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# THE ROLE OF INNOVATION CLUSTERS IN BUILDING UP INVESTMENT AND INNOVATION STRATEGIES IN THE CROSS-BORDER COOPERATION CONTEXT

# РОЛЬ ІННОВАЦІЙНИХ КЛАСТЕРІВ У РОЗРОБЦІ ІНВЕСТИЦІЙНИХ ТА ІННОВАЦІЙНИХ СТРАТЕГІЙ В КОНТЕКСТІ ТРАНСКОРДОННОГО СПІВРОБІТНИЦТВА

# РОЛЬ ИННОВАЦИОННЫХ КЛАСТЕРОВ В РАЗРАБОТКЕ ИНВЕСТИЦИОННЫХ И ИННОВАЦИОННЫХ СТРАТЕГИЙ В КОНТЕКСТЕ ТРАНСГРАНИЧНОГО СОТРУДНИЧЕСТВА

**Reznikova Nataliia V.**

Doctor of Economics, Professor of the Chair of World Economy and International Economic Relations, Institute of International Relations Taras Shevchenko National University of Kyiv, Ukraine. E-mail: reznikovanataliia@gmail.com

**Rubtsova Maryna Y.**

Associated Professor, PhD in Economics, Department of International Business, Institute of International Relations Taras Shevchenko National University of Kyiv, Ukraine. E-mail: rubtsovam2017@gmail.com

**Yatsenko Olha M.**

Doctor of Economy, Professor of the Department of International Trade and Marketing,
Kyiv National Economic University named after Vadym Hetman. E-mail: yacenkoolgakneu@gmail.com

**Резнікова Н.В.**

Доктор економічних наук, професор, професор кафедри світового господарства і міжнародних економічних відносин, Інститут міжнародних відносин Київського національного університету імені Тараса Шевченка. E-mail: reznikovanataliia@gmail.com

**Рубцова М.Ю.**

Кандидат економічних наук, доцент, доцент кафедри міжнародного бізнесу, Інститут міжнародних відносин Київського національного університету імені Тараса Шевченка. E-mail: rubtsovam2017@gmail.com

**Яценко О. М.**

Доктор економічних наук, професор, професор кафедри міжнародної торгівлі і маркетингу,
Київський національний економічний університет імені В. Гетьмана. E-mail: yacenkoolgakneu@gmail.com

**Резникова Н.В.**

Доктор экономических наук, профессор, профессор кафедры мирового хозяйства и международных экономических отношений, Институт международных отношений Киевского национального университета имени Тараса Шевченко. E-mail: reznikovanataliia@gmail.com

**Рубцова М.Ю.**

Кандидат экономических наук, доцент, доцент кафедры международного бизнеса, Институт международных отношений Киевского национального университета имени Тараса Шевченко.
E-mail: rubtsovam2017@gmail.com

**Яценко О.Н.**

Доктор экономических наук, профессор, профессор кафедры международной торговли и маркетинга,Киевский национальный экономический университет имени Вадима Гетьмана.
E-mail: yacenkoolgakneu@gmail.com

**Abstract.** *Innovation clusters are analyzed in the article from the perspective of cross-border cooperation of regions. Types of clusters are highlighted, capable of adapting to cross -border cooperation, which enables to identify and outline the instruments of economic policy, capable to stimulate deepening of innovation processes in cross -border regions. Specialization and specifics of gaining competitiveness through promoting new comparative advantages are defined as the determining criteria for distinguishing the notions of "cross-border cluster in the conditions of cross -border cooperation" and "cross -border innovative cluster". The innovative cluster's role is analyzed in terms of its being a promoter of creating the innovation ecosystem as a highly coordinated system of dynamics interlinks between economic agents and institutes, resulting in the innovation activity, commercial success of projects and technological modernization of the structure of national economies, which effectiveness is conditional on the conformity of the institutional environment with the needs of R&D, education and business, and with the latter's capability to build the closed loop innovation cycle. The determinants of gravity of regional entities, the dominant principles of cross -border cooperation, the determinants of effectiveness and ineffectiveness of cross -border cooperation of border regions are defined; the multi-category approach to assessment of the cross -border potential is given. The potential of customs tariff and fiscal regulation in stimulating the innovation activity in the conditions of cross -border cooperation is highlighted. The controversial character of "border" is identified from the perspective of opportunities and threats for innovation activities, generated by it. Cross-border cooperation is identified as a trigger for implementation of technological projects and innovation-driven productions.*

**Keywords**: cross-border cooperation, border region, innovation clusters, business innovation centers, innovation process.

