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**HUMAN CAPITAL, SOCIAL CAPITAL AND
INSTITUTIONAL CAPITAL AS THE FACTORS
OF SYNERGY OF ECONOMIC DEVELOPMENT
OF TRANSBORDER REGIONS IN KNOWLEDGE –
BASED ECONOMY**

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1. THESES OF THE PAPER

1.1. MAIN THESES

1) Critical mass of harmonized human capital, social capital and institutional capital in transborder regions of neighbouring countries is necessary for efficient use of the capacities of those regions and their synergic development.

2) Development of critical mass and harmonization of institutional capital in transborder regions of countries is necessary for effective use of human and social capital and achieving the effect of synergy of

1.2. AUXILIARY THESES

1) Critical mass of human capital is necessary for social and economic development on sectorial, local, regional and national scale.

2) The prerequisite of capacity building of the critical mass of human capital is the coherence and harmonization of institutional capital developed and maintained in in transborder regions of neighbouring countries.

3) Creation of critical mass of social capital in transborder regions needs the transparency and harmonization of objectives of social and political organizations based on mutual trust. Common and harmonized social capital is the prerequisite of synergic interference of factors of economic, technological and social development in transborder regions.

4) Harmonized institutional capital in transborder regions of countries is the prerequisite of synergy of political, social and economic processes and creation of common economic and social space in transborder areas.

5) Harmonization of institutional capital is the stimulator of more effective use of human, social and economic capital in transborder regions.

2. BASIC CONCEPTS AND DEFINITIONS

The concept capital for defining, specifying and measuring human, social and institutional resources is used by analogy with other forms of economic capital: financial capital, industrial capital, capitalized economic assets etc. The concept of human, social and institutional capital is argued to have similar scientific and practical benefits, although less measurable. However, the analogy with economic capital is misleading to the extent that, unlike traditional forms of capital, human, social and institutional capital are not depleted by use. To the contrary the capital (human, social, institutional) is depleted by non-use ("use it or lose it"). The more human, social and institutional capital is used the more resources of these capital are created.

2.1. HUMAN CAPITAL

2.1.1. DEFINITION OF HUMAN CAPITAL

Human capital is the stock of competencies, knowledge, social and personality attributes, including creativity, embodied in the ability to perform labor so as to produce economic value. It is an aggregate economic view of the human being acting within economies, which is an attempt to capture the social, biological, cultural and psychological complexity as they interact in explicit and/or economic transactions. Many theories explicitly connect investment in human capital development to education, and the role of human capital in economic development, productivity growth, and innovation has frequently been cited as a justification for government subsidies for education and job skills training¹.

Human capital includes all the knowledge, skills and capabilities that people already have accumulated. By extension it includes what they can learn, invent, create, and contribute to the community as a whole. To strengthen the human capital in our communities, we need to develop strategies that increase capabilities on every level. People who live up to their potential enhance their lives and the life of their communities. Maintaining these capabilities also involves developing

¹ Becker G., Human Capital: A theoretical and empirical analysis with special reference to Education. The University of Chicago Press, 1994.

systems that enhance wellness, and that care for people who are sick, physically and mentally challenged, too young or too old to care for themselves. It means building the caring capacity of our communities, so that people feel supported, feel a sense of belonging and mutual support, and where family relationships and social networks are healthy for the individuals in them².

In official statistics the non-material and non-financial economic assets are classified as called intangible assets or *intangibles*³. Human capital is one of intangible assets. It consists of all of the competencies, general and professional knowledge, professional and managerial skills, experience, potential and capacity, as well as commitment of the people within an organization and society. Other examples of intangible assets include: trademarks, brand, soft-ware, design, know-how, position on the market, working methods and customer relationships. The human capital asset captures all the people oriented capabilities needed for successful social, cultural, political, scientific and economic activities.

Human capital could be (a) potential and (b) effective. By potential human capital we understand the capacities of individuals that may be useful in some conditions. By effective human capital we understand the capacities of individuals that are efficiently used in concrete time, place, organization and society. Often the potential human capital is the set of capacities which are only partly used in practice. In knowledge - based economy full use of human capital is one of most important factors of economic development. Proper identification and creation of conditions of full use of human capital is the task of managers and politicians. Human capital building requires the cooperation of individuals, governments and businesses in an organization in the field of education, training, support and stimulation of investment in learning and maintenance of skills of individuals.

