operation. Such approach to competencies may be used for significantly wider understanding of the meaning of social division of labour, which enables undertaking new roles and tasks. Region economy of which recognises cognitive processes, learning, development supporting and finally production as a basis of its existence, increases its diversity and creates wide specialisation of services. Such an approach provides basis for wide understanding of regional process of competencies management on the region scale, and not only on the scale of an enterprise or innovation network. Using the terms of regional developmental potential allows to take into account the whole marked by boundaries and creates a regional network with defined conditions of co-operation and development.

The notion of co-operative competencies in the regional connections network is a new quality for creation of individual capabilities, processes and social institutions as well as knowledge resources (not only on the scale of an enterprise but on the scale of region, especially unemployment).

Region and mutual network connections provide a context for actions necessary with regard to mutual integration and co-ordination. Specificity of a region consists in combining initiatives and creating conditions for living and self-fulfilment.

Social processes of knowledge should be treated in a slightly wider way than traditional forms of creating knowledge and should take into account mechanisms of social relations and communication. Due to these reasons taking into account social institutions and impact of conceptions on knowledge are an important factor for creating conditions for regional co-operation in which exchange of ideas, positions, compromise as well as play and struggle are important components of development ritual. Additionally standards of behaviour will be created as well as reception of the regional community interests and identification with them.

Table 1. shows changes that have recently taken place in an approach to a region as well their future prospects.

The main advantage that should be shown is a multidisciplinary combination of co-operative evolution theory, knowledge on organisation, situational management, social psychology for a description and analysis of innovation in a region as a basic element of evolutionary change. However, management itself applied to a region produces many questions and numerous connections.

Table 1. Development of an approach to a region (prepared by the author)

Understanding of territory	Theoretical approach	Categories
Physical space	Theory of location	Costs (transport, labour, lands, infrastructure)
Territorial network of social connections	Social capital	Social ties, culture, private and professional relations, intervention of local authorities and entities, creation of knowledge and innovation, reduction of risk and uncertainty
Region – a defined space of social development	Regional conditions of co-operation evolution due to knowledge, values and standards	Subjectifying and personalisation of development, reduction of spatial barriers of development and communication, focusing on problems, output and social values. Supporting and monitoring of development in defined space and community.

There are four basic aspects of regional management:

- public management,
- regional knowledge and technology management,
- territorial management,
- balanced development management.

The raised issues lead to a certain set of notions that explain the complexity of regional development and focus on a selected conceptual aspect of practical performance of model development management. As it is generally known the number of possible trajectories and solutions of such development is difficult to define and the objectives of management are as follows:

- balancing (with regard to space, dynamics and unit) and prevention of developmental disproportion exceeding the defined level,
- ensuring implementation of general social values,
- ensuring conditions for creation of knowledge and innovation,
- providing conditions for implementation of economic rationality,
- and for democratic co-operation and participation in the decisions of the community.

Region development based on knowledge

Treating a region as an organisation opens a basic possibility of applying a theory of organisational creation of knowledge for region development (or for other territorially defined areas). Expanding organisational knowledge on development of competencies outside of an enterprise and impact of organisational knowledge in the form of products and services and formal requirements on life of individual citizens and their participation in creation of the knowledge results in the fact that organisational knowledge of different organisations, groups or local authority has a range that crosses the boundaries of its owner and creator.

Region as a co-operating whole following its own objectives must establish certain relations and dependencies informational, formal, standards etc. With such assumptions the basic Nonaka's spiral model (Nonaka 2000, p. 98) may be a regional model for knowledge creation. Ontological dimension of knowledge refers to units, groups and organisations co-operating in the region and creating a setting of knowledge communication and conversion. The basic object of interest is regional social space of relations and connections treated in the form of network. Processes of organisational knowledge creation are subordinated to functioning of a

certain community in which social institutions play the main role. With their participation the created conceptions steer our relations with the world. They also steer our directions and attitudes that shape social communication. Institutions and social conceptions interfere in processes of knowledge creation, which requires a more detailed description from the social psychology side. Connection networks in a region form one community of interests, that is self-governed community. This community is also a widely understood community of practice which creates regional knowledge.