**Анотація.** *В статті розглянуто інноваційні кластери з позиції транскордонного співробітництва регіонів. Виокремлено типи кластерних утворень, що можуть бути адаптивні при здійсненні транскордонного співробітництва, що дозволило ідентифікувати та виокремити інструменти економічної політики, здатні стимулювати поглиблення інтеграційних процесів в прикордонних регіонах. Спеціалізація та особливості досягнення конкурентоспроможності за рахунок просування нових порівняльних переваг визначено як детермінуючі критерії розмежування понять «інноваційний кластер в умовах транскордонного співробітництва» та «транскордонний інноваційний кластер». Розглянуто роль інноваційних кластерів у сприянні створенню інноваційної екосистеми як високо координованої системи динамічних взаємозв'язків, що виникають між економічними агентами й інститутами, результуючись в інноваційній активності, комерційній успішності проектів й технологічній модернізації економічної структури держави, ефективність якої залежить від ступеня відповідності інституційного середовища потребам науки, освіти й бізнесу і здатності останнього забезпечувати замкнутість інноваційного циклу. Визначено детермінанти тяжіння регіональних суб'єктів, домінантні принципи транскордонної діяльності, детермінанти ефективності та неефективності*

*транскордонного співробітництва прикордонних регіонів, а також наведено багатокатегоріальний підхід до оцінки потенціалу транскордонного регіону. Виокремлено потенціал митно-тарифного та бюджетно-податкового регулювання в стимулюванні інноваційної активності в умовах транскордонного співробітництва. Ідентифіковано контроверсійний характер «кордону» з позицій продукованих ним як можливостей, так і загроз для інноваційної діяльності. Транскордонне співробітництво ідентифіковано як тригер реалізації технологічних проектів та інноваційного виробництва.*

**Ключові слова**: транскордонне співробітництво, прикордонний регіон, інноваційні кластери, бізнес-інноваційні центри, інноваційний процес.

**Аннотация.** *В статье рассмотрены инновационные кластеры с позиции трансграничного сотрудничества регионов. Выделены типы кластерных образований, которые могут быть адаптивными при осуществлении трансграничного сотрудничества, что позволило идентифицировать и определить инструменты экономической политики, способные стимулировать углубление интеграционных процессов в приграничных регионах. Специализация и особенности достижения конкурентоспособности за счет продвижения новых сравнительных преимуществ определены как детерминирующие критерии разграничения понятий «инновационный кластер в условиях трансграничного сотрудничества» и «трансграничный инновационный кластер». Рассмотрена роль инновационных кластеров в содействии созданию инновационной экосистемы как высоко координированной системы динамических взаимосвязей, возникающих между экономическими агентами и институтами, и имеющими своим свледствием повышение инновационной активности, коммерческой успешности проектов и технологической модернизации экономической структуры государства, эффективность которой зависит от степени соответствия институциональной среды потребностям науки, образования и бизнеса и способности последнего обеспечивать замкнутость инновационного цикла. Определены детерминанты притяжения региональных субъектов, доминантные принципы трансграничной деятельности, детерминанты эффективности и неэффективности трансграничного сотрудничества приграничных регионов, а также приведен мультикатегориальний подход к оценке потенциала трансграничного региона. Проанализирован потенциал таможенно-тарифного и бюджетно-налогового регулирования в стимулировании инновационной активности в условиях трансграничного сотрудничества. Идентифицирован противоречивый характер «границ» с позиций как открываемых ими возможностей, так и угроз для инновационной деятельности. Трансграничное сотрудничество идентифицировано как триггер реализации технологических проектов и инновационного производства.*

**Ключевые слова**: трансграничное сотрудничество, пограничный регион, инновационные кластеры, бизнес-инновационные центры, инновационный процесс.

**Introduction.** A viewpoint commonly expressed today is that the key criterion for assessment of the innovation activities at firm level is cluster formed by interlinked firms located on a rather small distance from each other within one region; they operate in one industry, being incorporated in one production chain, and combine their workforce and communication flows. In the latest decades innovation clusters have been created in various countries. Firms incorporated in these clusters operated in a variety of industries, from high tech ones, such as pharmaceutics, computer technologies, manufacturing of research equipment and mobile phones, to more conventional manufacturing industries, such as car making, apparel or footwear. These firms tend to

interact with each other by exchanging workforce, providing information access, setting links between manufacturers and suppliers, getting access to venture capital or by combinations of these factors.

But not all the innovation companies operate in this way. There are essential differences in the internal structure of the innovation clusters, with some of them putting stronger emphasis on the production and others involved in the shared marketing. With more detailed analysis it becomes obvious that homogenous clusters actually demonstrate the essential degree of heterogeneity from the perspective of organization [17].

One of the quite recent assumptions is about the existence of various types of clusters, with some of them incorporating firms not linked with other innovation enterprises in the same region in spite of the relatively close location. It follows that they are located on the region's territory, but not involved in the regional innovation activities. Moreover, some of these firms are very small. In such microfirms the importance of an individual innovator or inventor working in a firm is reemphasized.

Compared with other forms of cooperation, the special role in the cluster's success is conditional on creating a well-structured chain for dissemination of technologies, new knowledge and innovations. The gradual adoption of the network principle of the global economy organization allows, to an essential degree, for integrating the advantages of hierarchical and market mechanism. The networking of entities in the conditions of horizontal integration enables them to have the supplementary synergetic effect manifested in the considerably higher competitiveness of these entities and the whole system than the one occurring if business entities operated independently. The effective combination of internal competition and cooperation inside a cluster in the process of product making creates "cluster mechanism" for competitiveness enhancement. The awareness of the clusters' role in the innovation-driven economic development was gradually spreading across domestic economies to reach the global level.