2.1.2. ATTRIBUTES OF HUMAN CAPITAL

The following attributes are characterizing human capital of individuals:

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³ Olenski J., *Ekonomika informacji – podstawy*, PWE, Warszawa 2001.

- Knowledge
 - general (including civilizational and cultural)
 - professional
- Education
 - level
 - profile
 - quality
- Skills
 - general
 - professional
 - managerial
- Experience
 - general
 - professional
 - managerial
- Capabilities and abilities
 - creativity
 - self-organization
 - self-discipline
 - communication
 - cooperation abilities
- Ethics
 - general
 - professional

The attributes of human capital are generating the effects of synergy of human capital of individuals. Human capital increases through education and experience. Human capital is important for an organization. Human capital is also important for the success of cities and regions.

2.1.3. USE OF HUMAN CAPITAL

Human capital in economy and society may be passive or active. If an individual representing certain resources of human capital is not active as an employee, manager, politician, scientist, or is not involved in other forms of participation in society or economy, his or her human

capital is passive. For example human capital of an unemployed person representing high level of education, experience and skills, is useless for the society and economy.

It often happens that individuals are effectively using only some part of their human capital. However it may also happen that an individual does not represent human capital necessary for proper fulfilling of economic or social duties as an employee, manager or politician. The larger are the resources of human capital of an individual, the smaller part of this capital is effectively used in practice.

Human capital when viewed from a time perspective consumes time in one of key activities:

1. Knowledge (e.g. activities involving one employee),
2. Collaboration (e.g. activities involving more than one single employee),
3. Processes (e.g. activities specifically focused on the knowledge and collaborative activities generated by organizational structure – such as silo impacts, internal politics, etc.) and
4. Absence (e.g. annual leave, sick leave, holidays, etc.).

The creation and management of human capital is one of most important theoretical and practical problems of information society and knowledge – based economy.

2.2. SOCIAL CAPITAL

2.2.1. DEFINITION OF SOCIAL CAPITAL

Social capital as a sociological category is the expected potential social or economic or economic benefits derived from the cooperation between individuals and groups. The core idea of social capital is that social networks, links, cooperation and interactions between individuals representing certain resources of human capital are of greater value than value of the “sum” of human capital of single individuals. Social capital is created in the processes of linking or integrating human capital of individuals by establishing stable or temporary social networks, like social organizations, associations, societies, clubs and any other forms of cooperation and communication of people. The efficacy or productivity of organized groups of individuals is – as a rule - greater than that of individuals. Different social sciences emphasize different

aspects of social capital. In economic sciences the social capital is classified as intangible resources or intangibles.

Social capital can be transferred or taught. International policies also often address human capital flight, which is the loss of talented or trained persons from a country that invested in them, to another country which benefits from their arrival without investing in them.

2.2.2. ATTRIBUTES OF SOCIAL CAPITAL

Social capital is defined as the concatenation of human capital of members of organizations. In other words social capital is the organized resource of human capital for realization of concrete goals of an organization: an enterprise, government, research institute, cultural or social society etc. However it refers only to human capital useful for concrete organization as a social or economic subject.

Human capital not relevant for the objectives of an organization is not creating its social capital. Social capital is recognized as social cohesion or social resilience and related concepts like celebrity or fame, as distinct from the talent that an individual has developed that cannot be passed on to others. It is also important to avoid a situation where the social capital in one sector of the community works against the ability of other sectors to have connections with the community as a whole.

Main attributes of social capital of an organization are inter alia the following:

- Relevance of human capital of the members of an organization with its goals, methods and tools of activity
- Effective use of relevant human capital of individuals participating in the activities of an organization
- Number of individuals actively and effectively participating in the activities of an organization
- Involvement of an organization in investing in the development of relevant human capital of individuals participating in the activities of an organization
- Cooperation of an organization with other social organization to achieve the effect of more efficient use of social capital of organizations.

In knowledge - based economy the building of social capital by the cooperation and links of many organizations is becoming more common approach to the development and more effective use of social capital in on the level of branches of economy, domains of research, in domains of social services (education, health, culture), on regional and local level. For example, the consortia organized for realization of specific objectives of for long – term cooperation in research, education, social services etc., have proven their efficacy in many economic processes and systems, social activities, domains science as well as in regions.