Creation of organisational knowledge on the regional level is possible only when certain conditions are fulfilled. These are, according to Nonaka (Nonaka 2001): intentions, autonomy, instability and creative chaos, redundancy and demanded diversity. Adapting the presented here principles to regional applications the following proposals may be pointed out:

The necessary condition for knowledge creation is community of regional values, experience resulting from developmental initiatives and intentions shaping the picture of the future. Regional knowledge may be only created through regional community which forms regional community of practice, interested formally and informally in mutual co-operation which results in taking an important position in global economy. The main role in creating knowledge is played by guides (leaders or intellectual elite) of regional community due to detailing aims, standards and conceptions referring to a region. Regional knowledge is created within a defined scope suitable for the scope of regional decision and context of its creation. The sum of community advantages supported by selection during voting is a form of acceptance of a given stage of development. Individual units may differ in their intentions but they must accept the decisions of the majority. Values and regional diversity should raise interest of regional community with regard to different opinions and interests.

An attempt may be made to define the regional process of knowledge creation. Regional knowledge is created in many problem-oriented communities of practice - formal and informal. Many of such groups that are potentially necessary do not function, which results in deficits and disproportion. Only a schedule of the information channels and synthesis of knowledge on the regional level may produce a picture that can be perceived as a whole. Creation of regional knowledge has its problem oriented architecture and scopes of spatial and essence related competence regarding experiences and character of utterance of individual participants. Regional knowledge is a dynamic creation that develops at any moment in interactions and communication created by its participants. Political character of this knowledge manifested in an individual interest of single persons is verified by a democratic choice. However, this does not solve the problem of minority. Democratic choice and decisions of majority should be limited by procedures that ensure prevention of possible claims or negotiations of compensations for minority that incurs a loss as a result of a decision taken by a majority.

Members of a given self-governed community as well as people from the outside or people whose job consists in supporting the process of knowledge creation and searching for solutions may participate in creation of regional knowledge of given communities of practice. The main objective of regional knowledge is to impact individual strategies of regional players and create competencies for more effective co-operation and increase development potential for the whole community.

Regional knowledge may be created only in conditions that ensure freedom of actions and possibilities of experiencing by individual regional players. Conversion of this knowledge and

appearing in its creation interactions between players in regional communities are of strong co-operative character. These conditions are similarly fulfilled by Stewart's concept of co-operation in evolution (Stewart 2001) which also refers to development of social communities. The fundamental condition of evolution in co-operation controlled internally and externally. The objective of this system is synergism and further possibility for implementation of evolutionary progress. Referring to the evolutionary approach in region development does not mean something completely new. It only unveils those evolutionary elements that have already occurred in applied solutions and arranges them in a defined set of preparation for the next stage of changes.

Autonomy is a necessary condition for development of each regional player. It means permanent capability of development, that is the status of adequate readiness for external conditions as well as full external information for taking appropriate decisions. Evolutionary approach shows here especially important equal role of administration, and performed tasks are shown as specialist character of services not aimed at subordinating other members of the community. Autonomy especially refers to the whole structure of public administration (both central and local) and its links and combining of independence of competencies and scope of responsibilities. Autonomy is a crucial condition for establishing a regional network and for undertaken connections and initiatives by all members of the community as well as for external connections.

Autonomy does not mean anarchy. It only enables a play within a network and rules and procedures of a democratic state and gradually growing importance of social norms. It opens a path to a completely new typology of roles and strategies of players in a regional network (small and medium enterprises, NGO, telework, non-profit organisations, etc.) and it differs depending on individual ideas and rules imposed by local authorities, rules of a democratic state and also social norms.

This nice picture does not rule out plays aimed at such or differently defined position as well as whole range of conflicts solved in a variety of ways (Bartnicki 2000). Fields of choice and undertaken different in essence forms of actions as well as offered values of competing parties introduce instability and creative chaos, in which a given player should define his activity. Regional meaning of instability is associated with the possibility of undertaking new roles resulting from disturbances and advancing social division of labour. In this way each player is an object of evolutionary changes (in aforementioned understanding) which the whole region undergoes. It is indispensable to expand one's knowledge and to participate in development of regional knowledge in order to fulfil the requirements regarding the assumed role.