**The purpose of the article.** The assessment of cluster potentials in attracting investment and generating innovations at mesolevel of cross-country cooperation, namely in the conditions of cross-border cooperation, acquires significant importance (Cross-Border Cooperation (CBC)).

**Recent literature review**. The United Nations Economic Commission for Europe highlights the following basic characteristics of clusters[14]:

- proximity of companies, enabling them to have financial benefits from production cooperation, capital exchange and mutual learning processes;
- specialization of clusters, enabling companies to concentrate on specific activities with keeping intact the interests of all the project participants;
- cooperative involvement of large numbers of entities in a cluster;
- combination of cooperation-based and competitiveness-based components in networking of cluster participants;
- the importance of reaching certain "critical qualitative and quantitative" mass to achieve the effect of internal dynamics and development;
- reliance on the long-term operation of a cluster;
- involvement of cluster participants in the processes of organizational, marketing and technological innovations. Although clusters were designed as competitiveness enhancers of regional economies, they did not feature a clear focus on innovation. As a form of production concentration, an innovation cluster is created mainly due to the availability of required nature resources.

However, as shown by P. Maskell [10], with the material culture becoming more and more complex, production competencies acquire higher importance. Innovation clusters of our days differ from the earliest ones in terms of their stronger focus on exports of technologies and products compared with industrial clusters. Newly built clusters tend to be designed to develop cutting-edge production technologies or create new markets and new products. The closed chain that emerges (from creation of a product to its mass-scale manufacturing and introduction on the global market)

gives evidence that "intra-cluster" advantages have been recognized internationally. If a newly built cluster is to be competitive, its creators must be focused on the global market, because viable clusters with operation limited by regional level are an exception rather than a rule. The problem of creating an effective cluster is associated with its orientation on the manufacturing of goods that are best on the globe. This, in turn, will require building a reliable chain of engineers, suppliers, personnel. An important problem of a cluster may be absence of a well-established contact with customers on foreign markets and lack of guarantees for the stable product sales. Even successful clusters achieve the positive effect by concentrating resources and promoting goods through the cluster brand. However, even multisectoral clusters can often be exposed to pressures of unstable conjunctures of the global market. Also, clusters may face the problem of the relative closure of some large companies that often are unable to cooperate with new suppliers or absorb new products and technologies. The tendency to consider a cluster as a local phenomenon, with overlooking its focus on the global level, seems to be erroneous [8]. It will never do well without cooperation of its participants and expanding of horizontal links if even the necessary infrastructure is available. The development of horizontal links within a cluster is often substituted by creating infrastructure for the territories were clusters operate, which is often done at the expense of cluster participants. Another problem faced by the clusters created by a government initiative is the bureaucratic apparatus designed to supervise their development. Practices show that the cluster infrastructure, if created on the basis of greenfield project but without assessment of the territorial potentials, may be doomed to failure and will end up with financial losses for investors. For public officials it may often be difficult to assess the knowledge concentrated in small innovative firms forming the cluster core, to get awareness of the market capacities, and to use effectively the available resources. Cluster managers who receive investment from the government but not always meet its expectations are often engaged in active lobbying of their own interests irrespective of the cluster perspectives. The bureaucratic element in a cluster is exposed to significant pressures from "trendy" movements of science (informatics or biotechnology). It is, however, rather difficult to become a leader on such markets, whereas the chances to fail are almost guaranteed. On the other hand, a refusal to be involved in government-based clusters can have negative effects for their performance.

According to G. Popescu [12], in spite of the growing popularity of clusters worldwide and their increasing support, clusters are too risky as an instrument: because the initiatives on cluster creation tend to be time-consuming and expensive, the risks are also essential. Besides this, when such cluster initiative is implemented, more than the half of its budget will be coming from the public budget, and in most cases the cluster can hardly move to self-sufficiency. Bearing this in mind, it is commonly believed that supporting already created clusters would be more effective than creating new ones. A cluster can become low effective due to the improper quality of the organizational structure chosen for it. When enterprises are organized into clusters, their integration process has to rely on assessment of the company's development potentials as part of the specifically created cluster rather than on successful industries or companies. This assessment should include analysis of the company's financial and economic performance, its organization, its information and intellectual capital. Other problems can be caused by lack of companies required for the full-fledged development of innovation activities in a cluster. Besides that, a cluster may incorporate the companies that are ill-suited for the effective innovation activities [7].

