
The Mechanism for Building a Corporate Management Model

J.S. Tsertseil¹

Abstract:

This article presents a model of the corporate management system within the framework of the cluster approach, developed by the example of production enterprises of the Lipetsk region.

The article analyzes theoretical approaches to defining the essence and content of the concept of cluster and analyzes the main participants of a territorial-production cluster by the example of the Lipetsk region.

The cluster approach to forming the company's corporate strategies assumes the realization of a way of creating and developing cluster formations in the region with the purpose of increasing the value of the company participating in the cluster.

The article presents an algorithm for selecting the method of implementation of the corporate management system in creating company value.

Keywords: *cluster, corporate management model, corporate strategy, special economic zone*

JEL codes: *M1, M12, G30.*

¹*Financial Management Department, Plekhanov Russian University of Economics, Moscow, Russia, e-mail: zerzeil8811@mail.ru*

1. Introduction

The development of the institutional economy is characterized by the availability of corporate business forms which implies the existence of interaction between owners (shareholders) and managers (hired employees) who maintain control over the company. The key prerequisites for the development of this process are:

- expansion of activities of companies-participants in the world economy;
- processes of globalization of world economic relations;
- strengthening of the influence of institutions in the activities of economic entities, corporate management institution;
- active participation of structural elements of the financial market in attracting capital sources by business entities;
- development of the securities market: basic and derivative securities shares, bonds, options.

With the intensification of the processes of globalization and internationalization of the world economy, companies are forced to carry out their activities in the context of limited financial resources, both tangible and intangible. The use of corporate management methods in the practice of Russian enterprises contributes to the growth of companies' investment attractiveness (Nikolaeva *et al.*, 2015).

The processes of integration and cooperation in the Russian Federation are currently taking place within the framework of cluster policy (Tsertseil and Kookueva, 2017). The relevance of the research topic stems from the following circumstances. First, in the scientific aspect, not without interest is the theory of cluster development as a synthesis of the concepts of production location and competitive advantages of the company, which entails the emergence of cluster formations in various sectors of the region (Albekov *et al.*, 2017; Ivanova *et al.*, 2017).

Therefore, there is a need to build an appropriate corporate strategy for companies participating in the cluster, which will ensure the growth of the enterprise's value in the post-industrial economy. Secondly, the cluster approach to justify the growth of the company's value in a competitive environment can be used as a tool for developing the regional economy (Kolchanova and Kolchanova, 2016).

In this paper, a cluster is defined as a system of geographically neighboring interconnected companies and organizations that complement each other based on a unified corporate management and cooperation strategy regarding the internal and external institutional environment, which contribute to an increase in their competitive advantages. The latter is expressed in the creation of additional value added and leads to an increase in the value of companies and their investment attractiveness (Tsertseil and Ordov, 2016).

The Russian cluster observatory (2017) has proposed the following definition of a territorial cluster. A territorial cluster is a union of enterprises, suppliers of equipment, components, specialized production and services, research and educational organizations connected by territorial proximity and functional dependence in the production and sale of goods and services. Clusters can be in the territory of one or several constituent entities of the Russian Federation. State support for the implementation of cluster projects in Russia is based on the following decisions, orders, and recommendations:

- the Federal Law No. 209-FZ of July 24, 2007 "On the Development of Small and Medium-Sized Enterprises in the Russian Federation";
- competitive granting of subsidies to the subjects of the Russian Federation in the framework of implementing measures for state support of small business entities in accordance with the rules approved by the Decree of the Government of the Russian Federation No. 249 of April 22 (2005);
- the federal target program (FTP) "Research and Development in Priority Areas of the Russian Scientific and Technological Complex for 2014-2020", approved by the Decree of the Government of the Russian Federation No. 426 of May 21 (2006);
- the state plan to train managerial personnel for organizations of the national economy of the Russian Federation in 2007/08 - 2014/15 academic years, approved by the Decree of the Government of the Russian Federation No. 177 of September 26 (2011);
- the regulation on the Investment Fund of the Russian Federation approved by the Decree of the Government of the Russian Federation No. 694 of November 23 (2005);
- the memorandum on the financial policy of the state corporation "Bank for Development and Foreign Economic Affairs (Vnesheconombank)", approved by the order of the Government of the Russian Federation No. 1007-r of July 27 (2007);
- the federal target program (FTP) "Housing" for 2002-2010, approved by the Decree of the Government of the Russian Federation No. 675 of September 17 (2001).

