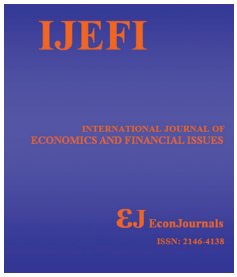

International Journal of Economics and Financial Issues

ISSN: 2146-4138

available at http: www.econjournals.com

International Journal of Economics and Financial Issues, 2016, 6(4), 1696-1701.

Approaches to the Identification of the Boundaries of Spatial Networks as Multidimensional Territorial Socio-economic Systems

Andrey S. Mikhaylov*

Department of Marketing Analytics, Immanuel Kant Baltic Federal University, Russia. *Email: mikhailov.andrey@yahoo.com

ABSTRACT

Contemporary socio-economic space is based on spatial networking of a wide range of actors involved in the process of co-creation of value. These interactions expressed in entrepreneurial "co-opetition," interpersonal relations, territorial embeddedness, reflect a certain degree of proximity among its members. Different configurations of participants and their networking generate a variety of forms being conceptualized, such as the industrial district, technopolis, cluster, etc. Objective desire of the state authorities and other stakeholders to reproduce the best practice imprinted in these concepts triggers the development of respective state support programs, focused on the development of existing nodes. In this context it is especially important to develop a mechanism of identifying the attributes and the territorial boundaries of whatever type of spatial networking implied. The article clarifies the concept of the boundaries of spatial networking based on an interdisciplinary approach, involving consideration of a number of factors (spatial, temporal, institutional, social, cognitive, etc.). The types of boundaries of the spatial networking and a description of their basic properties are identified.

Keywords: Spatial Community, Territorial Community, Territorial Socio-economic System, Region, Interaction Boundaries, Proximity, Commonality, Spatial Networking
JEL Classifications: L220, R120, R320

1. INTRODUCTION

In-depth research on the territorial organization of society (TOS), presented in the form of territorial systems at various levels (e.g., the territorial production system, which is based on territorial structure of the economy), has long been one of the main study areas of economics (regional economics and socio-economic geography in particular). An increasing complexity of individual territorial systems (e.g., economic, social, intellectual, political, demographic, cultural, recreational, innovative, etc.) resulting from the predominance of the knowledge factor over traditional factors of production – natural resources, labor and capital, as well as due to the "scientific creativity" (Mezhevich, 2006. p. 3), has led to the conceptual transformation of the concept of TOS in a very capacious generalized theoretical construct – a concept of territorial public systems (TPS), that incorporates individual forms of spatio-temporal organization of society (Animitsa and Sharygin, 2013; Grishchenko, 2012; Trofimov et al., 1993). As noted by Trofimov et al. (1993. p. 14), "TPS are territorial cells of society, in which all elements are closely interconnected and interdependent," emphasizing the prevailing importance of networking that occur within a particular territory.

The concept of TPS, similarly to its predecessor, is traditionally associated with the process of zoning – allocation of homogeneous and coherent areas or districts. According to Fedorov (2010. p. 22), the general signs of homogeneity of the territory may be reflected in such categories as "ethnic composition of the population, living standards, demographic processes, etc.," while the consistency of internal links, forming the integrity of the region, are the signs of coherence. In this regard, of particular relevance is the statement made by Mezhevich (2006), noting for the need of a set of attributes (e.g., ethnographic, religious, economic, political, etc.) to characterize a specific territory as a kind of community, district or region. Thus, it is incorrect to equate the concept of territory community and territorial community or spatial community (SC), since "the territorial component is not enough to name the territory a region" (ibid. p. 5), the SC. Territorial cohesion – only

an "imaginary community" (Turov, 1995. p. 133). A fundamental factor in the formation of SC seen to be "a totality of people, among whom there is a particular link due to homogeneity of the objective conditions of their life and who possess certain social relations" (Mezhevich, 1978. p. 31).

