

Cluster's innovaton development through the territory of the regions.

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Introduction

We could defined the following factors influenced on innovation growth on the territory of regional clusters:

1. The globalization of value chains across many locations is a sign the embeddedness of these individual activities in strongly specialized local clusters. (Ketels, & Memedovic, 2008);
2. Cluster are more likely to emerge, prosper, and survive where these conditions support high productivity and innovation. (Report of European comission, 2013);
3. The cluster are seen as an instrument to improve national and regional competitiveness, it can force economic development, promote the cooperation between enterprises, universities, R&D institutions, clients and competitors, suppliers within the same geographical area. (Dan, 2012);
4. The conceptual goals of cluster-based city economic development consist of: enhancing the competitiveness of the cities (the government as a facilitator); enhancing the competitiveness of industry clusters (private sector-driven); triggering local economic development through public and private sector collaboration. (Chloe, & Roberts, 2011)
5. The subregional clustering of related activities, has the potential, if suitably encouraged, to generate stronger social networks between businesses, which would promote successful innovation and competitive advantage. (Gordon, & McCann, 2012)
6. Clusters often involve a mix of manufacturing and services, and combine industries in different parts of traditional industrial classification systems. (Porter, 2007)

Methodology

The authors have constructed following models of relations on innovation cluster's territory pointed in Table 1:

- 1) the changes of the effective index Y (the share of innovation product sales proceeds in the total volume of revenue) is provided by the influence of the factor X (the share of the government investments to the reconstruction and modernization fixed assets in the total volume of investments);
- 2) the changes of the effective index conditional average Y (the share of sold innovation products in the total volume of revenue) and the factorial index X (the share of R&D organizations in the total quantity of enterprises);

To determine the relationships between the values under consideration let us introduce the concept of the sample empirical correlation moment and find out sample correlation coefficient based on the results from Table 2.

Table 1.

X	Y	x ²	y ²	(x-x _Σ) ²	(y-y _Σ) ²
x	y	x ²	y ²
x _i	y _i	x ²	y ²
Σx _i	Σy _i	Σx ²	Σy ²	Σ(x-x _Σ) ²	Σ(y-y _Σ) ²

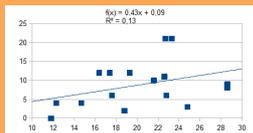
Results

The regression analysis given by the author and shown in Figure 1 was to evaluate functional relationship of the effective index conditional average (the share of innovation product sales proceeds in the total volume of revenue) and the factorial index (the share of the government investments to the reconstruction and modernization of fixed assets in the total volume of investments) on the territory of innovation clusters:

$$f(x) = 0.43x + 0.09$$

$$R^2 = 0.13$$

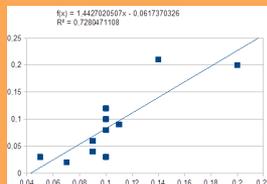
Figure 1. The Government Investments to the Reconstruction, Modernization and Volume of Innovation Products produced on the innovation cluster's territories in Russian Federation.



x- the share of the government investments to the reconstruction and modernization of fixed assets in the total volume of investments, percent;
y- the share of innovation product sales proceeds in the total volume of revenue, percent.

Source: Author's work

Figure 2. R&D Organizations and Volume of Innovation Products produced on the innovation cluster's territories in Russian Federation.



x- the share of R&D organizations in the total quantity of enterprises, shares of units;
y- the share of sold innovation products in the total volume of revenue, shares of units.

Source: Author's work.

Conclusion

The paper deals with innovation activities of enterprises and organizations located on the territory of various federal districts: Northwestern, Siberian, Volga - region, Central and Ural Districts. The given work says that clusters are capable of producing innovation activities using other (not financial) growth factors, that is, intellectual potential (capital) formed on the abovementioned territories. Therefore, in the subsequent periods one can expect the strengthening of innovation activities of clusters on the territory of the above federal districts.

The model shown on Figure 2 confirms expediency of government expenses on the activity of R&D organizations on the territory of Russian Federation. Nowadays we could conducted that growth of investments on researches in Russian Federation is observed, as we can see at the Table 3. The growth rate of expenses on R&D activity is about 10 percent.

Table 4. The Government Expenses on the activity of R&D organizations on the territory of Russian Federation within the period of 2008-2014.

Indicator	2008	2009	2010	2011	2012	2013	2014
1. The total volume of expenses on science activity, billion rubles	411	461	489	568	655	700	795
1.1 including R&D, billion rubles	254	271	302	348	418	451	510
1.2 including fundamental (basic) researches, billion rubles	77	97	96	107	108	115	130

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