Social capital is co-decisive in managing of very large or very complex systems and processes. It is important in transborder regions because of extreme complexity, variety and dynamics of transborder processes and systems in heterogeneous political, cultural, social and economic environment.

2.3. INSTITUTIONAL CAPITAL

2.3.1. DEFINITION OF INSTITUTIONAL CAPITAL

A standard definition of institutional capital is hard to find – to some it means the financial resources controlled by key institutions and to others it represents the institutional framework governing the economy. In other words institutional capital are the structures, organizations, legal, and financial frameworks that enable a society to function. This includes the legal system and the rule of law, the insurance system that helps communities manage risk, the systems that establish different exchange mechanisms (national and complementary currencies), the regulatory structures that protect the natural environment, human rights, and human health and well-being, and all the institutional arrangements that provide a foundation for economic activity.

The concept of institutional capital was defined within the frames of neoinstitutional organization theory⁴. One of most important assumptions of the neoinstitutional organization theory is the statement

⁴ Bresser R, Millonig K, Institutional Capital: Competitive Advantage In Light Of The New Institutionalism In Organization Theory, in: Schmalenbach Business Review, Vol. 55, July 2003, pp. 220-141.

that the competitive advantage of economic or social systems and processes is strongly affected by its institutional environment.

In the neoinstitutional organization theory institutions are defined as “behavioral expectations that can be sanctioned if violated”⁵

Two broad types of institutions are distinguished:

- fundamental institutions
- secondary (deduced) institutions.

Fundamental institutions represent generally accepted norms and values that have evolved at a societal level, for example, human rights or professional ethics. They are adhered to largely at a subconscious level, because individuals have internalized the respective norms and values and often cannot even conceive of alternatives. Fundamental institutions are taken for granted and are difficult to change through purposive design.

Secondary institutions are deduced from fundamental institutions to regulate specific societal problems. They include laws, contracts, organizations, and organizational rules and procedures. Thus, secondary institutions are much more amenable to conscious design than are fundamental institutions. Although many norms and values represented by secondary institutions are consciously perceived, they too can become internalized by social or economic subjects and by individuals representing those units. For instance, organization members internalize the values constituting an organization’s culture over time and then take them for granted.

Institutional capital is the complex of laws, procedures, organizational structures and legal entities and other subjects that create internal and external institutional environment of economic or social processes and systems.

2.3.2. TYPES OF INSTITUTIONAL CAPITAL

Three types of institutional capital are distinguished:

- cognitive capital,
- normative capital,
- regulative capital.

⁵ ibidem

Cognitive institutional capital consists of knowledge about institutions, their objectives, task and duties and forms of activity in a given social, political or economic system.

Normative institutional capital consists of laws, regulations and standards determining the organization and functioning of organizations that are creating the institutional environment of society and economy.

Regulative institutional capital consists of procedures incorporated and followed by or-ganizations that are creating institutional environment of branches of economy, regions or states.

2.3.3. HUMAN, SOCIAL AND INSTITUTIONAL CAPITAL – PREREQUISITE OF SYNERGY OF ECONOMIC PROCESSES

Human, social and institutional capitals are creating the environment in which all processes and systems are functioning. They create the conditions of the sustainability and efficacy of use and development of all other types of resources.

Harmonization of all kinds of capital: human, social and institutional and achievement of the critical mass of these capitals for concrete processes and systems is creating the conditions for synergetic development effective or profitable for all subjects operating in transborder regions.

3. HUMAN CAPITAL IN TRANSBORDER REGIONS

In transborder regions human, social and institutional capital is developed within the environment of different political system. In Europe the differences refer also to ethnical specificity, culture, historical traditions. On relatively small geographic space there is the variety of qualitatively different resources of all kinds of capital, human, social as well as institutional capital. These differences may stimulate the creation of new resources supporting the development of economies and societies of neighbouring regions of all countries, or – to the contrary – may hinder the transborder cooperation.