Similarly to the allocation of SC at the meso-level, it is necessary to identify a set of attributes that would characterize spatial networks, the SC at the micro-level. The processes of globalization and cross-border regionalization, expansion of network forms of organization of economic activity, non-linearity and openness of the innovation process, a wider range of institutional helices considered in the framework of inter-organizational interactions, have all influenced the change of elemental composition and structural features of the different types of spatial networking. The totality of the aforementioned factors affected the deployment of the objective processes of expanding the conceptual and terminological apparatus, as well as the "scientific creativity" in respect of diversity of spatial networking types identified, which received a vivid manifestation over the last 15-20 years.

Current study reveals some of the fundamental changes with regard to understanding the essence of spatial networking in line with territorial socio-economic systems (TSES)' logic, as well as it advocates the need of elaborating a unified general approach in allocating and identifying the boundaries of the heterogeneous types of spatial networking types – the SC.

2. SPATIAL NETWORKING WITHIN THE FRAMEWORK OF TSES

The assumption that the unity of the region is expressed in the unity of the people (i.e. community), is supported by an absolute majority of scientists. One of the earlier concepts of territorial community of people was formulated by the geographer Ziman (1959) in the context of the first comprehensive economic-geographical regionalization of the United States. The author pointed out the importance of the territorial boundaries and the conditions of geographical environment in defining communities of people. Dolinin (1975. p. 57) elaborated the concept of socio-territorial community, which is defined as "a group of people living in a particular territory and united with relations and interests arising from the fact of living and working in this territory." Following a similar approach, Phillips (1993. p. 14) suggests that the territorial community is "a group of people who live in a common territory, have a common history and shared values, participate together in various activities, and have a high degree of solidarity." As it is rightly pointed out by Stephanopoulos (2012. p. 1385), SC "arise from the unique combinations of geography, interests, and identity that characterize particular places," and can be identified as "a geographically defined group of people who share similar social, cultural, and economic interests and believe they are part of the same coherent entity … (regardless of)… political subdivisions."

As noted by Streletskiy (2007. p. 4), in studying SC an equally important aspect is comprehension that "the territorial community of people is not just volatile, but a permanently developing category." In this regard, the definitions of SC given by the authors of complex studies in the field of social and economic geography (SEG), sociology, and regional economics are often focused on the reflection of patterns of the social relations within a certain area, as well as the intersection of localization, relatedness (historical, cultural, socio-economic, political-legal and other), and the institutional integrity (see the publications of Eremicheva, Petrov, Shkaratan, Tkachenko, Sharygin, Turov, et al.). Thus, there is certain duality in approaching the community studies as underpinned by Gusfield (1975), who suggests it is either understood as the territorial or geographical notion of community (e.g. neighborhood, town, city), or as the relational-qualitative pattern of human relations – the relational communities. In other words, SC is considered as an intersection of two parallels – natural-geographic, as a living area of human beings, and socio-organized, characterized by a system of public relations (Kozlov, 1971. p. 89). One reason for this distinction, following the TSES' logic, was a vivid manifestation of the territorial division of labor and the "territorial socio-economic behavior" (Zavarashin and Ryazantsev, 2005. p. 89), in which it was possible to not only highlight the industrial area, but also to distinguish between the role of the individual – the role in the system of production and the role in the system of consumption. As previously noted, the sequence of the research process in relation to the spatial forms of social organization "from industrial to the socio-economic, and then to the public system" (Trofimov et al., 1993. p. 13) has led to a variety of elements taken into account in the framework of TPS – people, social systems, territorial system of human activity, socio-economic territorial system, etc., resulting in a blurriness of the theoretical boundaries between territorial and relational community types.

