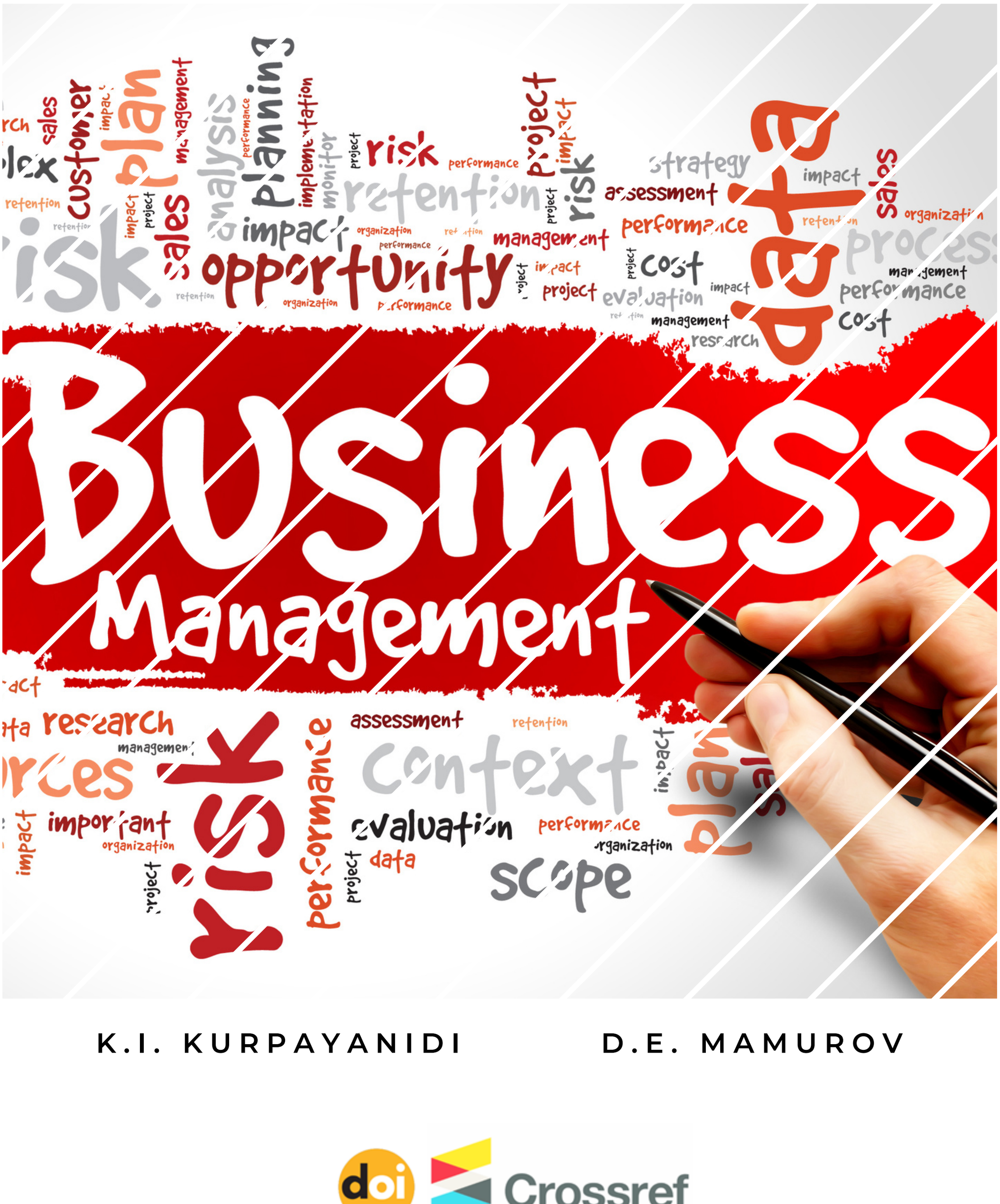
MANAGEMENT OF INNOVATIVE ACTIVITIES OF BUSINESS ENTITIES IN INDUSTRY

MONOGRAPH



K.I. KURPAYANIDI D.E. MAMUROV

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The purpose of the monograph is to develop theoretical and methodological provisions and methodological tools for increasing the innovative activity of entrepreneurship subjects in industry on the basis of a system-integration management model.

The following tasks are solved in the work: the essence, classification of innovations, innovation process and innovation policy, innovation system are investigated; a theoretical model of innovative development of industrial enterprises is developed; the stages of the process of industrial innovation are determined; comparative organizational and economic characteristics of the activities of domestic and foreign corporations are selected and formulated, determining the innovative potential and the basic requirements for efficiency and financial stability; the international experience of innovation and the possibilities of its use at enterprises of Uzbekistan are analyzed.

The book is of interest to students, applicants for scientific degrees, scientists, business leaders and anyone interested in the problems of innovation management.

Kurpayanidi Konstantin Ivanovich

Doctor of Philosophy in Economics,
Professor of the Russian Academy of Natural Sciences,
Fergana Polytechnic Institute

Mamurov Doniyor Eldorovich

PhD candidate,
Department of Economics,
Fergana Polytechnic Institute

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Konstantin Kurpayanidi
Doniyor Mamurov

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Monograph

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А.А. Уринов, Кандидат экономических наук, доцент, Ферганский государственный университет

К 68 **Курпаяниди К.И., Мамуров Д.Э. Управление инновационной деятельностью субъектов предпринимательства в промышленности:** монография / Курпаяниди К.И., Мамуров Д.Э.; под ред. М.А.Икрамова. – Ферганский политехнический институт. AL-FERGANUS, 2022. – 200 с.