Special tools for the development of a territorial-production cluster are special economic zones of technical-innovative and industrial-production types. According to the methodological recommendations on the implementation of cluster policy in the subjects of the Russian Federation developed by the Ministry of Economic Development of the Russian Federation, in order to accelerate the development of clusters, one should use to the full extent the potential of special economic zones, related to the financing of infrastructure development from budgetary sources, the preferential tax regime as well as the ensured attraction of "anchor" residents – large companies, being competitive in the domestic and world markets and acting as a pillar of developing clusters (Tsertseil *et al.*, 2017).

2. Cluster approach to the formation of the company's corporate strategy

Theoretical (conceptual) approaches to define the essence and content of the concept of "innovation cluster" in the foreign literature for 1890-2000 are reflected in Table 1.

Table 1. Approaches to defining the essence and content of the concept of "cluster"

Author, period	The essence and content of the concept of "cluster"
A. Marshall (1890)	Fundamental prerequisites for the emergence and development of cluster theory: the study of issues on the distribution of national wealth and the creation of value using the main factors of production: land, labor, capital and organization
J.A. Schumpeter (1939)	The development of the country's economy assumes a revision of the essence and content of the main factors of production within the framework of innovative development using Kondratieff's theory of "long waves". Special attention is given to statistical databases and statistical studies of the identified patterns of development and the possibility of forecasting future scenarios.
F.M. Scherer (1982)	Entrepreneurial networks based on independent technological chains forming flows (movement) of resources, the analysis of which was carried out using the indicator "costs for research and development"
D.J. Ravenscraft and F.M. Scherer (1989)	The efficiency of companies' activities, in particular, in the financial (stock) market, is viewed from the position of their membership in one or another form of associations: horizontally integrated structures, vertically integrated structures, conglomerates, entrepreneurial networks.
M.E. Porter (1990)	Geographical location (region) of cluster members. Industrial groups with cluster criteria, based on highly developed manufacturing technologies, justify national competitive advantages.
P. Krugman (1991)	The author singled out the principles of economic clustering based on geographical location, differentiated the possibilities of clustering territories occupied in industrial production and agriculture, as well as took into account the differences in the level of costs of an economic system, e.g. additional transportation costs exceeding the normative level.
E.M. Bergman, E.J. Feser (1999)	Clusters play a key role in creating a value chain in the region (territory). At the same time, the degree of concentration of companies participating in the cluster may be different. Industrial clusters are basic in the formation of a value chain, where the process approach based on input-output principles involves choosing the most appropriate counterparty.
H. Verbeek (1999)	The author considers the application of the process approach based on input-output analysis and graph theory in cluster analysis, which are used for cluster identification. An input-output table is proposed, which reflects the process of creating value added by industry groups in the cluster.

M.J. Enright (2000)	The implementation of the cluster approach is considered in the context of the globalization of economic ties and the presence of multinational corporations in the local market that can influence the level of competitiveness of enterprises and organizations in the region.
G.L. Clark, M.S. Gertler, M.P. Feldman (2003)	The cluster is built on the basis of geographical location, taking into account the institutional approach (the role of transaction costs in the formation of goods flows) and the global approach (capital flows, in particular intellectual capital)

Currently, the typology of corporate management methods of the cluster company comprises the following categories:

- management of deviations based on the models of capital cost maximizing;
- management of objectives based on the models of capital cost maximizing;
- management of deviations based on the company's potential development.

The choice of the corporate management method for the company that operates within the cluster is influenced by:

- basic strategy of the company's development: leadership in costs, diversification, focusing, combined;
- type of cluster: based on the creation of a value chain; based on the use of cross-cutting core competencies; based on the formation of an integral value of the cluster company; combined cluster type;
- type of integration of anchor companies, cluster members: vertical, horizontal, mixed.