A particular attention receives the concept of the TSES – subsystem of complex socio-spatial formations of TPS. Fedorov and Korneevets (2009) note that in Soviet times, the terms "economic district" and "socio-economic district" were used for most general content of the TSES, which, is the most widely used concept in modern Russian school of economic geography. According to Sharygin (2006. p. 6), "TSES is understood as spatio-temporal combination of socio-economic elements of life included in the process of social reproduction, developing as part of the geographical division and integration of labor, services, information." According to Baklanov (2014), taking the increasing importance of various kinds of social interactions in territorial systems, TSES concept in particular enables full and holistic reflection of the involvement of economic actors into the social, infrastructural, resource and environmental market relationships. Thus, the concept of TSES, which arose as a consequence of the advanced development of the social component, in which the division of social and economic subsystems is only conditional, complemented the classical notion of territorial production system with a wide range of social processes (Grishchenko, 2012).

With respect to individual types of spatial (socio-economic) communities, formed on the basis of inter-organizational networking of geographically and non-geographically (i.e. based on technology, culture, cognition, etc.) proximate actors (Goessling, 2004), this meant a significant broadening of a range of institutional

helices taken into consideration during research. Whereas industrialization models have mainly focused on value chains, the production-assembly lines, the modern approach widens its analytical field on to civil society and environment, making the widely-known triple helix model a basic, "must have" analytical element (e.g. Carayannis et al., 2012). Of particular relevance become the concepts of cross-border integration of stakeholders engaged within a single network, representing a doubled number of institutional helices (e.g. Mikhaylov, 2013; Trippl, 2006).

The closeness of the attributes of heterogeneous actors within a network enables to create a holistic community within a certain territory, similar to the "region" or "socio-economic district" at the meso-level. This SC is characterized by a certain degree of cultural, organizational, technological, cognitive and other dimensions of unity, as well as a feeling of belonging. Following the idea of Trofimov et al. (2008), that there is a mode of each SC, i.e. the power of expression of the characteristics of a particular SC against the background of any other, primarily neighboring, it is possible to "contour" the boundaries of spatial networking both on meso- and micro-levels.

Thus, the mode of a SC, hence, its border, is defined by the composition of interacting actors, the reasons (Parrilli, 2016), factors (Yeung, 2009), typology (Gereffi et al., 2005; Locke, 1995), and types of these interactions (such as inclusion, cooperation, collaboration, assistance, promotion, partnership, connectivity, interdependence, coherence, quasi-integration, etc.) – the transactional features, and the attributive characteristics being formed (and determined) on the basis of commonality (similarity, proximity) of actors' properties, with territorial cohesion being a basic component that creates a spatial basis for the formation and development of SC in close unity of the remaining components: Social, cultural, institutional, cognitive, organizational, technological, and other (e.g. Mattes, 2012).

The following sections of the article will describe three generalized examples on the types of spatial networking (allocated purely for analytical purposes), reflecting their transactional and attributive features, as well as concluding on the similarities and differences with respect to alienation of their territorial (geographical) boundaries.

3. THE GENERALIZED TYPES OF SPATIAL NETWORKING: A COMPARATIVE STUDY

3.1. Industrial Development: Territorial Production Complex (TPC) and the Industrial District (ID)

According to Sharygin (2006), the prototype of the territorial systems characterized by the properties of emergence, synergy, dynamism, and a complex structure relationships, is a territorial-production kombinat (i.e. combine) – local (e.g. "Dniprovskiy" project), regional (e.g. "Pribaikalskiy" project), and interregional (e.g. "Ural-Kuznetsk" project). Subsequently, the term kombinat began to assume industry association, while the material and technical basis of the socio-economic region (or the SC) was formed by TPC.