Due to this external and subsidiary impact development of a region and changes (evolutionary but not only) are possible. For individual players autonomy is associated with maintaining of social norms and also with the sense of identity and attachment to a certain territory, which enables reduction of transaction costs.

Autonomy is also a significant factor that motivates and involves in co-operation. Progress and changes caused most often by global setting or innovations within a region are aimed at defined parts of regional network and developmental potential, especially at capabilities of defending of an occupied position.

In practice capability of development is a key parameter in assessment of individual players and their classification with regard to required size and type of assistance.

Undertaken initiatives in a regional network should produce a defined synergism effect (reciprocally supporting relationship) outlined with intentions and offered values. Excessive chaos leads to destruction and lack of possibilities of finding position by individual players or their groups, which means reduction of diversity of regional initiatives.

Main condition of knowledge creation is communication that ensures conversion of knowledge. It combines cognitive process and regional process of learning. Usage of the internet, including regional portal of knowledge (connected with expert systems), for functioning of regional community of practice may introduce a significant progress to that effect. Full informational service (current data and forecasts) on a region as well as strictly prepared system of knowledge communication and conversion moderated in order to eliminate non-professional behaviours and to control inference becomes a significant condition of development harmonising and risk reduction.

Redundancy in management makes it necessary to collect numerous data required for proper functioning of region management control, and for providing self-assessment to the regional players. Due to that three groups of data are important:

- data on real changes in the region,
- parameters and applicability of models for development description, simulation and forecasting, and also
- data on plans and effectiveness of used instruments.

Redundancy is also associated with an internet portal and its capability of supporting knowledge creation on the one hand and on the other hand its capability of co-operation with social conceptions, shaping attitudes and opinions through a cycle of cognition and propagation of generated knowledge.

Required diversity of the regional community is a result of purposely composition of regional players (members of self-governed community), created resources and obtaining developmental capabilities of individual elements. This diversity is supported by possibilities of establishing external ties as well as migrations to the region and outside. The main objective of diversity is development potential. This potential depends on competencies and their basis are ties, capabilities, processes and resources.

Situational approach to region management

Organisation in a situational approach is in the process of adjusting structure and processes to the conditions of the setting, objectives, tasks and personality of organisation participants. This adjustment in performed here solutions is an evolutionary change based on knowledge accumulated in an organisation and innovative competencies of its members.

Functioning of an organisation that is treated situationally is mainly aimed at:

- setting of an organisation,
- strategy
- organisation and technology
- participants

Organisational structure of situationally understood "regional organisation" is based on a picture of regional model reality that ensures stability of functioning and development. Introduction of a Noaka's hypertext approach enables pointing out elements that are more solid than others, which are reference points for remaining variables.

Regional management should perform traditional management functions including key role of creating knowledge and innovation.

Styles of managing are aimed at network management knowledge creation. The most significant element of situational management in a system of autonomous subjects is motivation. The nature of motivation is complex and not fully known.

Basic model of motivation encompasses needs and expectations, actions, results and their assessment. Unclearness of needs, different actions undertaken by people, competition posed by other needs and also different reactions, from mobilisation to apathy, decide about the

whole sphere of experiences that are required and practically obtained by individual members of the community. In many cases those people are independent but they also require advice, help and guidance. This situation gives rise to the need of facilitation as a service preparing people to responsible undertaking of tasks and duties. Facilitation becomes an important instrument of subjectifying and development of regional community. Development and change requirements contribute to the new ethos for creative work and to search for solutions in many cases combined with an effort resulting not from the work itself but from increasing of one's effectiveness, time management, etc.

While combining features of a network and tasks of administration it is necessary to prepare principles for virtual network and real functioning of state administration as well as for regulatory processes in the region.

Model of instruments for regional management

These considerations focus on management of a region as an object. Institutions that perform this task are another topic to be elaborated.

The analysis that has been performed and combining of situational management, impact of organisational knowledge creation, evolution of co-operating organisations, universal principles of management included in the functions of an organisation enable establishment of a model that should be followed by a competing region in a global knowledge economy.

