

IMPLEMENTATION OF NOOSPHERE MANAGEMENT MODEL IN INTERNATIONAL STEEL-PRODUCING CORPORATIONS

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ИЗПЪЛНЕНИЕ НА МОДЕЛ ЗА УПРАВЛЕНИЕ НА НООСФЕРА В МЕЖДУНАРОДНИ КОРПОРАЦИИ ЗА ПРОИЗВОДСТВО НА СТОМАНА

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Abstract: *In this paper are shown calculations of effect of risk valuation of mining companies' groups.*

Key words: *noosphere model of management, risk valuation, steel industry, rational nature management, sustainability management systems.*

JEL classification codes: *C5, F23, M11.*

Резюме: *В тази статия са показани изчисления на ефекта от оценката на риска на групите на минни компании.*

Ключови думи: *ноосферен модел на управление, оценка на риска, стоманена индустрия, рационално управление на природата, системи за управление на устойчивостта.*

Класификационни кодове по JEL: *C5, F23, M11*

INTRODUCTION

Over the past decade there has been a growing interest of the public as to why should people care about sustainability accounting standards? Who benefits from them? What are the goals of these standards? How do they measure the three Ps of sustainability: people, planet and profit?

In this article we exactly look at the three Ps of sustainability in the perspective of noosphere model, which is dividing the corporate management system by four levels: micro, meso, macro and meta and see how they interact with each other and in which way it contributes to making profit, building a better society and improving the planet's ecological situation.

However, this study will concentrate the attention on the implementation of noosphere model of management solely in the steel industry as it is one of the industries that makes a great influence on the society, GDP of many countries and, of course, environment. Studies show that the steel industry currently contributes around 6-7% of global greenhouse gas (GHG) emissions, considered by many to be one of the main causes of global warming. While many governments and businesses around the world remain committed making the appropriate changes to their production lines to see no more than a 2 degrees Celsius increase, the steel industry is lagging behind other industries in developing methods to meet these goals. For this reason it is very important to see in the meta level perspective how steel companies create sustainability management systems and what they do to prevent ecological catastrophes from happening.

Moreover, it would be unfair to take only one country's perspective as there are many differences in culture, location, government regulations and others. For this reason, taking one country's steel corporations will not show the bigger picture of the world's situation in meta level management. This article will concentrate on three countries: China, South Korea and Russia as they are considered the top steel producing countries and as a result they must take a lot of action to manage their sustainability which is an indicator on meta level.

First of all, it is important to highlight the overall scope of the noosphere model of management. This terminology was first introduced by V. Vernadsky and mostly used in the context of society development, education and philosophy. However, analyzing the economic sphere and the corporations in it, it is clear that this model is highly applicable.

In the article of V.A. Grachev after the analysis of this model he comes to the conclusion that the knowledge of the development of the biosphere is the key to rational nature management. Vernadsky in turn concludes that in the course of development humanity has transformed into a powerful new geological force. Now it has the power to change the face of the planet with just the thought and action. That is why for the purpose of its preservation, the humanity will have to take responsibility for the development of the biosphere turning into noosphere, and it will require not only a certain social organization, but also a new environmental and humanistic ethics at the same time.

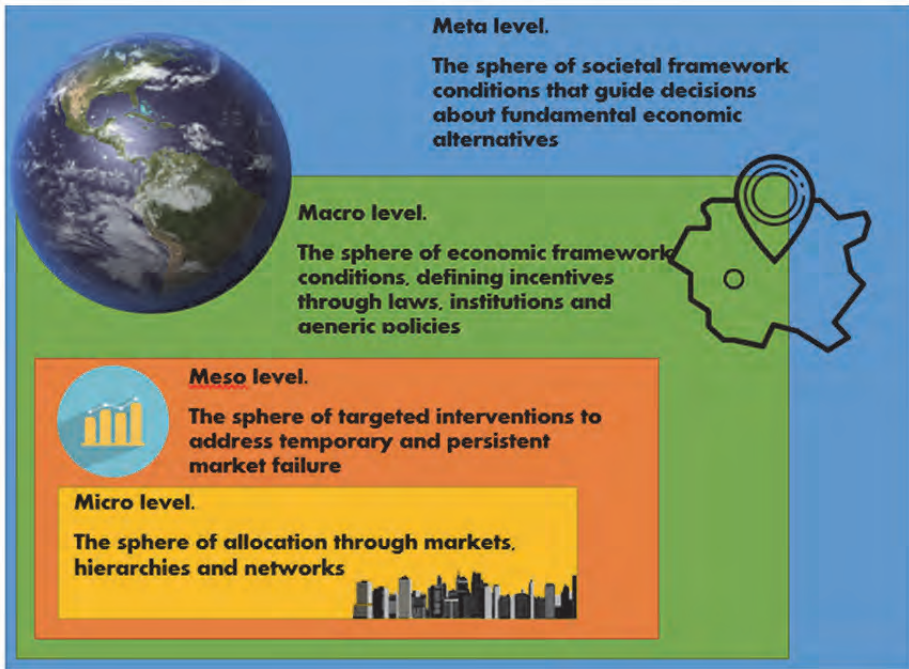
All that mentioned, now it is important to understand the levels of that model and how the action on each of them contributes to reaching this goal on the economic level and how especially top steel corporations implement this noosphere management model and what are the differences in its implementation depending on the country a corporation is located.