Most part of the clusters in the last decades specialized only on manufacturing of consumer goods, and they were often created to enhance the economic competitiveness in selected territories or regions. At the beginning of this century industrial clusters were launched more and more often, engaged in logistics, ecology, information design, manufacturing of bio-medical drugs. The innovation focus of clusters was becoming increasingly stronger: now it had to be the core parameter of the competitiveness of clusters. With the cluster's evolution the structure of its participants gradually transforms. As the cluster is a system that develops, it is difficult to predict its sustainability in the long run. The clusters that are successful nowadays (on account of science and technology progress or the current conjuncture of the global market) may lose their prospects and pace of development. Because a rapidly growing cluster often faces various kinds of limitations and

barriers, implementation of collaborative investment projects can be spread over a long period of time. As clusters existing in the global economy of our days differ by performance and development pace, this can provoke a number of new risks for the policy, because it can lose the effectiveness. Cross-Border Cooperation (CBC), a key priority of the European Neighbourhood Instrument, seeks to reinforce cooperation between EU Member States and Partner Countries along the external EU borders [6].

**Main research results.** From epistemological perspective, problems of cross -border economic cooperation have interdisciplinary background and two principle components: the set of theoretical, methodological and practical issues of the region's economy development (with focus on the hierarchical vertical of power "center – regions", historic, ethnic & demographic, religious, ecological, natural resource specifics of a region in the national labor division system), and issues of international economic cooperation and integration (which are related with issues of optimizing the specialization models, enhancing competitiveness of actors engaged in international economic relations at all the levels etc.).

Cross -border regionalization as the spatially integrated form for political cooperation is characterized by rise of new regions; its problems are solved by crossing national and administrative borders, with the awareness of interrelations, interdependence and mutual interests formed despite of these borders (Figure 1).

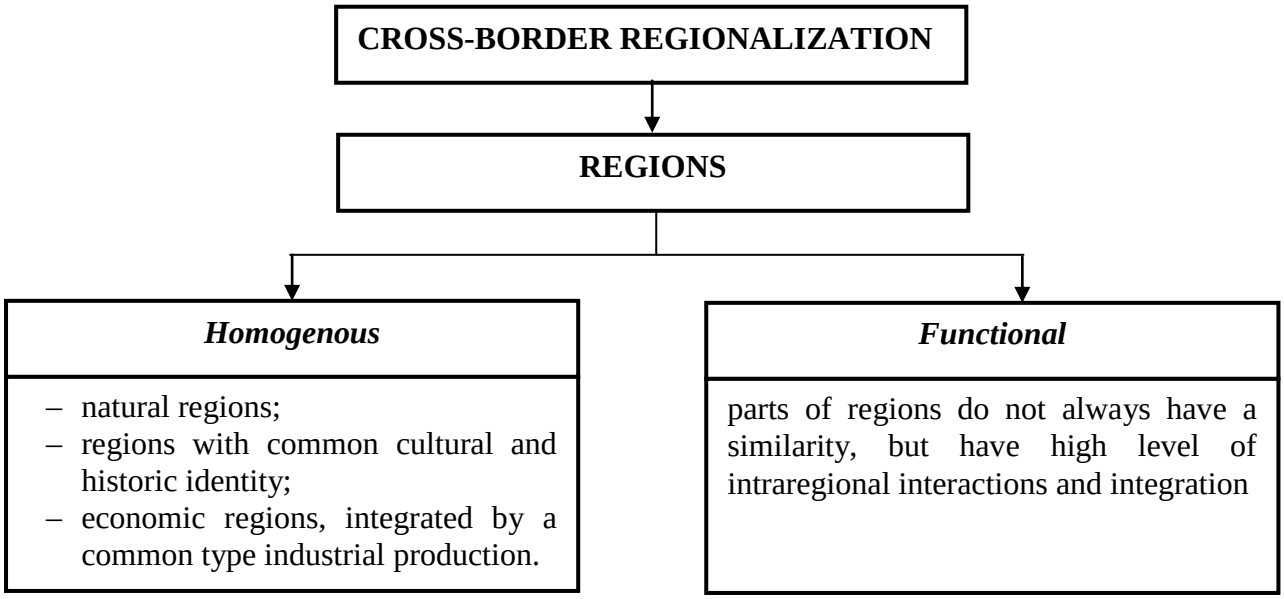


**Figure 1. Cross-border regionalization pattern**
*Source: developed by the author*

Determinants bringing regional entities together can be the following: political benefits from mutual cooperation; the need for integration to achieve the objectives; identity of values, laying the ground for the value-based integration; general history or its key points; geography, laying the basis for integrating the territorial entities into a region; economic compementarity of business or industrial entities operating within the boundaries of a territory [19].

Dominant principles of cross-border cooperation can be the following: basic institutional-legal principles (independence, sovereignty and territorial integrity; equality of participants; voluntariness; autonomy; legitimacy; administrative identity); basic economic-legal principles (solutions of common problems; coherence of interests; focus; systemic nature; comprehensiveness; hierarchy; spatial optimality) [18; 19].