The basis of the model is regional community of practice which develops its knowledge due to two basic support systems. First is the regional portal of knowledge supposed to service both regional and problem oriented communities of practice. Communication network is adjusted to regional administration, its vertical connections and horizontal co-ordination with region development entities (players). Operation of that portal is associated with supporting of the knowledge creation process, search for new solutions and also negotiations and solving of conflicts between players.

The second part of the system is based on the expert system concept. Its service enables presentation of a region picture as well as presentation of information needed for knowledge creation and taking decisions. Analysis of actions undertaken in a region shows after assessment the best practices and may be an instrument for further knowledge creation in another local case.

Establishing of an IT system must be preceded by ontological assumptions that clarify language and relations existing between notions.

Fundamental structure of the management model is based on three principle levels. Main level regards interpretation of development notions and the way of their description. Fundamental level of real changes is a measuring level. Third, the highest level, refers to planning and forecasting of actions as well as to their practical assessment in comparison to objectives and obtained results.

Basis of description of notions and developmental processes in a region

Spatial and problem structure

Vertical and horizontal characteristics of regional management should, in accordance with requirements of subsidiarity, form a transparent structure with clear scope of responsibility

and autonomy. Division of problems and sometimes division of certain groups is associated with a territory. Administration reform in Poland gave grounds to such a division, however, it requires work and experience in functioning of offices in order to create thoroughly transparent system of responsibilities. It is a response to current problems in dealing with administrative stakeholders (Heraud 2000) and many other consequences of the lack of autonomy.

Border effect

In the majority of spatial solutions regulatory activity, availability of resources is lower at the border than in other areas of a given territory. Regions located close to the border are manifestation of this phenomenon which is attempted to be remedied. However, it exists in each territorial form. Due to arbitrary reasons the division imposed politically or in another way should be corrected between regional or territorial co-operation regarding individual aspects of mutual relations. This co-operation will be both vertical, regarding one territory and summed impact on its space, and horizontal regarding joint impact of larger number of territories.

Regional co-operation network

Regional bonds are created by organisations of infrastructure servicing and administration. Additional bonds are created by revenues of the local authority and infrastructure companies. Additionally bonds may be created by informal co-operation in order to find social solution to certain problems. Bonds may be enriched by exit barriers, emotional ties and also co-operation benefits. Regional co-operation network may be different in character depending on region development trajectory and specialisation. Established contacts may be professional or social. Each of them leads to development and exchange of values. The most important and valuable feature are external ties as they decide about participation in international economy. Regional co-operation network is a basis for regional analysis of competencies map and for technology analysis as well as knowledge map. All members of self-governed community are included in the regional co-operation network. Due to that a region is treated as a whole. Economic diversity decides about the number of links and economic ties.

Model of the regional co-operation network link

Knowledge and technology demarcate life cycle of certain co-operation links. Each of them is characterised with a defined technological level and relative developmental stage with regard to its discipline. Technical level determines also behaviour and attitude towards other entities. Development of a given link and behaviour of single players depends on individual factors, conditions of the setting and also on activity potential. All these elements jointly included in a model decide about development capabilities. Thorough analysis of the model of regional co-operation links is a source of developmental barriers. Additionally analysed ties and dependencies may show many negative phenomena resulting from the lack of certain development possibilities.

Main elements of regional development control

Development conditions matrix

Development conditions matrix describes the analysed spatial unit in economic, social, environmental and intellectual terms. The four indicated elements are analysed with regard to status and impact on other ones. The matrix is supposed to harmonise co-operation and alleviate conflict between development ranges. Conditions matrix is a basis for creating a wide number of indexes describing the most important parameters of development of single aspects of social life, professional activities and condition of the environment. These parameters change in line with technological changes and affluence of the society as well as knowledge and behaviours.

Active jobs balance

Number of jobs in a region is a resultant of adjustment processes and conditions of the setting. Problems with jobs and unemployment result from lack of adjustment and in fact from significant barriers which should be overcome in order to create more jobs. Active character of this balance consists in defining developmental objectives and as a result of that in regional discussion and its impact on the following:

- shaping attitudes towards development and education,
- shaping of conscious migration,
- supporting of development of certain circles, groups and organisations,
- creating conditions for development of projects,
- and others.