Table 2. *Algorithm for selecting the method of implementation of the corporate management system in creating company value*

Stages	Sequence	Content	Conditions for realization
1	Selection of the company's key development strategy	Leadership in the costs of creating both tangible and intangible assets of the company	Formed system for accounting for the company's costs: fixed and variable when forming the company's flexible operating budget
		Diversification	Quantitative and qualitative analysis of the market (external) business environment of the company, revealing the possibility of creating additional competitive advantages for the company
		Focusing	The company's management accounting system makes it possible to evaluate the prospects for the formation of value added at the initial stage and economic added value in the final evaluation of the company's activities in selected focus groups

		Combined	Combination of different strategy elements to achieve a positive synergy effect using quantitative and qualitative methods of evaluating the company's projected financial and economic performance with regard to the life cycle of its development
2	Selection of integration type of cluster members	Vertical	Unification of companies participating in a single production technological chain in order to optimize the structure of production cost and the transfer of external factors to internal factors
		Horizontal	The degree of market concentration and monopolization is low, the values of market concentration and monopolization indices (CR3, CR4, IHH) are within acceptable ranges of significance, there are a large number of participants in the relationship increasing in dynamics, market shares are distributed almost evenly between market participants
		Value chain	Possibility of formation of the company's added value and economic added value indicators
		Mixed	Combination of methods in the context of implementing tools to realize the company's corporate strategy
3	Selection of cluster type	Based on the creation of a value chain	
		Based on the use of cross-cutting core competencies	
		Based on the formation of the integral value of cluster members	
		Combined	
4	Selection of corporate management method		

The cluster approach to forming the company's corporate strategies assumes the realization of a way of creating and developing cluster formations in the region with the purpose of increasing the value of participating companies. The efficiency of the cluster can be of the following types:

1. *Budget performance:* It assumes an increase in revenues from the production of new types of goods or services, and as a result, an increase in tax revenues to budgets of different levels. Tax revenues will also increase due to the maximum load of the existing material base as well as the development of new industries and products.
2. *Social performance:* It means an increase in the number of employees in the cluster, raising their qualifications, an increase in the incomes of those working in the cluster, as well as the creation of additional jobs in cluster companies in the related industries.

3. *Information and emotional effectiveness*: It assumes an increase in the number of consumers of the product in the cluster and in the number of new enterprises that would like to enter the cluster.

The key characteristic of the cluster is an increase in the competitiveness of participating companies. It is believed that one of the sources of such an increase is the growth of the efficiency of using factors of production. In the post-industrial economy, however, the emphasis shifts from factors of production and distribution to intangible and institutional factors. Moreover, of importance in the cluster is the exchange and sharing of the key competences of its participants.

This work presents a model of the company’s corporate management system within the framework of the cluster approach, developed by the example of a separate territory (region) of the Lipetsk region.

Figure 1. The main participants of a territorial-production cluster by the example of the Lipetsk region

Participant 1	Participant 2	Participant 3	Participant 4	Participant 5	Participant 6
Production enterprises of the real sector of the economy (metallurgy)	Executive authorities in the region	Industrial production special economic zone (Lipetsk SEZ), administrative resource	Educational sector of the Lipetsk region in the field of professional personnel training and retraining	Innovative sector of the economy: business incubators, manufacturers associations, technoparks, technopolises	Consumer sector: small and medium-sized businesses

Note: Compiled by the author.

Participant 1. The main production enterprises of the Lipetsk region, belonging to the metallurgical industry are:

1. PJSC Novolipetsk Steel (PJSC NLMK)
2. LLC Lipetsk Pipe Company “Svobodny Sokol” (OOO LTK “Svobodny Sokol”)
3. JSC Studenovsk Joint Stock Mining Company (OJSC “STAGDOK”)
4. JSC "Indesit International"
5. LLC Lipetsk Experimental Plant "Gidromash" (OOO LOEZ "Gidromash")
6. LLC “Promizdelia”
7. LLC Lipetsk Caterpillar Tractor Plant
8. JSC Lipetsk Machine-Tool Plant "Vozrozhdenie"
9. JSC Lipetsk Machine-Tool Constructing Enterprise
10. LLC Lipetsk Machine-Tool Constructing Enterprise
11. OJSC “Polimer”

12. LLC LPO "Electroapparat".

Source: Official portal of the administration of the Lipetsk region:

<http://admlip.ru/economy/industry/promyshlennost/perechen-predpriyatiy-promyshlennosti-lipetskoy-oblasti/>

These production enterprises of the Lipetsk region can be attributed to anchor enterprises forming a production cluster in the field of rolled stock, acting as the main suppliers of raw materials for enterprises – residents of Lipetsk SEZ.