NOOSPHERE MODEL OF ASIA MANAGEMENT

Implementing the noosphere model framework is one of the ways to model the layers of management system used in most of the international corporations. It is the model describing four managerial levels, which are as follows: micro, meso, macro, and comparatively new meta level. Understanding the managerial approach of the organization on these four levels can help to picture the influence different forces have on the management processes. These forces contribute to the discrepancy impacts and connection on regional, societal and organizational level dynamism.

Some economists suggest that even though Asian countries in some way share similar backgrounds in terms of history, society, culture, geopolitics and economy, there are still some internal differences such as linguist, ideological, ethnic, and socio-cultural values. This model further argues that it is the complexity and combination of these aspects has led the present region to evolve both convergent and divergent managerial styles, processes and

practices. This can be represented in the next four perspectives which are reflected in the scheme below (Figure 1):



- *Micro-level:* Overall, it concerns the organizational design and its structure (business strategies, relationships with inside personnel, business partners and communities). Moreover, micro-level can be subdivided into two sub-levels. First one is about internal organization environment, which includes top, middle and lower level managers, employees, trade union organizations of enterprises within the group, etc. The second one is about the external environment, which consists of parent company, shareholders and partners, clients, local financial and insurance organizations, audit firms, tax, pension and social authorities, competitors, the population of the regions of location, subjects of municipal and state administration, other state and social institutions providing social protection and environmental protection at the local level, etc. So, management behavior holds major consequences at geographical, historical, political, social, cultural and industrial backgrounds. It may result in an adjustment the organization policies by such factors as marketing strategies, quality control, employment conditions, dependence on ownership, location and nature of products and services.

- *Meso-level:* The present model suggests that the interaction between global and regional imperatives, also called as heritage forces dynamically influence any country. These interactions are influenced by the contemporary social context. At this societal-level, global imperatives continuously influence traditional forces by applying a globalized management approach. At the same time, traditional forces resist, modify and transform global imperatives. The result of this interacting process is a combination of global and traditional influences, instead of replacing one by another. As a result, Asian countries

exhibit certain evidence of globalization while still retaining a number of traditional characteristics as societies develop.

- *Macro-level:* Global imperatives (push factor) advocates universal, standardized managerial approach in order to achieve the highest possible efficiency and flexibility. On the other hand, the heritage force (pull factor) constrains the global imperatives in an opposite way. Figure 1 illustrates that global imperatives are constituted by a number of interrelated elements, including global capability and vision, economic dependence and interdependence, sources of competitive strengths and weaknesses, social constraints and sustainability and national competitive strength. Meanwhile, the forces of heritage include regional characteristics which affect, in both positive and negative way, Asian countries to adopt global management practices and processes (key socio-cultural factors, ideological orientation, unique values, benefits and assumptions, institutional legacy and economic micro-environment).

- *Meta-level.* The level became relevant in comparatively modern time as the environmental issues became more crucial. This level concerns the transnational corporations (partners and competitors), governmental and non-governmental national and international organizations, international financial, insurance, auditing, consulting and other companies, intergovernmental organizations dealing with social and environmental problems of a global nature, other subjects of international relations.

It is important to point out that all the levels are interconnected. A stable macro-economic framework and a good market environment are necessary but not sufficient conditions for competitiveness and growth of an organization. As well, companies' performance (micro-level) also depends on the availability of specialized factors of production and supporting institutions (meso-level). Moreover, it is crucial to understand a society's ability to create a favorable environment for economic development (meta-level). Dynamic development is not the result of policies on its own. It is the result of successful cooperation of several factors and the interaction of different policies inside a national or territorial system. For this reason this article concentrates on the interaction of these four levels on the example of international industrial companies and pays special attention to the meta level management as it is crucial for the manufacturing companies to take care of the planet and think of the impact they are making to the environment.

ANALYSIS OF SOUTH KOREAN MANAGEMENT SYSTEM

To analyze Korean management system on the four level described above, it is first crucial to understand the overall historical background and managerial style that was evolving based on it for centuries. Now South Korea is one of the most developed and globalized economies in the world. Moreover, it has its own unique culture and the management system, largely influenced by its traditional social and religious beliefs. Yet, after the Asian financial crisis of 1997 Korea started to shift its focus from the Confucius mentality to a system close to the Western one.

The Republic of South Korea is one of the largest economies in the world and is ranked the fourth one among Asian countries. While it has comparatively limited natural resources, South Korea specializes at the production of automobiles, ships, machinery, consumer electronics, petrochemicals, and robotics, which compose a major part of the country's GDP.