Discussion that is started early enough enables choosing options and their implementation, preparation and selection of reaction and preparation of people for new activities, especially mental, and acceptance of changes. Active balance of jobs is supposed to balance possibilities after proper selection of the development elements composition and balancing impacts in order to obtain possibly the best proposal for actions.

Currently performed balances are of passive character and are after the event actions undertaken in response to certain phenomena. Active jobs balance is a conscious projection of changes and it balances out development in social discussion and in working out of consensus through regional knowledge.

Intellectual capital inflation

Participation and development of units in organisational process of knowledge creation depends on involvement of single people. There are many situations in which units or whole communities are doomed to the lack of development possibilities despite individual predisposition. Lack of development pushes them back socially and dooms them to the loss of their social position. This process may be defined as inflation of human capital or, in the case of teams, inflation of intellectual capital. So blocking of development with regard to different communities through different economic, physical or psychological reasons results in inflation of intellectual capital. Lack of development and knowledge creation processes on the social scale becomes a main task to be developed by a society that creates knowledge. Measurement of capital inflation on the regional scale may be one of more significant parameters of social development balancing.

HACCP (Hazard Analysis and Control Critical Points)

Diverse character of factors that weaken development as well as developmental disproportion hampering mutual progress are an important argument in favour of development. Analysis of

risk, that takes forms of developmental disproportion, neglected areas, and different degradations resulting from the lack of appropriate technologies or solutions or even from non-ethical or illegal actions is an element of social risk. Thorough analysis of regional co-operation network and existing there links together with competencies, produces a picture of critical conditions for development. Mutual impact exerted on one another by developmental factors referring to economic, social, environmental or intellectual areas is capable of defining reasons. This results in preventive actions and control of individual areas of development in order to avoid undesired changes. Analysis of critical points is very important with regard to programming of development and assessment of its effects. Prepared system of information support combined with autonomy defined in spatial and problem structure is a basis for identifying negative phenomena. Financial autonomy as well as creative approach to development issues should prevent such changes. Identified critical points, local authorities obliged to forecasting may to a large extent decrease the effect of developmental disproportion. Prepared procedures for analysis and simulations covered by standardisation may become recommendations in the form of good practice or norm. Joint preparation of the whole organisational structure system of the region, preparation of analytical solution and monitoring are a basis for consistent concept of management on which procedures and practices of management are based.

Analysis of critical points is especially important in developing and balancing social and environmental processes. Aggressive economic activity of enterprises, despite good assessment by investors may introduce social, cultural or environmental destruction on new uncontrolled scale (e.g. applied old technologies do not develop employees or products do not meet certain requirements). These factors contribute to an increase of social costs and supporting development by a region. It may finally result in transferring budgetary funds to enterprises. Regional analysis of intellectual capital and assessment of critical points may prevent such situations.

Project management on the regional level

Form of application of regional projects in different funds is not conducive to co-ordination and real planning of projects adequately to the needs of development support. Obtaining synergism of resources aimed at development support is especially important as developmental processes are interrelated and of convergent character. Incidental actions are less effective. Co-ordination of activities of many entities within regional contracts does not meet expectations due to the lack of development synchronisation and because of region transformations in different ranges. Effective actions in offices still require many changes especially with regard to development stimulating instruments and entrepreneurship.

Instruments discussed here form a system of development regulation and introduce basic elements of joint economic, social, environmental and intellectual balancing.

System presented here protects against developmental disproportion and is especially aimed at overall approach to development and it limits degradation and transfer of resources from the region and leads to supervising of social responsibility in economic activities. The supplement to the elaborated system is emerging social capital together with growing trust and behavioural norms as well as verification of partners in co-operation.