Participant 2. Lipetsk industrial production special economic zone (SEZ) was established in accordance with the Federal Law No. 116-FZ of July 22, 07, 2005 "On Special Economic Zones in the Russian Federation" and approved by the Decree of the Government of the Russian Federation No. 782 of December 21 (2005) "On the Establishment of a Special Economic Zone of the Industrial Production Type in the Territory of the Gryazinsky District of the Lipetsk Region". The Government of the Russian Federation, the Administration of the Lipetsk region and the Administration of the Gryazinsky district of the Lipetsk region entered into the relevant Agreement providing for the creation of a special economic zone and engineering, transport, social and other infrastructure objects in the territory of the Gryazinsky district.

Source: Official portal "Russia: Special Economic Zones":

http://www.russez.ru/oez/industrial/lipetsk_region/lipetsk/

Participant 3. Lipetsk SEZ is a large-scale project that is part of a nationwide initiative to create new economic growth points and stimulate priority industries. Lipetsk SEZ is a large-scale sound investment support system. To date, 15 enterprises are engaged in production activities, 4 – in construction, and the remaining residents are conducting preparatory activities. The given zone is created with a view of the development of processing industries, hi-tech industries and the manufacture of new kinds of production.

Priority areas for the development of Lipetsk SEZ are as follows:

machine tool construction; robotics; automotive industry; automotive components and component parts; agricultural machinery; equipment and spare parts; household and electronic equipment; radio electronics, power, medical, electronic and optical equipment.

The creation of Lipetsk SEZ is governed by the following basic conditions:

the period of the zone is 49 years; the investment project should contain capital investments in rubles in an amount equivalent to at least 3 million euros (including at least 1 million euros a year from the date of agreement) at the rate of the Central Bank of the Russian Federation; creation of engineering, transport and social

infrastructure is carried out at the expense of the federal budget and the budget of the Lipetsk region, as well as other sources involved; provision of state support for residents of the special economic zone, in particular tax benefits, which is reflected in Table 3.

Table 3. Tax benefits for residents of the special economic zone in Russia

No.	Tax	Rate
	Profit tax outside the SEZ	20,0%
1.	For SEZ residents – for a period of 5 years after profits are made, and in the case of the release of export-oriented and (or) import-substituting products, if the share of income from the sale of these products is at least 50% in the total income from the sale of goods (work, services) – for 7 years after profits are made (for the profit tax credited to the regional budget)	0%
	Property tax outside the SEZ	2,2%
2.	For SEZ residents – for a period of 10 years from the date of ownership registration	0%
	Land tax outside the SEZ	1,5%
3.	For SEZ residents – for a period of 5 years from the date of land ownership emergence	0%
	Transport tax outside the SEZ (for 1 h.p. depending on engine power)	more than 15 rubles
4.	For SEZ residents – for a period of 10 years from the date of vehicle registration	0 rubles
5.	Coefficient of accelerated depreciation	no more than 2
6.	For SEZ residents there are no restrictions on the transfer of losses for the future period	
7.	Legislative acts of the Russian Federation on taxes and fees, worsening the situation of residents, do not apply to SEZ residents during the term of the agreement on conducting industrial production activities (excluding excisable goods)	

Source: Information posted on the official website of the Administration of the Lipetsk region: <http://admlip.ru/economy/lipetsk/skhema-osoboy-ekonomicheskoy-zony-lipetsk>

Participant 4. The educational sector of the Lipetsk region in the field of professional personnel training and retraining. The list of state (federal) universities that carry out educational activities in the Lipetsk region:

- Lipetsk branch of the Federal State Budget Educational Institution of Higher Professional Education "The Russian Presidential Academy of National Economy and Public Administration under the President of the Russian Federation";
- Lipetsk branch of the Federal State Budget Educational Institution of Higher Professional Education "Moscow State University of Technology and Management named after K.G. Razumovsky";
- Lipetsk branch of the Federal State Budget Educational Institution of Higher Professional Education "Financial University under the Government of the Russian Federation";

- the Federal State Budget Educational Institution of Higher Professional Education "Lipetsk State Technical University".