Historically, in the Korean culture the idea known as forces of heritage, as well as strict obedience in the hierarchy, while the harmony among people horizontally is very important for the management. Ideally, obedience and loyalty are the values expected by those who

manage the Korean companies. At the same time, management is expected to show help and full support in return whenever it is necessary.

Now it is important to understand Korean management system on four different levels. First of all, on the micro level it is possible to highlight two parts, which are managerial culture and trends and transitions. Then the meso level issues are the one concerning the contemporary societal context. Macro and meta levels can be described by listing regional and global imperatives respectively. The figure below explicitly represents the details of each level (*Figure 2*). In modern world every company should think about these four levels and address the issues in them on their own. For this reason it is important to look at the certain examples of corporations to see how in the real world companies address these issues. Especially in the 21st century the meta level plays very important role in management of big transnational manufacturing corporations especially.

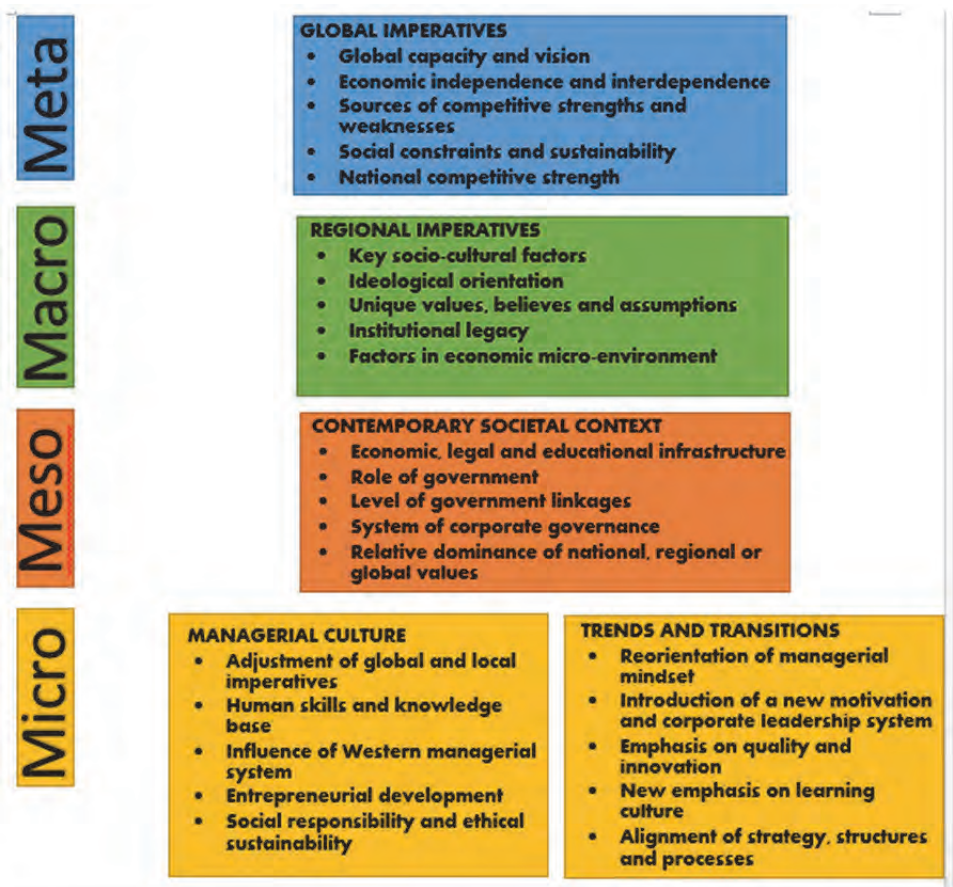


Figure 2. The overall Noosphere model for Asia management

Due to the increasing importance of the influence the company makes on the met level to the environment and the planet, companies pay more and more attention to the sustainability reporting. Moreover, there are created systems such as sustainability management systems. And South Korea is not an exception. In South Korea company

social responsibility (CSR) is a very important part of company activity, especially if it has a high influence on the environment. Around the globe metallurgical companies are one of the most harmful for the environment. For that reason, concentrating more attention to the management of these companies on the meta level is extremely important.

In the modern world, one of the most crucial reasons for companies to start implementing social responsibility is the improvement of the company's reputation and growing profits. Especially it is true about the case in Korea where the institute of reputation is highly developed and generally people prefer to purchase goods or services from those companies that care about the environment and society. In Korea people expect a company not only to provide good employment conditions to its employees, but also to be socially responsible. Such activities include supporting and encouraging Korean citizens with lower income, protecting the environment and promoting Korean culture. In the field of maintaining sustainable development, corporations are taking steps in environmental sustainability, which is defined as "the development that meets the needs of the present without compromising the ability of future generations to meet needs". This concerns the issues of climate change and carbon emissions. In addition, growing scarcity of energy, water and land resources are also one of the main focuses of the environmental concerns of the corporations. However, before South Korea became one of the most developed economies in the world, environmental protection and sustainability were not the country's first priority.