Determinants for the effectiveness of cross-border cooperation between border regions can be the following: geopolitical factors (neighborhood with peaceful states or hostile states, with the threat of border removal resulting from warfare); geo-economic factors (capability to overcome technological asymmetries by integrating in global value added chains; capability to pursue expansionist trade and investment actions; capability to exploit the domestic market capacity and diversify the economic structure); institutional factor (the higher is the inclusiveness of institutions and the weaker is the extractive character of their operation, the easier the structural defects and infrastructural inadequacies of a domestic economy and can be mitigated, and the higher are the ability of economic entities to adapt to the challenges of cross-border cooperation); structural factors (in view of the resource potential, mineral and human one: the existing specialization of a region can be either a cooperation driver or a cooperation constraint).

Determinants of ineffectiveness of cross-border cooperation between border regions can be the following: poor social-economic development of cross-border regions; differences in administrative and territorial systems of bordering countries; national legal framework for cross-border cooperation, if incomplete or not harmonized with the existing standards; inadequate authorities of territorial communities in cross-border relations; immature system for government support to cross-border cooperation; limited financial resources of local budgets; inadequate participation of border regions in international development programs; poor awareness of essential business results of entities engaged in cross-border cooperation.

In view of the above, a cross-border region can act as: the locality concentrating economic resources and generating financial flows (resource-based competitive advantages); the institutional core for national economies (institutional competitive advantages); the epicenter generating knowledge and innovations (innovation-based competitive advantages) [15; 19; 20].

Cross-border regions at national, supranational or global level can demonstrate the “actor” capacities conditional on their legal, institutional and socio-economic structure:

1) the capacity to articulate own interests and future development strategies;

2) the capacity to have impact on economic processes;

3) the capacity to interact with other non-government entities from the countries engaged in cross-border interactions;

4) the capacity to hold negotiations (para-diplomacy);

5) the capacity for self-presentation.

In the country-specific realities, investment and innovation strategies cannot be built by modeling “on blank space” on a given territory. Otherwise, the argument on the possibility of creating absolutely new (even very “advanced”) approaches by ignoring global practices that proved efficient by decades of the productive work of leading companies would be wrong. A vital problem, therefore, is finding out the common and the specific in the investment and innovation strategies of countries, in order to enhance the effectiveness of cross-regional projects.

Cross-border cooperation should be considered in the context of building the advanced institutional environment and creating the “high tech” model as the long-term development

framework of the Ukrainian economy. Proven mechanisms for practical utilization of its capacities can be found in global practices, which may involve a shared support, by two or more countries, of high tech investment and innovation projects, building of transnational cross-industry high tech clusters, networks of technoparks, business incubators, support to trial and design bureaus, advanced companies focused on innovation or cross-industry science and technology centers.

Cluster form of organization enables for creating a specific form of innovation, the aggregate innovation product. A. Markuzen distinguishes between five types of innovation clusters [9]: (i) new industrial systems, built now in form of industrial districts; (ii) systems of "center – network" type, built around several central corporations which operation is focused on the innovation-driven development; (iii) the industrial platform for daughter companies, built in all the countries irrespective of the innovation performance; (iv) the government oriented system, built as a supplier of new technologies, and (v) a mixed type, built on the basis of technoparks. However, we consider it appropriate to propose the author classification of innovation clusters.

Our analysis of innovation clusters from the cross-border perspective makes us believe that cluster formations need to be distinguished and classified into the following types: innovation clusters of border regions in the conditions of cross-border cooperation; cross-border innovation clusters; transformational flexible clusters of natural regions; because this classification enables to find out the specifics of relations between the participants of each cluster type and differentiate the tools designed to deepen integration processes in border regions. The typology of innovation clusters in the cross-border cooperation context is shown in Figure 2.

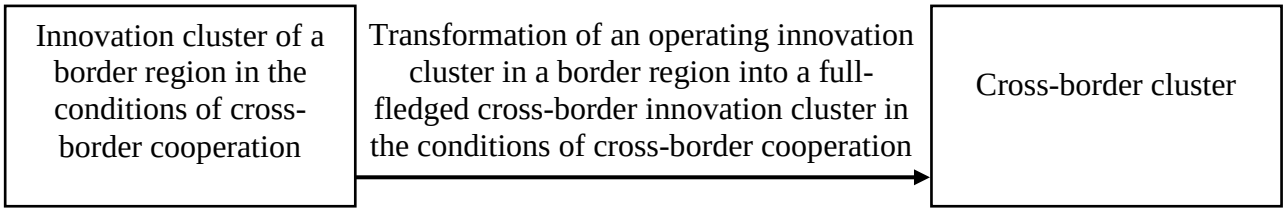



**Figure. 2. Typology of innovation clusters from the cross-border perspective**

*Source: developed by the authors*

Building and operation of innovation clusters in border regions is essentially similar to regional innovation clusters as a whole. We believe that the phase "in the conditions" implies that innovation clusters in border regions can use some additional advantages for cross-order cooperation, such as a wider opportunity for Euroregions to promote innovation clustering of border regions through financing, participation in cross-border cooperation projects etc.