TPC, as an individual element of the TSES, defined as "… such economic (interdependent) combination of enterprises in the same industrial node or a whole district, which enables the achievement of a certain economic effect due to the successful (planned) selection of enterprises in accordance with the natural and economic conditions of the region, its transport, economic, and geographical position" (Kolosovskiy, 1958. p. 138). Grishchenko (2012) points out that the concept of the energy-production cycles, developed by Kolosovskiy, forms the basis for TPC. The most complete chronology of the development of the concepts of the Soviet SEG presented by Animitsa and Sharygin (2013). With the development of such concepts as the economic and geographical situation, the energy-production cycle, the inter-industrial complex, the territorial system of production, the center–con-center concept, the resource cycles, the geographical conveyor, the linear-nodal system of production, the polarized landscape, it was TPC that has long been the most important concept of the national SEG.

Foreign counterpart of TPC, acting in a market economy, was the concept of an ID (or a Marshallian industrial district). As noted by Smith (1994. p. 10), the market economy, in this case presumes not only price competition, but mostly the competition of technologies, in which companies compete "producing new products with new features and new technical capabilities;" that is, the prevalence of so-called "strong competition" over the "weak competition" in the classification of Storper and Walker (1989). Marshall (1952) characterized ID as the concentration of production in a particular area. Becattini (1990. p. 39) proposed the following definition of ID: "A socio-geographical entity which is characterized by the active presence of both a community of people and a population of firms in one naturally and historically bounded area."

According Amin and Thrift (1995), Markusen (1996), Keeble and Wilkinson (1998), classical ID are made up of horizontally integrated small and medium-sized enterprises (SMEs) with a high degree of cooperation and labor mobility between competing firms, the social and cultural unity, which has territorial "rootedness" and the involvement of public authorities in the input provision. The idea of "embeddedness" (Granovetter) or "rootedness" (Becattini) – the interdependence between businesses and the local community of people, is a key to understanding the formation and functioning of the ID.

Despite the argument of Brusco (1992. p. 196) that the ID is "unable to produce epoch-making innovation" due to the duration of the introduction of new technology, lack of experience in the field of financial management and know-how needed to undertake basic research, innovation is an important characteristic of an ID. IDs form the basis for the implementation of incremental innovation (i.e. gradual improvement of products and processes), through continuous process of learning-by-doing and learning-by-using, generating a collective innovation potential of SMEs using the effect of "decentralized industrial creativity" (Bellandi, 1994. p. 73), which gives the "opportunity to defend the already acquired (competitive) position" (Becattini, 1990. p. 47).

3.2. Technological Development: Technological District (TD) (USA), Technopolis (France), Science Park (UK)

Innovation-oriented type of ID is considered to be a TD, the type of agglomeration, entirely focused on the continuous process of technological learning (i.e. product based technological learning) and generation of technological innovation (Storper and Scott, 1992). As noted by Antonelli (2000. p. 544), these districts are characterized by "technological externalities and lower communication costs, which form an environment conducive to the accumulation of collective knowledge and leading to the introduction of technological innovation." An important factor in the development of TD stands the co-existence and the complex network of interactions of various and diverse actors, large companies and SMEs, which, by their nature, generate and use different kinds of knowledge (codified internal and implicit external knowledge – large companies, and vice versa for SMEs), are based on different competences, use a variety of development strategies and have different capabilities in R&D implementation. In general, according to Antonelli (2000), a significant difference of TD from ID lays in the relationship of large firms and SMEs, their complementarity in the process of technological development.

It is worth noting that the concept of TD, is mostly used in the US (e.g. Californian TD), while a similar notion formed in France considered to be the technopolis (or technopole, technopolitan pole; it became a natural successor of the concept of growth poles of Perroux), the first and most famous of which was the Sophia Antipolis. Most of TD or technopoles formed historically, but in the 1990-2000s, their formation was due to targeted national technology policies, as expressed in the allocation of targeted funding and the creation of special zones of high-tech development, or, as noted by Castells and Hall (1994. p. 8), "various deliberate attempts to plan and promote within one concentrated area, technologically innovative, industrial-related production" (i.e. planned communities of technologically and technically related areas, modeled on the principle of flexible specialization and institutional collaboration in R&D). Such areas may include science and technology parks – STPs, research parks, innovation centers, technology and innovation precincts, technology parks, industrial parks, competence centers, poles of competitiveness, business parks, business incubator, and other structures, which are aimed at the development of high-tech companies, and united by technological proximity.