This creates a link between macro and meta level. The economic development has led the Korean government to relax urban planning and other environmental protection policies in order to facilitate and stimulate the expansion of heavy industries. While such development has produced significant economic returns, the living condition of the South Koreans suffered as the environment was damaged and polluted by rapidly expanding factories. That led Korea to be ranked as the lowest among all developed economies. This had to stop, and it reasonably resulted in companies developing their sustainability management system.

POSCO CORPORATION AND IMPLEMENTATION OF NOOSPHERE MODEL

To illustrate the importance of meta level and the sustainability management systems, it is important to look at the leading in this companies. One of the most well-known Korean steel producing companies is POSCO, which was launched on April 1, 1968 with a mission for national industrialization. Starting with the main goal lying in the meso/macro level it developed and in 2020 POSCO has received the World Steel Association's Steelie Award in the sustainability category, which proves the importance of meta level in the industrial companies success.

Since 1995 when POSCO published Korea's first-ever 'Environmental Report', the Company has presented annual reports to outline its corporate outcomes on the sustainability front. Their 'Corporate Citizenship Reports' provide at-a-glance views of the wide-ranging activities and endeavors made on Environment, Social and Governance (ESG) aspects.

The result of breaking down the company's Corporate Citizenship Report into micro, meso, macro and meta levels is as follows. On the micro level the company values workplace health & safety. On meso level it improves the stakeholder engagement. On macro level the company makes local community contribution. Lastly, a significant part of this report is about the meta level issues, which are: atmospheric environment

improvement, by-product recycling, response to climate change and competitive and sustainable manufacturing.

It is well-known that the Korean citizens are aware of the importance of the atmospheric environment in their daily life due to the particulate matter (PM) generated from China as it affects Korea's air quality. To reduce the emission of such air pollutants as SO_x, NO_x, and dust generated from the steel manufacturing process, POSCO develops innovative technology and cooperate with major institutions in the vicinity of their steelworks to make necessary improvements. They signed an MOU to mitigate PM generation with the Ministry of Environment in January 2019, and signed another agreement for joint response to reduce PM generation with North Gyeongsang Province and Daegu City in February 2019 to take the lead in improving the local environment. That is a perfect example of collaboration of macro and meta level as this collaboration influences the environment of one country, but contributes to a better environment situation of the whole planet. In May 2019, POSCO created the Particulate Matter Research Center within the Research Institute of Industrial Science and Technology (RIST) to improve the efficiency of air pollutant elimination and reduce energy consumption and other environmental expenses.

Secondly, one of the key advantages of steel lies in its ease in selective recovery and unlimited recyclability. That is why for POSCO waste is a 'by-product' resource that can be recycled into raw materials for a variety of industry applications. For this reason they manage "by-product recycling" as one of the KPIs to recycle by-products from steelworks and minimize the generation of waste.

Thirdly, POSCO is concerned with global warming. POSCO Group affiliates consider the three areas of Green Process, Green Product, and Green Partnership as their focus areas in responding to climate change. They deliver Green Processes through energy saving and efficiency improvements, smart factory demonstrations, and the development of CO₂ mitigation steel making processes and innovative low-carbon technology. Meanwhile, they are laying the basis for Green Products through the development and dissemination of high-energy efficient steel products, and promoting Green Partnerships through domestic/international carbon policy cooperation and more robust corporate initiatives for a low-carbon society. They have also established an internal system to identify climate change risks and opportunities and integrate them in our mid/long-term strategy.

Summarizing everything above, POSCO strives to contribute to its customers and all individuals by providing products and services that will benefit every aspect of society. As the step toward reaching this goal POSCO spends a lot of resources to provide good working conditions for its employees and developing new technology on micro level, contributes to local community on meso level, collaborates with other entities including government on the macro level and all of these measures help improve the planet's environment on the meta level. In South Korea there are many more steel companies, such as Hyundai Steel Company, Dongkuk Steel Mill Co etc., which after the major industrialization of the economy of this country had to start the sustainability management as it is inevitable in the modern world.

ANALYSIS OF CHINESE MANAGEMENT SYSTEM

The People's Republic of China adopted a planned economy model in the early days of the founding of the People's Republic of China. After reform and opening up, it transformed into a socialist market economy. Since the 1980s, China's Gross domestic product (GDP) has grown at an average annual rate of 10%. In 2001, China joined the

WTO, integrated into the world economic system, and vigorously developed export trade. In 2010, the total GDP exceeded Japan, creating a world-renowned Chinese economic miracle. In 2019, the GDP exceeded \$14 trillion, and the per capita GDP was \$10,276. It is the second largest economy in the world after the United States, and the only country in the world with a population of over 1 billion but with a per capita GDP exceeding \$10,000. It is one of the countries with the fastest economic growth. China has now become the world's number one. The largest exporter, the second largest importer, has an increasing influence on the world economy. In 2020, affected by the global new crown epidemic, most countries will experience negative growth, and China has become a country with positive economic growth among the world's major economies.