Note: Compiled by the author based on data from: <http://vuz.edunetwork.ru>

Participant 5. The innovative sector of the machine-tool industrial cluster of the Lipetsk region comprises the following units:

- Business incubator "Sodruzhestvo", business incubators in Yelets, Chaplygin, Lipetsk, Dobrink, Terbuny, Usman and Khlevny;
- Information and consultation centers in municipalities;
- Fund of Support for Small and Medium-Sized Business;
- Center for Youth Innovative Creativity;
- Regional Engineering Center;
- Regional Integrated Center based on the Lipetsk Chamber of Commerce and Industry.

Table 4. The machine-tool industrial cluster of the Lipetsk region based on Porter's diamond model

Country diamond	Factor list
Factor input conditions	(+/-) Presence of federal universities (branches) (+) Good territorial location, developed infrastructure (+) Historical location of metallurgical plants (+) Mineral and fuel deposits, availability of raw materials (iron ore, various types of clays and loams, flux and technological limestones, dolomites, marls, sandstone, various types of sands, coal and peat, groundwater and some others) (+) enterprises and organizations – residents of a special economic zone
Context for Firm Strategy & Rivalry	(+) Government support (+) Historical preconditions (territorial-production complex) (-) Implementation of economic activities in the context of limited financial resources
Demand conditions	(+) Satisfaction of the needs of consumers of the agro-industrial complex (production of bread and bakery products, pasta, flour and grain products, sugar, vegetable oil, meat and meat products) (+) Industrial enterprises: metallurgical, mining, metalworking and woodworking (+) Geographical location
Related & Supporting industries	(+) Educational sector (federal technological universities, research institutes); (+) Industrial sector of the economy (23.8% of the total Russian iron production, 19% of finished rolled ferrous metals, 18.6% of steel, 26% of refrigerators and freezers, 29% of washing machines, 29% of concrete mixers, 27% of tilling machines, 24% of boxes of corrugated cardboard, 4% of tires for cars);

	(+) Administrative (public) sector, for example, in the formation of industrial production special economic zones
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Note: Compiled by the author based on data from: <http://vuz.edunetwork.ru>, <http://www.mnr.gov.ru/maps/?region=48>

Below is a description of the main performance indicators of the key cluster member PJSC Novolipetsk Steel (NLMK).

Table 5. Financial performance of PJSC Novolipetsk Steel for the period 2012-2016 (USD million)

Description	2016	2015	2014	2013	2012
Sales	7636.4	8008.3	10395.7	10909	12157
COGS	5073.6	5495.7	7389	7929	8494
GP	2562.8	2512.6	3006.7	2119	2894
A	452.3	560	793.5	862	768
EBITDA					
EBIT	1488.5	1388.3	1587.9	644	1133
EBT	1172.2	1321.1	1136	484	915
EAT	938.8	968.2	773.6	262	610
Profit attributable to PJSC NLMK shareholders	935.1	967.4	772.5	189	596
Profit per share of NLMK shareholders, USD	0.156	0.1614	0.1289	0.0315	0.0994

Note: Compiled by the author based on data from the official website of PJSC Novolipetsk Steel: https://nlmk.com/upload/iblock/fc8/nlmk_ar2016_web_ru_hires.pdf

Table 6. Financial absolute and relative indicators of the management balance of PJSC Novolipetsk Steel for the period 2016-2011