There are two conceptual approaches to the concept of technopolis. The first approach is the closest to the concept of TD (as well as the concept of "regional technology network"), and characterizes technopolis as a way to consolidate and strengthen the existing technological potential of a given region, promoting socio-economic development and the involvement of all the stakeholders of the territory in innovation process. This approach adheres to the definition of technopolis given by Chorda (1996. p. 144): An "agglomeration of highly innovative activities structured as a network in which the emergence of cooperative ties among the scientific, technical, educational and institutional agents is expected to enhance the technological and innovative capability in the host region, thereby upgrading the overall regional competitiveness." A similar point of view expressed by Reverdy in the study of Chorda (1996. p. 144): Technopolis is "a restricted geographical area containing a certain number of competences, favoring research activity and the transfer and diffusion of technology through the concentration of companies and R&D entities." That is, at the forefront is the relationship of actors in a particular area, the unity and coherence of which is enhanced by the synergies of the technological knowledge being generated and consumed.

The second approach is more narrow, but at the same time more specific with regard actions to be taken to ensure it. The approach is expressed in the institutionalization and standardization of the technopolis concept and focused on the creation of the material-technical base in almost any medium and large city, able to form a new pole of high-tech development in the framework of a particular specialization. In this case, as noted by Castells and Hall (1994), technopole is the result of concerted action on the establishment of centers for the promotion of high-tech industry, whose main goal is to provide resources for the new economy. Examples of successful and failed projects on creation of technopoles in France (e.g. an industrial scientific-technological area in Grenoble and technopolis in Sophia Antipolis) and in Japan (e.g. the cities of Sendai and Tsukuba, the Kansai region) are presented by Cook (2001). The fact that the policy of creating technopoles, as a rule, is carried out in the framework of the second approach and does not address the issues of promoting networking, greatly reduces the effectiveness of these projects.

Despite the fact that the second, practice-oriented approach, largely coincides with the British concept of the science park, they have a number of significant differences. While the science park, as a rule, is created "from scratch," the technopolis may include some scientific and/or technological parks, covering a much larger area, and include institutions that have already existed at the time of its design. With regard to technopolis, an important role plays the promotion of the formation of cooperative networks, in addition to providing "residents" with the material and technical base. In general, the linkages, collaboration, sharing of knowledge and technological competencies form the basis of the technopolis concept.

3.3. Innovative Development: Cluster, Innovative Milieu, and Regional Innovation System (RIS)

According to Malmberg et al. (1996), innovation-oriented ID is a cluster, – a "subset of industries of the economy connected by flows of goods and services stronger than those (streams) linking them to the other sectors of the national economy … (which, unlike ID are)… devoid of any spatial connotation" (Czamanski and Czamanski, 1977. p. 62). In the work of Hoover and Giarratani (1999. p. 43), originally published in 1970, authors characterized cluster as a business network, rather than spatial phenomenon, which was conditioned by the formation of "mutual attraction among the competing units of a particular activity, (which)… outweighs any repulsion that might arise from their rivalry." Later Porter (1990. p. 149-157) associated the concept of cluster with regional competitiveness, and has empirically proven that successful industries, interrelated in a cluster through vertical (buyer – supplier) or horizontal (common market, technology,

distribution channels and supply, etc.) relationships are more effective being geographically concentrated. Thus, it can be argued that the concept of cluster should be interpreted not only as a spatial phenomenon of industrial conglomerate, but as a territorial (i.e., geographic) representation of the structure of entrepreneurial networks.