From the point of view of the impact of human capital on transborder cooperation and development the following aspects should be analyzed:

- 1) Symmetry vs. asymmetry of human capital
- 2) Complementarity and substitution of human capital
- 3) Critical mass of human capital in different domains and branches

3.1. SYMMETRY AND ASYMMETRY OF HUMAN CAPITAL

By symmetry of human capital we understand the coherence of attributes of human capital of different individuals, necessary for contacts, cooperation and collaboration, for example, knowledge and use of common languages for communication, equivalence of levels of education, relevance of professional knowledge and experience, identity of professional and business ethics, equivalent computer literacy etc. Symmetry of human capital is the prerequisite of formation of common social capital in transborder regions. Regional governments should be interested in building the symmetry of human capital in the domains that are important for communication and collaboration of entities, organizations as well as the contacts between people.

Asymmetry of human capital means that there are qualitative differences in knowledge, experience, ethics, between individuals and social groups. As a rule, asymmetry of human capital is hindering communication and cooperation of people and entities. Identification of asymmetries of human capital is necessary for policy makers in transborder regions for evaluation of social barriers of cooperation and for undertaking the initiatives and activities to reduce or eliminate those barriers.

In transborder regions the priority in reducing the excessive asymmetry of human capital should be given to the following aspects:

- Common languages of communication between people and entities
- Dissemination of general information on transborder regions via mass media and internet (information on social

- and cultural events, information on economic activities, tourist information, information on laws and procedures)
- Facilitation of common use of social infrastructure and other capacities that are forming human capital, by people from different localities of transborder regions (e.g. secondary schools and universities, research institutes and research projects, cultural infrastructure, health care infrastructure)

Some level of asymmetry of human capital may stimulate the processes of production, transfer and absorption of knowledge that are bringing the information resources to symmetry. However in some domains the reduction of asymmetry needs long time and efforts, e.g. education on primary and secondary levels, university education, learning of common languages, ethical formation, collecting the professional and managerial experience, training of officers of governments etc.

Cooperation and coordination of activities of institution responsible for formation of human capital (education system, mass media, cultural institutions, other units providing social services that have the impact on the formation of human capital) in transborder areas is necessary for achieving necessary level of symmetry of human capital of individuals and social groups.

3.2. COMPLEMENTARITY AND SUBSTITUTION OF HUMAN CAPITAL

Complementarity of human capital in transborder regions is in knowledge based economy an important factor of social and economic development. For example, complementary knowledge and experience of scientists working at the universities or in research institutes based in different countries is facilitating the organizing of research consortia for realizing scientific projects. Complementary knowledge and expertise of specialists in any other domain of social services or economic activity is good basis for profitable and reliable outsourcing of their auxiliary activities by organizations based in different countries.

Substitution of human capital in transborder regions may create international competition and optimization of use of talent, knowledge and experiences of professionals. It is important especially in the domains in which highest level of skills is expected.

Identification of complementarity and substitution of human capital is the task of governments and managers responsible for the domains of economy and social activity, in which the quality of services offered by staff is necessary.

3.3. CREATION OF CRITICAL MASS OF HUMAN CAPITAL IN TRANSBORDER REGIONS

Critical mass of human capital is the number of people volume of knowledge and people. In different domains critical mass of human capital for effective social or economic activities is different. For example, in culture relatively single individuals or small groups of people disposing artistic talents may create critical mass of human capital for region or for the country. In research – as a rule – critical mass of human capital is created by some number of scientists conducting research of some topics and exchanging their ideas and findings by organizing seminars, conferences, by publications and direct personal links. In economic activity, production and trade, the critical mass of human capital is achieved by concatenation of knowledge and experiences of scientists, technologists, economists, managers, lawyers and other experts cooperating in some organization, region or branch of economy or technology.

The concatenation of knowledge and experience of people representing individual complementary human capital is creating critical mass of human capital for an organization, branch of economy, domain of research, domain of culture. The use of effects of complementarity and substitution of human capital can be achieved only if human capital exceeds critical mass necessary for specific area.

In open transregional environment the creation of critical mass of complementary human capital for specific domains of culture, economy or research is – potentially – easier and cheaper as within the

frames of border region of one country. The reason of this phenomenon is that in each one of border regions of neighbouring countries there is developed human capital complementary to that on the border territory of other countries. The complementarity is created by the differences in culture, habits, education systems, laws and regulations, administrative procedures.