Nowadays China's economy shows great results in global indicators. Being the world's second largest economy giant it can provide upper-middle income for its citizens. But comparing income per capita with high-income countries, it shows 4 times lower result. Approximately 370 million Chinese lives in poor conditions below the upper-middle-income poverty line which is equal to \$5.50 per day. Besides, China experiences problems both in human capital and labor productivity. Despite the fact that income inequality has improved over the years but, experts calls these numbers relatively high.

Such objectives like resource-intensive manufacturing, exports and low-paid work force has already achieved the bound. Likewise, it created troubles of balance in economic, social and environmental fields. To reduce such imbalances it is required structural changes. Firstly, shift should concern modification from low-level production to high-technological one. The second alteration involve shift from investment to consumption.

As Chinese government planned the rapid economic growth was incurred but at the same time there were increased rate of institutional development. Since, such reforms should have left a mark in gaps of troubles so now is the main aim of government to ensure stable market expectations. Besides, fair business environment and system of regulation and the rule of law should be implemented as soon as possible in order to support market system and relations between consumer, producer and worker.

The situation calls for a macroeconomic policy mix aimed at rebuilding confidence and augmenting domestic demand in the short term while supporting the medium-term rebalancing to a greener and more inclusive economy. Specifically, policy makers should aim at closing the gaps in China's social protection coverage to help protect workers and households from the distress caused by job and income losses and also boost private consumption. Beyond the immediate impacts, the current outbreak has uncovered vulnerabilities. This calls for resolute policy actions that enhance resilience against similar health shocks, including enhanced food safety, health surveillance and response systems.

Comparing the development of corporate social responsibility policies in European and American countries, China's corporate responsibility policies started late and are in the preliminary stage of exploration. At present, China mainly guides enterprises to fulfill their social responsibilities by establishing standard guidelines, tax incentives and other corporate social responsibility policies, promotes social attention to corporate social responsibility, and promotes the cooperation of the government, enterprises and society to promote the development of corporate social responsibility. In the promotion of corporate social responsibility in China, the government has adopted administrative and legal measures to punish companies that have had a bad impact due to lack of social responsibility. It also provides tax incentives, government purchases and other related support to companies that actively perform social responsibilities and participate in public welfare activities.

CHINA METALLURGICAL GROUP CORPORATION AND IMPLEMENTATION OF NOOSPHERE MODEL

China Metallurgical Group Corporation (MCC), is a Chinese state-owned enterprise headquartered in Beijing, engaged in EPC (engineering, procurement and construction), natural resources exploitation, papermaking, equipment fabrication, real estate development. MCC is one of the largest equipment manufacturers in China, and the only state-owned enterprise that is authorized to run pulp-making and papermaking businesses in China and overseas. On December 8, 2015, MCC merged into China Minmetals, becoming its wholly owned subsidiary.

China Metallurgical Group Corporation's subsidiary, Metallurgical Corporation of China Limited, co-invested by China Metallurgical Group Corporation and Baosteel Group Corporation (Baosteel Group), was established in 2008. Its A shares and H shares were listed on the Shanghai Stock Exchange and Hong Kong Stock Exchange in 2009 respectively.

The company is involved in the construction of metallurgical, infrastructural facilities, other industrial projects, housing construction, municipal utility construction, installation of electrical and mechanical works, and handles high-rise buildings, mechanical engineering, electronics, power supply, petroleum, chemistry, textiles, transportation, communication, and building materials construction projects. The company also provides geo-technical engineering construction, industrial and civil construction, rock and earthwork excavation, equipment installation, and steel structure fabrication and installation services; and industrial products, including spiral welded pipes of various bore sizes, non-standard equipment, cold-rolled deformed bars, and forged precision metallic equipment. It also engages in water supply projects, sport cities development, and resource development. The company manufactures spiral coasters, and single-stand reversible cold-roll lines.

The analysis of this company on the micro level gives the following results. The most intuitive impact of exchange rate changes on exporters is manifested in the impact on the price of export commodities. When the domestic currency appreciates, the prices of existing export commodities in foreign markets will rise relatively, and the price advantage will be lost, which will cause the export volume to decline, even It will cause manufacturers to withdraw from the export market, that is, the appreciation of the domestic currency will inhibit exports by increasing the relative prices of exported goods. Conversely, a depreciation of the domestic currency will promote exports by lowering the relative prices of exported goods. We call this mechanism of exchange rate changes affecting exports by affecting the price advantage of export products as the mechanism of exchange rate changes on export prices. China's metallurgical industry has a vast overseas market, so a lot of foreign currency issues will be involved.

On the meso level the company adheres to its leading position in marketing and focuses on hot areas, major projects and strategic customers. Focus on Beijing, Tianjin as well as the five major urban clusters of Chengdu and Chongqing to consolidate the government-enterprise cooperation with Guangdong, Hebei, Heilongjiang, Guizhou and other provincial and municipal governments. It strengthens the cooperation with platform companies in Shenzhen, Zhengzhou, Gansu, Yunnan and other provinces and cities and also strengthens docking and exchanges with China Three Gorges Corporation, Beijing Enterprises Group, Zhongguancun Development Group and other large enterprises to ensure a stable source of projects.