The elaborated system leads to a strategy objective of which is to determine development stages and to direct creation and application of regional knowledge. This strategy aimed at co-operation goes towards creation of values and brand. However, at the stage of globalisation

and creation of international network the quantitative aspect of the strategy will play an important role being responsible for revenue generated for each players and regions

Conclusions

Current approach to region development shows significant gaps and need to be set in order, both in practice and theoretical approach to comprehensive regional development. These are, above all, autonomy, information feeding knowledge creation processes as well as assessment of regional projects effectiveness. The presented model points to numerous changes that must take place in understanding of region role and planning of changes. Region, through creation of business environment as well as indirectly through obtaining benefits from business (taxes) is a hostage of prosperity, location decisions etc. Because of that region must participate in alleviation of change effects and must foresee possible situations and prevent the phenomenon of human capital inflation, final result of which is unemployment. Administration as a part of co-operation ties is not released from its own development and programming of changes in the region. Due to their co-operation with the entire spatial and problem related structure innovation of new behaviours and economic creation shall be produced as a result of evolutionary change. Accumulated resources of knowledge and competencies are conditions of development of appropriate innovation and preparation to responding to arising risks. Such solutions are an obvious need searched for by the EU (Heidenreich 2001). This framework of a publication presents an initial form of issues that are being elaborated. Basic objective of region development intensification has been achieved at the conceptual stage. Introduction of co-operation and its supervision as well as balancing of development increase development potential of a region due to alleviation of disproportion impact on development. Work on elaboration of principles of evolution theory of co-operating organisations in regional applications may change attitude of many entities and may shift from strategy of barriers to stimulation of evolution. Region is most responsible for supervising the social role of enterprises (social responsibility) which means that it can control utilisation of the intellectual potential accumulated there. The adopted thesis regarding the possibility of elaborating development management has been confirmed due to utilisation of co-operative theory of evolution and defining of evolutionary change. The presented proposals require further studies but their actual application may significantly change practice. Indicated mechanisms of potential dependencies have been practically confirmed and they show economic reserves in regional potential both with regard to needs and production potential which more and more shifts towards "smart" products based on knowledge.

Literature:

M. Bielski *Organizacje Istota Struktury Procesy* Wydawnictwo Uniwersytetu Łódzkiego Łódź 1997

L. Edvinsson, M.S.Malone *Kapita³ intelektualny* PWN Warszawa 2001

M. Frisch Does R&D-Cooperation Behavior Differ between Regions? Freiberg Working Papers 04/2002

Martin Heidenreich *Regional capabilities and the dilemmas of regional learning* www.uni-bamberg.de/sowi/europastudien/dokumente/solaris.pdf

J.A. Heraud *Is there a regional dimension of innovation –oriented knowledge networking?*
Fifth Regional Science and Technology Policy Research Symposium (RESTPOR) at
Kashikojima (Japan), 5-7 September 2000

M. Bratnicki *Sieci strategiczne jako narzędzie konkurowania w gospodarce opartej na wiedzy*
w: Knowledge Management and Processes of Restructuring and Development of Enterprises
pod red. R. Borowiecki TNOIK Kraków 2000

A.Mazurkiewicz *Analiza porównawcza podejścia do strategii wojewódzkich w świetle
przykładów rozwoju wybranych regionów europejskich* - materiały VI Edycji Konferencji
Raport o zarządzaniu - Najlepsze praktyki zarządzania. Wyższa Szkoła Przedsiębiorczości i
Zarządzania im. L. Koźmińskiego wrzesień 2001 Warszawa

A.Mazurkiewicz i inni *System Informacyjno - informatyczny dla zarządzania rozwojem
regionu* s. 334-346 Spatial Information Management in New Millennium - Zarządzanie
informacją przestrzenną w nowym tysiącleciu - Wydział Techniki Uniwersytetu Śląskiego,
Stowarzyszenie SILGIS CENTER Katowice 1999

A. Mazurkiewicz *Próba zastosowania koncepcji zarządzania regionalnego do budowy
modelu ekorozwoju zlewni Bugu* w: Zagospodarowanie Bugu i jego zlewni w ramach
zrównoważonego rozwoju pod red. W. Kowalczewskiego Wydział Ekologii Wyższej Szkoły
Ekologii i Zarządzania Warszawa 2001

I. Nonaka, H.Takeuchi *Kreowanie wiedzy w organizacji* Poltext Warszawa 2000

I.Pietrzak *Polityka regionalna Unii Europejskiej i regiony w państwach członkowskich* PWN
Warszawa 2001

J. Stewart *Evolution's Arrow – The direction of evolution and the future of humanity* Socio
and Cultural Evolution 2000 On Line Publications http://socio.ch/evo/index_evo.htm