The growing awareness of the importance of spatial proximity factor in innovative forms of TSES, led to an increase in the number of scientific studies on catalyst and inhibitor factors affecting innovative entrepreneurial networks at the regional and national (macro-) levels. As the consequence, the following concepts gained their development: The learning region, the innovative milieu, and the milieu effects, the local worlds of knowledge production, the business ecosystem, the innovation communities, the innovation ecosystems, and others.

Through the implementation of innovation policy, regional and national authorities seek to create favorable innovative environment, to establish a RIS, which will contribute to the formation and strengthening of inter-organizational relations in the spirit of the idea of building "knowledge communities" (Tallman et al., 2004) being closely related and defined by its location.

4. CONCLUSION

Despite the different epoch sanding behind the aforementioned types of spatial networking, they all adhere to the identified features of a SC, although possessing a different combination of structural proximities. The industrial development follows a strong path-dependency, as it relies on communities of practice, the established specialization of a particular district, generally driven by the standard factors of production – land, labor and capital. Primary importance has the organizational structure, the organizational proximity of the network, being either set (e.g. by the state authorities – the planned structure) or formed under the influence of a "market." Implicit, tacit knowledge that can be expressed in competences, expertise, experience, skills, know-how, etc. act as a source of incremental innovation, the continuous improvement of the goods and services being created. Thus, strong social bonds between the participating actors (namely, the individuals), as well as their geographical closeness is just as important for its efficient functioning as industry inputs. Allocation of the boundaries of this type of spatial networks will require a comprehensive analysis of the industry structure of a particular area, its historical specialization, conditioned by its geo-political location, the presence of natural resources, and other conventional factors of economic development.

The technological development has a strong dependency on codified, explicit knowledge, generally defined as the knowing "what" and "why." The spatial networks of this type largely rely on complex technological knowledge, the process of research and development, anticipated by fundamental research in natural sciences and engineering. Actors engaged in this scheme of interactions are often enrolled in collaborative R&D projects, representing a combination of large multinationals and SMEs, as well as the public-private partnership arrangements. Technological innovation requires sophisticated material and technical base, which generally takes a form of publicly-funded infrastructural projects: Technology parks, science parks, centers for collective use, etc. These technological nodes outline the border of the spatial network under study, with the patents, utility models, and advanced manufacturing technologies delineating the basic composition of the network (Mikhaylova and Mikhaylov, 2016).

The innovative development implies an enhanced combination of the industrial and technological types of spatial networks. Local milieu is just as important, being a crucial for knowledge spillover, acting as an enabling factor for the exchange of tacit knowledge (via local commuting, learning by interacting, by using, and by doing). In general, the "knowing-how," embodied in abilities, skills, competencies, and the "knowing-who," defined by the awareness of the "right person" to address the issue (e.g. propose an idea, source an advise or solution, etc.) are the success elements of an innovative spatial network. The similar line of thought, expressed in the congruent knowledge base – the cognitive proximity, is the predominant element of the innovation ecosystem. Yet, unlike the first two types of spatial networking, innovative development has a strong influence of sustainable flow of extra-local knowledge shaped in dyadic linkages of the distinct actors of the local network (e.g. universities, MNCs, research units, NGOs, etc.). This means that allocation of the boundaries of innovative networks has to take into consideration the effects of globalization and transnational regionalization, identifying the distant actors involved.

Development of the methodology of identification of the boundaries of spatial networking is associated with complexity in reflecting the particularities of the different types of SC. It should be able to capture the mode of a SC, reflected in the composition of interacting actors, the reasons, factors, typology, and types of these interactions (i.e. the transactional characteristics of a network), as well as to identify its cumulative attributive characteristics, composed of commonality (similarity, proximity) of actors' properties, that determine the very existence of the SC under study.

5. ACKNOWLEDGMENT

The reported study was funded by RFBR according to the research project No. 16-36-00258 "Equivocality in identifying the boundaries of spatial networking."