Analysis on the macro level shows that the company's main businesses such as project contracting and real estate development are largely affected by the comprehensive influence

of the country's macroeconomic operation, fixed asset investment, construction industry competition, urbanization and other external factors. At present, the world economy is still in a period of deep adjustment after the international financial crisis. Affected by factors such as trade frictions and local geopolitical conflicts, the sources of turbulence and risk points have increased significantly, and the downside risks of the world economy have increased. The domestic economic and social development still has many favorable conditions and positive factors.

Finally, the meta analysis showed that the company actively implements the concept of green development, implements the national energy conservation and environmental protection laws and regulations, implements the main responsibility of the enterprise, continuously improves the energy conservation and environmental protection system, strengthens daily supervision, and actively carries out environmental pollution control. Construction enterprises have carried out in-depth green construction, and vigorously promoted energy conservation, land conservation, water conservation, material conservation and environmental protection; production enterprises, through technological innovation, improve resource utilization efficiency, reduce pollutant discharge, and promote cleaner production.

As it is seen, in China government does not interact so much with the corporations on the meta level and leaves these concerns solely to the company's management. They have neither requirements nor expectations to publish the sustainability reports, however, modern world ecological situation makes these companies do it in order to stay competitive on the international level. This is another prove of inevitable implementation of noosphere model of management and the existence of the need to manage the company well especially on the meta level.

INTRODUCTION OF RUSSIAN PRACTICE IN THE METALLURGY INDUSTRY

Against the backdrop of a slowdown in the development of the Chinese economy from 2012 to 2014, there was a slowdown in the development of the global steel industry. If the trend continues, then there will be a global problem associated with a slowdown in the development of the world ferrous metallurgy. The oversupply of production capacities in the world ferrous metallurgy can be considered a global problem. At the same time, the number of powerful mechanisms in China, which, on the one hand, largely determines the behavior of the Chinese ferrous metallurgy sector, determines the aggressive competitive and trade policy of China in the world steel markets, leading to unfair trading practices.

Russia is one of the world's leading producers of ferrous metals. Over the past few years, the Russian Federation has consistently ranked first in terms of steel production in the world. Therefore, this article could not do without a comparative analysis of Russia using the above Asian countries.

The experience of the most successful metallurgical enterprises is constantly being researched and analyzed. The efficiency of Russian metallurgy can only be ensured by those enterprises that can develop in the context of global competition.

The development potential of the enterprise appears due to the formation of an organizational structure adequate to the needs of production and the market, which includes the main stakeholders of the company.

The ability to develop a structure created by the organization, which includes: owners of capital who are willing and able to increase this capital; a team of effective managers, that is, leaders with a team capable of adapting enterprises to changes in the economic environment; sufficient intellectual potential; efficient, dynamic and motivated staff.

The heads of the enterprise, who have formed in a relatively stable management environment, tend to think of traditional management: analysis - goal - plan (decision) - its implementation. In this case, planning is a detailing of a sequence of actions as a result of which the system moves from the present state to the desired one, called the goal. For a traditional leader, everything is clear - follow the planned activities, and the goal will be achieved. For him, control is reduced to checking the quality of the planned activities.

However, today the management environment is quite changeable, dynamic, uncertain, and often the planned activities lose all meaning, since the management environment has changed. In this case, it is not the implementation of planned activities that should be monitored, but how we are moving towards achieving the set goal

The most typical stereotypes prevailing in the management of Russian metallurgical enterprises can be characterized as follows. (*Table 1*).

Table 1. Analysis of stereotypes of management of metallurgy enterprises

Comparison attribute	The existing approach at metallurgical enterprises	Requirements of modern management
Organization of management	Well-established organizational structures of management, excessive centralization, authoritarian management style; the prevalence of vertical information flows, the presence of departmental barriers and departmental isolation between the structural divisions of enterprises; orientation to established markets; orientation towards short-term payback; the difficulty of reconciling the interests of participants in production and innovation processes.	Flexibility of organizational structures; prevalence of horizontal information flows; adaptability to the changing behavior of elements of the external control environment; decentralization of innovation management; formation of target-oriented and other groups ensuring the development and implementation of the plant's scientific and technical policy, innovative projects; use of modern management technologies (strategic management, strategic orientation, controlling, logistics, reengineering).
The content of the activities of the head of the structural unit, regardless of the level of the hierarchy	It supervises a structural unit performing a specific task focused on organizing the work of a structural unit but fulfilling a production task.	It supervises the work of a profit-oriented business responsibility center.