We suggest that in the conditions of cross-border cooperation an innovation cluster in a border region differs from a cross-border innovation cluster by several attributes. When it is assumed that a cross-border innovation cluster is a cluster integrating participants from a cross-border region (located on various sides of the border between two or more countries), the following differences need to be emphasized:

First, these types of clusters differ by specialization. When considering the background for building up an innovation cluster in a border region in the conditions of cross-border cooperation, we believe that it will be appropriate to define the specialization of Ukrainian border regions, and that the specialization of adjoining regions must not be identical to the specialization of the border regions of Ukraine [16; 17]. Once cross-border innovation clusters are considered, a cross-border area will have to be seen as the single area, with the single specialization of regions and equivalent selection of potential participants in such cluster.

Apart from specialization, there are other differences distinguishing the concept of "innovation cluster" in the conditions of cross-border cooperation from a cross-border innovation cluster. In particular, the competitiveness aspect needs to the considered. When a cluster is being built, including

an innovation one, we believe that it is supposed to enhance competitiveness in border regions. When cross-border innovation clusters are expected to be built in a country, this competitiveness will supposedly enhance the performance of two border regions: one is on the Ukraine's side and the other one is on the side of a country bordering Ukraine. However, when an innovation cluster in the conditions of cross-border cooperation is considered, this competitiveness will promote the development of economic potential in a Ukrainian border region. It should be noted that differences between the analyzed types of clusters will be caused by different legal frameworks regulating their operation, including taxation and custom one. Basically, innovation clusters in border regions in the conditions of cross-border cooperation are considered by us as the primary phase of cluster relations in a border area, because in future they may develop into the final phase, which is a cross-border innovation cluster.

A peculiarity of cross-border clusters is that the intensity of network interactions in a cluster is limited by the border erecting additional barriers for free movement of goods, workforce or capital. Other barriers for cooperation may be different mentalities, languages, cultures or historical backgrounds.

Strategies for promoting the innovation process at regional level in the context of cross-border cooperation objectives. The regional innovation policy can, therefore, constitute the first and important step in building up the national innovation system in Ukraine, with due consideration for not only domestic specifics of regional mosaics, but international experiences as well. The important factors to be born in mind in elaborating the national strategy are as follows:

- potentials of the border regions where the innovation policy will be conditional on export orientation on neighboring external markets (orientation to export markets can be a strong innovation driver given the depressed domestic demand);
- potentials of the regions that are remote from the center and often have specific specialization;
- potentials of the depressive regions with urgent need to fight the crisis either through new technological decisions on cost reduction (given the preserved industry structure) or through creating radically new goods and establishing new companies manufacturing them (in parallel with liquidating the industries either provoking the crisis condition or failing to mitigate its negative effects; it should be added that in Japan the crisis regions are seen as drivers of the innovation process);
- the existence of cross-regional differences in economic specialization (there are regions with the well-established standardized production, and there are regions where the economy is based on large capital investment, which essential parameters are vast material assets, massive production output and turnover, huge social burden and high impact on budgets); the existence of structural differences between regions, in particular ones associated with opportunities for small and medium business (given the weaker pressure from "national champions") as the fundament for the whole regional economy.

Given the economic openness and global liberalization, an effective system for market relations cannot be built unless the hierarchy of the economic mechanism is cardinally changed: from companies to the overall economic system, from elaborating the development strategy at all the levels to the effective use of the array of advanced management methods.

Considering the realities of the investment and innovation process, it can be concluded that the modern innovation system cannot be limited by internal or domestic R&D. Hence, the potential opening up opportunities for sub-regional or cross-border cooperation can offer the singular or, in many cases, the sole way for implementing technological projects or developing industries with high information capacities.

However, change in the priorities needs to be accounted for, even in the innovation activities, because the innovations' quality and capacity to address strategic objectives of development rather than the innovation "output" parameters have the largest importance. Also, regulatory approaches

change, taking on the more explicit dynamic forms in response to the growing innovation and information component of the economic process in the countries pursuing cross-border cooperation policies. This distinguishes the new principles of regional and macroeconomic impact on the innovation process from the ones that were most common in the world quite recently, in the late industrial era, and were used as advanced means of impact on the real sector, to bring national economies up to highly competitive international orbit (the approaches regarded as advanced beginning with 70s of the past century, which can be referred to as the linear model of impact, are shown in Figure 3).