REFERENCES

Amin, A., Thrift, N. (1995), Globalization, institutional "thickness" and the local economy. In: Healey, P., Cameron, S., Davoudi, S., Raham, G.S., Madani-Pour, A., editors. Managing Cities: The New Urban Context. Chichester: John Wiley. p92-108.

Animitsa, E.G., Sharygin, M.D. (2013), Socio-economical geography and regional economics: Problems and relations. Geographical Bulletin, 1(24), 4-13.

Antonelli, C. (2000), Collective knowledge communication and innovation: The evidence of technological districts. Regional Studies, 34, 535-547.

Baklanov, P.Y. (2014), On the object, subject and problems of modern socio-economic geography. Bulletin of the Association of Russian Human Geographers, 3, 4-12.
Becattini, G. (1990), The Marshallian industrial district as a socio-economic notion. In: Pyke, F. Becattini, G., Sengenberger, W., editors. Industrial Districts and Inter-firm Cooperation in Italy. Geneva: International Institute for Labour Studies. p37-51.
Bellandi, M. (1994), Decentralized Industrial Creativity in Dynamic Industrial Districts. In: Technological Dynamism in Industrial Districts: An Alternative Approach to Industrialization in Developing Countries? Papers and Synthesis of Discussions of a Symposium on Industrial Districts and Technology. Geneva: United Nations Publications. p73-87.
Brusco, S. (1992), Small firms and the provision of real services. In: Pyke, F., Sengenberger, W., editors. Industrial Districts and Local Economic Regeneration. Geneva: International Institute for Labour Studies. p177-96.
Carayannis, E.G., Barth, T.D., Campbell, D.F. (2012), The quintuple helix innovation model: Global warming as a challenge and driver for innovation. Journal of Innovation and Entrepreneurship. 1(2). DOI:10.1186/2192-5372-1-2
Castells, M., Hall, P. (1994), Technopoles of the World: The Making of 21st Century Industrial Complexes. London: Routledge.
Chorda, M.I. (1996), Towards the maturity stage: An insight into the performance of French technopoles. Technovation, 16(3), 143-152.
Cooke P. (2001), From technopoles to regional innovation systems: The evolution of localised technology development policy. Canadian Journal of Regional Science, 24(1), 21-40.
Czamanski, S., Czamanski, D. (1977), Industrial complexes: Their Typology, structure and relation to regional development. Papers of the Regional Science Association, 38, 93-111.
Dolinin, A.A. (1975), Social geography a special branch of human geography. Theoretical Aspects of Economic Geography, 1975, 53-61.
Fedorov, G.M. (2010), The region as a territorial system. Bulletin of the Immanuel Kant Baltic Federal University, 1, 20-27.
Fedorov, G.M., Korneevets, V.S. (2009), Trans-border regions in the system of the regional hierarchy: The systemic approach. Baltic Region, 2, 26-33.
Gereffi, G., Humphrey, J., Sturgeon, T. (2005), The governance of global value chains. Review of International Political Economy, 12(1), 78-104.
Goessling, T. (2004), Proximity, trust and morality in networks. European Planning Studies, 12(5), 675-689.
Grishchenko, M.A. (2012), Territorial structure of economy and territorial organization of society: Relations between the concepts. Bulletin of St. Petersburg State University, 7(2), 136-143.
Gusfield, J.R. (1975), The Community: A Critical Response. New York: Harper Colophon.
Hoover, E.M., Giarratani, F. (1999), An Introduction to Regional Economics. Regional Research Institute, WVU. Available from: http://www.tarkas.com.ua/content/eng/libr/hoover.pdf. [Last accessed on 2015 Sep 02].
Keeble, D., Wilkinson, F. (1998), Collective learning and knowledge development in the evolution of regional clusters of high technology SMEs in Europe. Regional Studies, 33(4), 295-303.