Leadership principle	The rights and responsibilities of a manager include all the rights and responsibilities of all subordinate managers. Job responsibilities in this regard acquire a formal character, dissatisfaction with their duties.	Division of rights and responsibilities by levels of management. A superior leader will create conditions for the implementation of the rights and responsibilities of subordinate leaders. Responsibility of a superior manager for improper creation of working conditions for a subordinate manager. More rights and responsibilities are transferred to the operational management levels. Job descriptions are conceptual in nature.
Planning development prospects	Job descriptions are „rigidly centralized“.	The future is for the present: plan-forecast - strategy - strategic management.
Management philosophy	Present for the future: plan – organization of its implementation – control.	Identifying the goals of the employee with the goals of the organization.
Knowledge in management	Identification of the goals of the organization with the goals of the employee.	Acquisition of specialized knowledge, „learning in action“, „learning organization“.
Attitude towards goals	Knowledge about management is fragmentary, not systematized, based on work experience, participation in seminars, exchange of experience.	Achieving the desired result in a given specific control environment.
Attitude towards solution	Aim at any cost.	Analysis of „lessons“.
Meeting	Working out those who have not achieved their goals.	Why we are making such a decision. When making decisions, we rely only on our own forces and resources.
Attitude to the plan	How to organize the execution of the solution. When making decisions, we rely on higher levels of management.	Making important decisions.
Organization of control	Operational control over the fulfillment of production tasks and the search for „switchmen“.	The plan is not a dogma, it can be changed, specified, adjusted in the interests of making a profit or other benefits.
Accounting policy	The plan is the law.	Control of the degree of achievement of the set goal.
Working conditions of employees	Monitoring the implementation of the activities recorded in the work plan, action program.	Solution of control problems based on controlling.

Grouping works	The purpose of accounting policy is supervision.	The quality of the working life of employees.
Work with personnel	Attention to the working conditions of employees.	The work is grouped around the result.
Staff motivation	Work is grouped around functions, around resources.	Most of the time is spent on individual work with subordinates, on their education and training.
Bonuses for management personnel	Most of the time is spent on solving operational, current issues, monitoring personnel activities.	Mostly self-motivated staff.
Staff recruitment	Mostly motivation is carried out by the leader.	The award for long-term results, as an expression of the goals achieved.
Attitude to job descriptions	Regularly, monthly, quarterly for the implementation of production programs.	The staff is selected to perform any work related to the line of business, the constant readiness of staff to work in a constantly changing external environment.
Leader experience	The staff is selected for specific functions.	The concept of the position, the performance of any work related to the field of activity.
Management efficiency in the short term	Following instructions and at the same time manipulating instructions.	The relativity of experience. Previous experience in solving non-standard, situational tasks, as a rule, cannot be used. The need to gain experience in solving non-standard, creative tasks.

RUSSIAN SEVERSTAL GROUP HOLDING AND THE IMPLEMENTATION OF NOOSPHERE MODEL

The original name of the company was The Cherepovets Metallurgical Plant. But in 1993 due to large-scale reforms company was privatized. So, since that time the new brand was created called OJSC Severstal. When Severstal got the outstanding gap from other plants, shareholders decided to went beyond the town and try to enlarge the production and company presence. Then metallurgists began to absorb and develop new field of business. So nowadays Severstal group is in charge of more than a hundred types of business represented in different enterprises.

Analysis of the organization's external environment is the initial stage of strategy formation. Therefore, below it is presented on various spheres of society, allowing a deeper study of the reflection of different factors in the company.

Speaking about the political group of factors, it manifests itself as the imposition of restrictions on supplies, the initiation of anti-dumping investigations, and the limitation of funding for large backbone projects.

From the point of view of technological groups of factors, the emergence of new types of cold-rolled narrow strips and strips, technologies, equipment is manifested. In this case, the organization can respond by expanding the base of cold rolled narrow strips and strips.

A manifestation of social factors may be the tightening of quality requirements for cold-rolled narrow strips and strips. In turn, the company will improve the qualifications of its employees in order to improve the quality of service.

The group of economic factors mainly includes fluctuations in market conditions, prices, exchange rates; increasing the investment attractiveness of the market for cold-rolled narrow strips and strips and increasing the range of cold-rolled narrow strips and strips.

Changes in Russian legislation and tax policy are the most frequent factors for a legal group.

It should be noted that opportunities for the company can be: changing customer preferences, the emergence of new customers, expanding the company's business development opportunities in other cities of Russia, cooperation with new suppliers.

The main opportunities of the company are the development of its own online store and capital investments in ICT in order to computerize technologies. The main threats to the company are possible restrictions on the import of European-made goods and a decrease in the level of disposable income of the population. In this case, the company should more carefully select suppliers, as well as develop a pricing policy that is attractive to the population.

To understand the would be necessary to provide analysis where will be presented micro-, meso-, macro-and meta- levels.