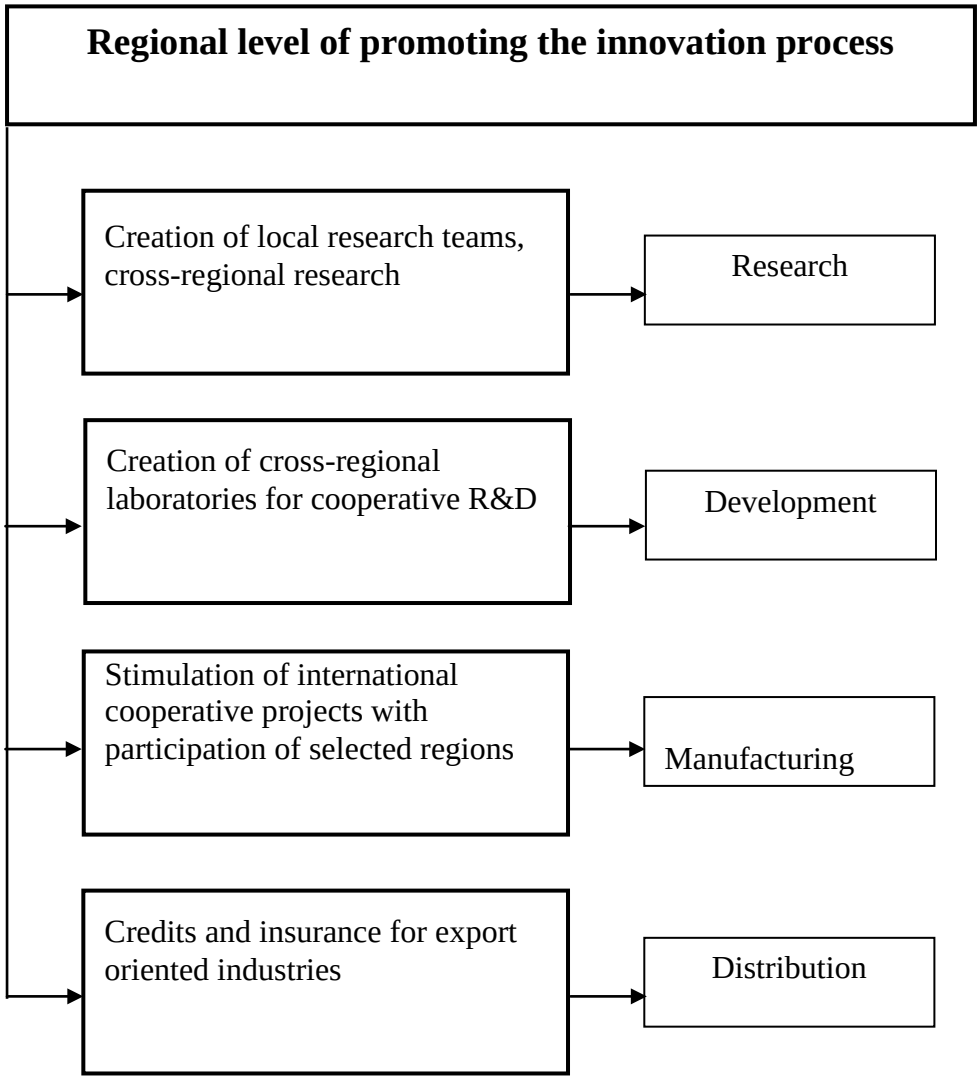
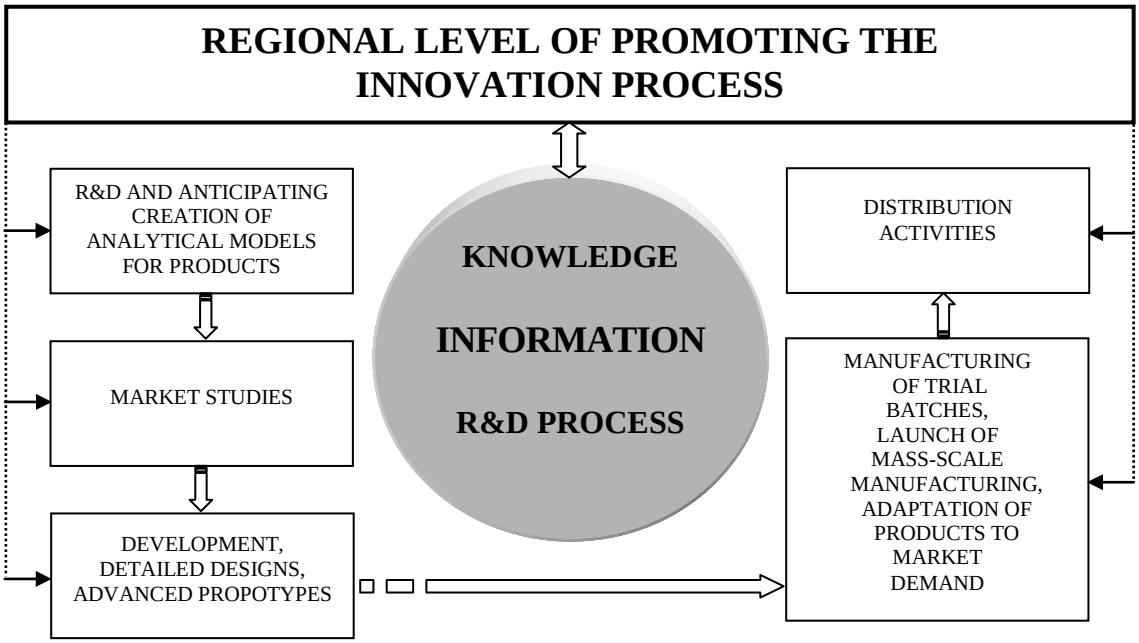



**Figure. 3. The system for promoting the innovation process at regional level in the late industrial era (linear model)**

*Source: constructed by the authors*

The regional dimension in promoting the innovation process constitutes only one organic "phase" in the regulatory mechanism of innovation; adapting the system logic of the total impact on the innovation process effectiveness, it permeates the economic practice at various phases of reproduction and innovation cycles. This logic of implementing the institutional authorities at meso level is shown in Figure 4.