Kolosovskiy, N.N. (1958), Fundamentals of economic regionalization. Moscow: Goskomizdat.
Kozlov, V.I. (1971), Ethnos and territory. Soviet Ethnography. 6, 89-100.
Locke, R. (1995), Remaking the Italian Economy. Ithaca: Cornell University Press.
Malmberg, A., Sölvell, Ö., Zander, I. (1996), Spatial clustering, local accumulation of knowledge and firm competitiveness. Geografiska Annaler, 78(2), 85-97.
Markusen, A. (1996), Sticky places in slippery space: A typology of industrial districts. Economic Geography, 72(3), 293-313.
Marshall, A. (1952), Principles of Economics. London: Macmillan.
Mattes, J. (2012), Dimensions of proximity and knowledge bases: Innovation between spatial and non-spatial factors. Regional Studies, 46(8), 1085-1099.
Mezhevich, M.N. (1978), Territorial community of people and social development under socialism. Sociological studies, 3, 31.
Mezhevich, N.M. (2006), Determination of the category of "region" in modern scientific discourse. Pskovskij regionologicheskij zhurnal, 2, 3-22.
Mikhaylov, A.S. (2013), Features of the triple helix model in cross-border clusters. World Applied Sciences Journal, 21 (12), 1734-1738.
Mikhaylova, A.A., Mikhaylov, A.S. (2016), Re-distribution of knowledge for innovation around Russia. International Journal Technological Learning, Innovation and Development, 8(1), 37-56.
Parrilli, M.D. (2016), The Competitiveness of Clusters in Globalized Markets: Implications for Regional Development. UK: Routledge.
Phillips, D.L. (1993), Looking Backward: A Critical Appraisal of Communitarian Thought. Princeton, NJ: Princeton University Press.
Porter, M.E. (1990), The Competitive Advantage of Nations. New York: Free Press, MacMillan.
Sharygin, M.D. (2006), The evolution of the doctrine of territorial public systems. Geographical Bulletin, 1, 4-13.
Smith, K. (1994), New directions in research and technology policy: Identifying the key issues. The STEP Group, Studies in technology, innovation and economic policy. R-01, May. Available from: Available from: http://www.step.no/reports/Y1994/0194.pdf.
Stephanopoulos, N. (2012), Redistricting and the territorial community. University of Pennsylvania Law Review, 160, 1379-1477.
Storper, M., Scott, A.J. (1992), Pathways to Industrialization and Regional Development. London: Routledge.
Storper, M., Walker, R. (1989), The capitalist imperative. Territory, Technology, and Industrial Growth. New York: Basil Blackwell.
Streletskiy, N.V. (2007), Historical geography and regional studies: The ways and prospects of interaction. Pskovskij Regionologicheskij Zhurnal, 5, 3-13.
Tallman, S., Jenkins, M., Henry, N., Pinch, S. (2004), Knowledge, clusters, and competitive advantage. The Academy of Management Review, 29(2), 258-271.
Trippl, M. (2006), Cross-Border Regional Innovation Systems. SRE - Discussion Papers, 2006/05. Vienna: Vienna University of Economics and Business.
Trofimov, A.M., Chistobaev, A.I., Sharygin, M.D. (1993), The theory of the organization of space. Report II. Socio-geographic space and territory. Bulletin of the Russian Geographical Society, 3, 9-17.
Trofimov, A.M., Sharygin, M.D., Ismagilov, N.N. (2008), Territorial identification in geography and Vernakulyar districts. Geographical Bulletin, 1(7), 5-12.
Turov, S.I. (1995), Urban lifestyle: Theoretical aspect. Sociological Studies, 1, 131-134.
Yeung, H.W.C. (2009), Situating regional development in the competitive dynamics of global production networks: An East Asian perspective. Regional Studies, 43, 325-351.
Zavarashin, A.Y., Ryazantsev, I.P. (2005), Territorial behavior. Experience of theoretical and methodological analysis. Sociological Studies, 10, 83-92.
Ziman, L.Y. (1959), Economic Regions of the USA. Moscow: Geografgiz.