<p><i>Micro level</i></p>	<p>Diversified business required new management model in order to transform it from metallurgic company. In other words, the head of Severstal should be focused not only on metallurgy field but on other perspective projects as well. In this case, it is rather tough to carry out uniform management due to the fact that each business which Severstal was eager to implement had its own features and differences. The same principle of management could be beneficial for one business, but failure for another one.</p> <p>Until 2002, Severstal's enterprises existed as a conglomerate structure, that is, different types of business that were not related to each other were enclosed within one group. As a result, it was decided to separate them into divisions and partner companies. At the same time, the management system changes in such a way that each business is responsible for its development, while adhering to certain rules that are common for all enterprises in the group. Such a scheme of business reorganization and management has not been applied anywhere else.</p> <p>After 2002 it was decided smoothly to change the structure of the holding. The key feature of new model was transparency, which is rather vital factor for potential investors. There were created structure with 3 independent divisions. Fortunately, restructuring did decrease financial flows what allowed Severstal continue to pay taxes to the different budgets.</p>
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<i>Meso level</i>	<p>Severstal enterprises operate on a common taxation system, and accordingly pay nine types of federal, regional and local taxes. In addition, companies pay mandatory non-tax payments and contributions to off-budget mandatory insurance funds. Federal taxes, in particular, include income tax, VAT, personal income tax, mineral extraction tax, water tax; to regional taxes - tax on property of legal entities and transport tax; to local - land tax. Payments on them go mainly to the regional budgets.</p> <p>The procedure for paying taxes and transferring them to the budgets of different levels is not determined by the companies themselves. The process is proceeding in strict accordance with the norms of the legislation of the Russian Federation. The correctness of the transfer of tax payments is controlled by the tax authorities and other government agencies. However, as the tax service explained to us, control over the payment of taxes for such large industrial enterprises, which include the metallurgical plant, is somewhat different than that of smaller companies.</p> <p>The fact is that special interregional inspections of the Federal Tax Service for the largest taxpayers were created in Russia. These inspectorates are structured on a sectoral basis; PJSC Severstal belongs to inspection No. 5, which oversees steel production and metallurgy. Companies report federal taxes to this inspectorate, and local taxes to our tax authority. In accordance with the legislation, all funds are directed to the budgets of the respective levels.</p>
<i>Macro level</i>	<p>Severstal cooperates with federal and regional authorities and takes part in the work of the Russian Union of Industrialists and Entrepreneurs and various government commissions. The Company's international activities are analyzed by its own lawyers and reputable local and international law firms. Severstal actively cooperates with all competent authorities, including antitrust authorities and financial and securities regulation committees, striving to strictly comply with all legal norms and maintain a constructive dialogue in the long term.</p>
<i>Meta level</i>	<p>Environmental protection is one of the main priorities at all stages of production activities: from coal and ore mining, iron and steel smelting to the production of high-tech products.</p> <p>Priority areas of activity:</p> <ul style="list-style-type: none"> • prevent and minimize the impact on the environment; • participate in solving the problem of greenhouse gas emissions; • economically and efficiently use energy and natural resources; • effectively manage the generated waste. <p>Environmental objectives</p> <p>By 2025, reduce the mass of discharges of pollutants in wastewater into water bodies that exceed the Permissible Discharge Standards by 12%</p> <p>By 2025, reduce the mass of disposed waste by 20%</p> <p>By 2025, achieve a 13% reduction in emissions into the atmosphere (by 66.5 thousand tons)</p> <p>By 2023, reduce the intensity of greenhouse gas emissions by 3% compared to the level of 2020.</p>

CONCLUSION

This article has provided evidence that all around the world big steel companies implement the noosphere model of management. The metallurgical companies in countries such as South Korea, China and Russia could be analysed on each of the four levels, which are micro, meso, macro and meta levels.

Studying in depth the meta level of the noosphere model revealed that there are common problems which are crucial when the company implements the sustainability management.

- 1) assessment of the real state of the environment;
- 2) determination of ways to reduce the negative impact on nature and human health;
- 3) reconstruction and construction of new production facilities, taking into account the requirements of environmental legislation and public opinion;
- 4) introduction and application of environmentally friendly technologies;
- 5) creation of an environmental management system, taking into account that environmental costs will not bring losses.

However, even though all these five issues are addressed everywhere, the sustainability management techniques appeared to be slightly different depending on the country, its cultural, political and economic backgrounds. Korean society is the most concerned about the environment and it seeks the steel companies to care about it too. That is why a lot of them are providing annual sustainability reporting as it appears to be important for the customer and that contributes to improving the reputation which is crucial for Korean people. However, China and Russia appear to be a little behind on the track of documenting the actions that are done on the meta level to improve the ecology of the planet. China tends to have a directive decision-making style, which indicates a high index of distancing from power and group collectivism more close to Russian model. Decision-making is often centralized as leaders in China try to establish social order through a clear hierarchical structure.

However, the analysis show that they still have the sustainability management systems. After doing this research, there are things that can be applied to Russian companies in order to make them more compatible in the scope of meta level.

First, it is important to create the investments stream. As the experience of China showed, investment in ecological products and technology, as well as implementing innovative recycling programs is very important.

Second, improving legislation, creating the government plan of implementation of ecological programs and providing subsidiaries. In Korea big steel companies interact with the government on the macro level in order to improve the state of things on the meta level.

To this day the above measures are implementing slowly in Russia and steel companies are expected to improve their sustainability management systems. There are more and more investments and subsidiaries from government and steel companies become more involved in managing the meta level issues.

Overall, the noosphere model is widely used all over the globe and it helps to understand the impact a company makes to each sphere of life. Moreover, it can be a tool of valuation of a company both by the internal management and by the external customer.

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