Regional governments, social and cultural institutions, research institutes and businesses in transborder areas should analyze and identify the complementarity of human capital of individuals and groups of individuals to organize critical mass of human capital for solving specific problems or realizing projects. Stimulation of development of human capital oriented on the creation of its critical masses in concrete domains or localities is also the duty of regional governments and NGO's.

3.4. HUMAN CAPITAL AS THE BASIS OF SOCIAL AND INSTITUTIONAL CAPITAL IN TRANS-BORDER REGIONS

Critical mass of human capital is the foundation of creation and development of social and institutional capital. In transborder regions the resources of human capital exceeding critical masses for specific domains or projects should be developed and maintained with the help of regional governments. This activity should be coordinated on the level of regional governments of transborder areas.

4. SOCIAL CAPITAL IN TRANSBORDER REGIONS

Quality of social capital in transborder areas is the foundation of cooperation of individuals and subjects in social and economic space of regions along the borderlines. Moreover, common social capital of transborder regions has the impact on delimitation of transborder areas. Main attributes of national social capital developed in the regions close to the borderlines influencing the development of common social capital in transborder areas are:

- Symmetry and asymmetry between national social capitals,
- Complementarity and substitution between national social capitals.

4.1. SYMMETRY AND ASYMMETRY OF SOCIAL CAPITAL

Social capital is symmetric in the transborder region if the subjects representing social capital have intellectual, organizational and technical capacity of cooperation and collaboration with their counterparts on the other side of the borderline. Symmetry of social capital is necessary for creation of common social capital in the transborder space, e.g. research consortia for realization of common projects, development of common information systems supporting economic, social and cultural activities of organizations based and operating on the territories of countries in transborder regions.

Asymmetry of social capital means that there are the gaps between organizations representing social capital, that enable these organizations to cooperate or make this cooperation more difficult and less effective. Those gaps mainly refer to the lack of necessary level of symmetry human capital, information gaps, difference in skills of staff. Low level of asymmetry of social capital may stimulate the processes of its harmonization. However is the asymmetry is deep, the harmonization of social capital needs the stimuli from outside the organizations, e.g. by realizing joint projects financed from external sources or by administrative decisions of governments.

4.2. COMPLEMENTARITY AND SUBSTITUTION OF SOCIAL CAPITAL IN TRANSBORDER REGIONS

Complementarity and substitution of social capital of the organizations based in the territories of neighbouring countries are important factors of mutually profitable cooperation of governments, non-profit organizations and businesses. The variety of social capital is an important factor of generating the effects of synergy of cooperating units.

4.3. CREATION OF CRITICAL MASS OF SOCIAL CAPITAL IN TRANSBORDER REGIONS

Effective cooperation of subjects in transborder areas needs the creating of critical mass of social capital, mainly the organization of links of units that have complementary resources of social capital, as

well as establishing the networks of cooperation between units that have so-cial capital of substitutional character. Critical mass of social capital, both complementary and substitutional, is the prerequisite of effective cooperation of effective competition and achiev-ing the effects of scale.

5. INSTITUTIONAL CAPITAL IN TRANSBORDER REGIONS

Creation, development and maintenance of common institutional capital in transborder re-gions seems to be the condition sine qua non effective cooperation of people and organizations from neighbouring countries.

5.1. SYMMETRY AND ASYMMETRY OF INSTITUTIONAL CAPITAL IN TRANSBORDER REGIONS

Symmetry of institutional capital is based on harmonization of laws, procedures, organiza-tional structures and building common institutions of supervision and control of transborder processes and systems, e.g. border control, customs, common investment projects, environ-mental control, common social services (incl. health, education, social care etc.), cooperation of system of security and justice.

Regional and central governments should pay attention especially on harmonization of laws and procedures in all fields important for transborder cooperation. It is also necessary to provide full transparency of these laws and procedures by organizing common transborder information system on laws, administrative procedures and on organization and functioning of governments and cooperating institutions.

Asymmetry of institutional capital is the relict of the past, when borders between countries were oriented on isolation of people and economies. In open, democratic societies the institu-tional asymmetries that are still existing, should be limited and eliminated in the process of cooperation of central and local governments. The experiences of the European Union in harmonizing laws, procedures and institutions can be good example of building common in-stitutional capital on international level.