Indicator	Description	2016	2015	2014	2013	2012
Current assets	CA	4102.7	3720.6	3861.1	5102	5469
Fixed assets	FA	6136.2	5198.8	6488.3	11182	12988
Book value	BV	10238.9	8919.4	10349.4	16284	18457
Current liabilities	CL	1728.8	1313.9	1627.7	2316	3302
Debenture	D	2199.3	2467.8	2465	3693	4065
Amount of	D + CL	3298.1	3781.7	4092.7	6009	7367

debenture and current liabilities						
Equity	E	6310.8	5137.7	6256.7	10275	11090
Share of debt	wd	0.34	0.42	0.4	0.37	0.4
Share of equity	we	0.66	0.58	0.6	0.63	0.6

Note: Compiled by the author based on data from the official website of PJSC Novolipetsk Steel: https://nlmk.com/upload/iblock/fe8/nlmk_ar2016_web_ru_hires.pdf

Table 7. Profit and dividend payout indicators of PJSC Novolipetsk Steel for 2010-2016.

Novolipetsk Steel: Share (in RUB)							
	2010	2011	2012	2013	2014	2015	2016
Net profit per share	6,36	6,66	3,09	1	7,54	9,89	10,45
Diluted net profit	6,36	6,66	3,09	1	7,54	9,89	10,45
Dividends per share	1,82	3,4	0,62	0,67	2,44	6,95	9,22
Total amount of dividend payouts	64,17	66,21	46,46	46,23	41,76	11773,24	22006,27

Source: http://www.finanz.ru/balans/Novolipetsk_Steel

Table 8. Market multipliers of PJSC Novolipetsk Steel for 2010-2016

Novolipetsk Steel: Company indicators (in RUB)							
	2010	2011	2012	2013	2014	2015	2016
Earnings per share	42,33	57,54	63,03	58,01	66,97	81,91	85,36
Coefficient P/E (year-end price, basic EPS)	22,72	9,43	19,82	54,97	8,86	6,33	11
Coefficient P/E (year-end price, diluted EPS)	22,72	9,43	19,82	54,97	8,86	6,33	11
Coefficient P/E (year-end price)	22,72	9,43	19,82	54,97	8,86	6,33	11
Year-end dividend yield, %	1,26	5,41	1,01	1,21	3,65	11,1	8,02
Equity ratio	69,61	58,8	60,26	62,92	60,62	57,47	61,46
Debt ratio	30,39	41,2	39,74	37,08	39,38	42,53	38,54

Source: http://www.finanz.ru/balans/Novolipetsk_Steel

Table 9. Trends in the change of the net profit of PJSC Novolipetsk Steel for 2010-2016

Novolipetsk Steel: Other indicators (in RUB)							
	2010	2011	2012	2013	2014	2015	2016
Profit per share (basic EPS)	6,36	6,66	3,09	1	7,54	9,89	10,45
Change in profit per share, %	458,31	4,68	-53,62	-67,5	650,77	31,27	5,63
Diluted profit per share (diluted EPS)	6,36	6,66	3,09	1	7,54	9,89	10,45

Change in diluted profit per share, %	458,31	4,68	-53,62	-67,5	650,77	31,27	5,63
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Source: http://www.finanz.ru/balans/Novolipetsk_Steel

3. Conclusions

The work presents a cluster model of company value management by the example of PJSC Novolipetsk Steel, based on the classification of clusters and using the type of corporate strategy of the company participating in the cluster as a criterion. The following classification of clusters is proposed: clusters based on interaction at the integrative value level; clusters based on joint accounting and application of value factors; clusters sharing key competencies of its participants; clusters, based on cooperation in the adoption of specific managerial decisions.

The authors developed a model of the machine-tool industrial cluster of the Lipetsk region, the Russian Federation. This model includes enterprises of the machine-tool industrial cluster of the Lipetsk region, grouped by types of activity: processing industries, service infrastructure, education, public sector. A key feature of the constructed cluster is the presence of a backbone – a company that implements the processes of integration, development and implementation of a unified corporate management strategy. In the post-industrial economy, the company's main growth reserve is the potential for the development of the external and internal institutional environment. The intra-cluster institutional environment consists of the internal and external environment of enterprises participating in the cluster, which ensures the minimization of transaction costs and the efficiency of using factors of production.

Acknowledgement

This study was financed by a grant from the Plekhanov Russian University of Economics.

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