Symbols:

→ Functional institutional impacts

⇨ Functional reproductive algorithm

**Figure 4. System for promoting innovation process at regional level in the information era (the model of autonomous matrix)**
*Source: constructed by the authors*

At the same time, it can be argued that the most effective means of impact on the conditions for implementation of cross-border cooperation can be used at national level of the socio-economic life. A separate problem that is largely concerned with the competencies of national governments and regional administrations is a wide range of efforts to create an attractive image of the national economic system and national companies, in order to widen opportunities for international transactions in implementing cooperative projects on merging, removal of artificial barriers for investment projects, reassuring foreign investors in the political stability, public transparence of companies, continuity of trade liberalization and reliability of the system for protection of intellectual property rights.

Also, the institutes of national level are supposed to act as initiators of cooperation with regional administrative offices by rendering them the required organizational and financial assistance in seeking for and promoting of innovation projects and projects initiators, analyzing the needs of business entities, first and foremost small and medium enterprises (SME) with innovation capacities; in actions aimed to strike the balance between the supply of and the demand for SME services. There have been intensive efforts across the European continent on the expert review of SME capacities at local, regional, national and transnational level, sponsored from European funds [20]. The priority is given to innovation strategies (RTP/RIS/RITTS initiatives), training of entrepreneurs (LEONARDO, ADAPT etc.), cross-region cooperation of enterprises (RECITE, ECOS/OUVERTURE) and related projects or initiatives combining several projects, new sources of

jobs, projects on information society (RISI), rural area development (LEADER), agreements on territorial employment.

International organizations (associations, unions etc.) engaged in shared financing of innovations, providing stimuli to cross-country cooperation of companies in the information field, coordinating innovation management, thus pushing up local and regional development, constitute a "follow up" of national institutions for promotion. Their operation reflect intentions to optimize national economic systems in conformity with the sovereign interests of countries handing over the respective responsibilities to them, on the one hand, and mobilization of tools that cannot be freely accessed at country level.

An illustrative example of such international organizations is international non-profit organization "The European Business and Innovation Center Network" (EBN), created in Belgium and established in Brussels in 1984 by the General Directorate of the European Commission "Regional Policy" (DG REGIO); EBN success is based on the triad: SME, innovation and local development. According to official documents, the EBN's objective is to develop and coordinate the network of associated members, business innovation centers (BIC), and to expand its operation in the EU regions and beyond (now EBN has nearly 150 full members and more than 50 associated members). Because BIC are designed as tools for local and regional economic development, their objective is to render assistance to the territories undergoing industrial restructuring and to lesser economically developed EU areas [2; 3; 4; 5]. The BIC purpose is to provide services for companies, with special emphasis on SME as a whole and the ones with "innovative image of operation" and good capacities for growth.

An important area in intensification of regions' development using the potential of international cooperation is targeted effort of institutes (national and international ones) in setting up cross-regional cooperation. Launched in the framework of geopolitical organization ASEAN, such projects were subsequently regarded as mechanisms designed to stimulate economic and cultural cooperation between countries of South-East Asia. Foreign capital flowed to South-East Asia countries embodying economic and political stability in the region, such as Indonesia or Vietnam. It was due to regional and sub-regional projects that the two countries left far behind many developing countries by rates of economic growth.

A specific feature of "functional load" at meso level is emphasis on the development of transport and communication systems and transit status (whenever possible). It should be noted that international sub-regional level constitutes an implicit functional component of global transport communications, which adds to technological capacities of transport routs and communications and provides important organizational and institutional means of positive impact.

**Conclusions.**

Building up investment and innovation strategies in the context of objectives related with cross-border cooperation requires, inter alia, utilization of the innovation cluster capacities. An innovation cluster in a border region in the conditions of cross-border cooperation is defined by us as the system for close relations, voluntary integration of research and education institutions, business sector, general public, power offices, supplementary institutes and foreign partners in a given sector (several sectors) of the regional economy, which covers the whole innovation chain from the birth of a scientific idea to its practical implementation (manufacturing of finished innovative product etc.), to enhance the competitiveness of a border region and increase living standards of the population due to the synergetic effect from the utilized opportunities of cross-border cooperation.

Considering the realities of the investment and innovation process, it can be concluded that the modern innovation system cannot be limited by internal or domestic R&D. Hence, the potential opening up opportunities for sub-regional or cross-border cooperation can offer the singular or, in many cases, the sole way for implementing technological projects or developing industries with high information capacities.

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