5.2. COMPLEMENTARITY AND SUBSTITUTION OF INSTITUTIONAL CAPITAL IN TRANSBORDER REGIONS

Institutional environment of transborder regions is diversified. Laws, regulations, procedures and the implementation of laws and procedures in practice are different in the countries of transborder areas. Those differences may hamper the possibilities of cooperation and development. But in specific cases the differences of institutional capital may create the differences of potentials between countries and may play the role of factors stimulating the cooperation and trade.

Because of that, central and regional governments should be interested in optimizing the development of institutional capital by harmonizing laws, procedures and organizing common institutions and regulators of institutional environment.

The harmonization should be oriented on the eliminating of contradictions between laws and procedures, elimination of their duplication, effective use of complementarity and substitution of institutions on the territory of transborder region as a whole. Careful analysis of complementarity and substitution of institutional capital is necessary for effective harmonization and development of common institutional capital.

5.3. CREATION OF CRITICAL MASS OF INSTITUTIONAL CAPITAL IN TRANSBORDER REGIONS

For each domain of cultural, social and economic life critical mass of harmonized institutional capital is necessary. By critical mass of institutional capital of concrete branch, sector, domain of cultural or social activities, we understand the complex of harmonized and coordinated laws, regulations, procedures and practices of institutions of all countries of transborder region, necessary for creating institutional frameworks of effective development and activities of individuals and organizations. In many branches of economy and social life this is rather the goal to be achieved than the reality. Anyway the governments should take the creation of critical mass of institutional capital for each domain

important for the development of trans-border region as their task of utmost priority.

For example, in transborder tourist area the priority should be the creation of critical mass of institutional capital by harmonizing laws and regulation relevant to tourism and by providing informational transparency of all procedures connected with tourism. In the transborder region involved in international transit the critical mass of institutional capital will contain the harmonization of laws and regulations of border crossing, customs, activities of businesses providing services connected with transit, etc.

Creating critical mass of institutional capital for each sector of economy and social activity important for the development of transborder region is the prerequisite of development and effective use of other forms of capital and of other kinds of resources of regions.

5.4. INSTITUTIONAL PREREQUISITES OF DEVELOPMENT AND USE OF HUMAN CAPITAL AND SOCIAL CAPITAL IN TRANSBORDER REGIONS

As it was mentioned above, modern open, knowledge – driven economy is characterized by deep institutional interventionism⁶. In transborder regions institutional interventionism has much stronger impact than on the same processes on the level of national economy. Because of that the building of common, harmonized institutional capital is the prerequisite of use and development of other forms of capital and of other resources of transborder areas. Common institutional capital in the form of harmonized laws, regulations, administrative procedures and infrastructural information systems managed or coordinated on transborder level is duty of central governments, but especially the duty of government of transborder regions

⁶ Olenski J., op.cit.

6. CONCLUSIONS

6.1. Building common human, social and institutional capital for transborder regions is necessary for more effective development of these regions in more open, market and knowledge driven economies

6.2. For each domain of cultural, social and economic activities in transborder areas human, social and institutional capital for each national segment of transborder region should be defined.

6.3. Analysis and monitoring of symmetry and asymmetries as well as complementarity and substitution of resources of human, social and institutional capital is the task of researchers and experts involved in supporting the governments, non - profit organizations, NGO's and businesses.

6.4. International cooperation of research institutes in transborder regions in the field of identification, analysis and evaluation of the resources of human, social and institutional capital shall create the resources of knowledge necessary for proper governance in transborder regions.

6.5. The critical mass of each kind of capital (human, social, institutional) should be defined for each transborder process and system.

6.6. Theory and methods of identification, classification and measuring of human, social and institutional capital for transborder regions is the entire part of transborder economics as the discipline of economic sciences.

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SUMMARY

The specificity and role of human, social and institutional capital in the development of trans-border regions are analyzed. Methodological problems of identification of symmetry and asymmetry, complementarity and substitution of human, social and institutional capital in heterogeneous political environment of transborder regions are specified and discussed. The need building critical mass of human, social and institutional capital for transborder processes, systems and organizations is expressed. Cooperation of research institutes, NGO's and governments is necessary for the elaboration of methods, forms and tools of optimal use and creation of common resources of human, social and institutional capital in transborder regions.