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Целью монографии является разработка теоретико-методологических положений и методического инструментария повышения инновационной активности субъетов предпринимательства в промышленности на основе системно-интеграционной модели управления.

В работе решаются следующие задачи: исследована сущность, классификация инноваций, инновационный процесс и инновационная политика, инновационная система; разработана теоретическая модель инновационного развития промышленных предприятий; определены этапы процесса промышленных инноваций; отобраны и сформулированы сравнительные организационно-экономические характеристики деятельности отечественных и иностранные корпорации, определяющие инновационный потенциал и основные требования к эффективности и финансовой устойчивости; проанализирован международный опыт инноваций и возможности его использования на предприятиях Узбекистана.

Книга представляет интерес для студентов, соискателей научных степеней, ученых, руководителей бизнеса и всех, кто интересуется проблемами инновационного менеджмента.

Ключевые слова: инновация, инновационная деятельность, промышленность, субъекты предпринимательства, экономика Узбекистана.

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A.A. Urinov, Candidate of Economic Sciences, Associate Professor, Fergana State University

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***Keywords*:** innovation, innovative activity, industry, business entities, economy of Uzbekistan.

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Тақризчилар:

Э.А. Муминова, Иқтисод фанлари доктори, “Иқтисодиёт” кафедраси профессори, Фарғона политехника институти

А.А. Ўринов, Иқтисод фанлари номзоди, доцент, Фарғона давлат университети

К 68 **Курпаяниди К. И., Мамуров Д. Е. Саноатда тадбиркорлик субъектларининг инновацион фаолиятини бошқариш:** монография / Қурпаяниди К. И., Мамуров Д. Э.; М. А. Икрамов таҳрир остида. - Фарғона политехника институти. AL-FERGANUS, 2022. – 200 p.

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Монографиянинг мақсади тизимли-интеграцион бошқарув модели асосида саноатда тадбиркорлик субъектларининг инновацион фаоллигини оширишнинг назарий-услубий қоидалари ва услубий воситаларини ишлаб чиқишдан иборат.

Ишда қуйидаги вазифалар ҳал қилинади: инновацияларнинг моҳияти, таснифи, инновацион жараён ва инновацион сиёсат, инновацион тизим ўрганилади; саноат корхоналарини инновацион ривожлантиришнинг назарий модели ишлаб чиқилади; саноат инновацияси жараёнининг босқичлари аниқланади; маҳаллий корхоналар фаолиятининг қиёсий ташкилий ва иқтисодий хусусиятлари ва хорижий корпорациялар инновацион салоҳиятни ва самарадорлик ва молиявий барқарорликка қўйиладиган асосий талабларни аниқлаб, танланади ва шакллантирилади; инновацияларнинг халқаро тажрибаси ва ундан Ўзбекистон корхоналарида фойдаланиш имкониятлари таҳлил қилинади.

Китоб талабалар, илмий даражаларга даъвогарлар, олимлар, бизнес раҳбарлари ва инновацион менежмент муаммоларига қизиқувчилар учун қизиқарли бўлади.

Калит сўзлар: *инновация, инновацион фаолият, саноат, тадбиркорлик субъектлари, Ўзбекистон иқтисодиёти.*

Монография Фарғона политехника институти Кенгашининг қарори асосида нашрга тавсия этилган. 2022 йил 7 апрел ойидаги № 8- сонли баён.

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INTRODUCTION

Relevance of the research topic. The present-day realities represents that the awareness of the place and role of science, as one of the main sources of innovation in the economic process, is unconditional and undeniable. Science is closely connected with all economic processes that occur within nation states, in sectors of the economy, in large corporations and in small enterprises[1]. The issue of forming a national innovation system for the modern state is very significant and relevant, since this transformation is the guarantor of increasing the competitiveness of the economy and improving the life of society[2].

In modern market conditions, one of the key factors for the sustainable growth of the national economy of the Republic of Uzbekistan is the national innovation system (NIS), which the most important tasks are to ensure a high level of competitiveness in the world stage, improve the business environment in the country and full modernization of the economy. Today, one of the main tasks are to create an efficiently functioning market sector by attracting material and financial resources to the economy, replacing worn-out fixed assets and increasing the efficiency of their use, creating a comfortable investment climate to attract private, as well as including foreign investors, preserving and increasing intellectual capital. It is the NIS, which is characterized by uncertainty today, should become the dominant and bring the country's economy to a qualitatively new level. Renewal of innovation is the basis for the economic crisis, creating conditions for the improvement and further development of the economy. That is why the creation of conditions for innovation activity of industrial enterprises is one of the important factors of effective structural reforms in the economy. In addition, the relevant issue is to assess the level of innovation activity of industrial enterprises and modeling on the basis of innovation for long-term development, to achieve the strategic goals and the preparation of stable profits in the future.

Innovation as an immanent property of the entrepreneur on the basis of market relations in the national economy of Uzbekistan has not yet been realized. Go to the

1. C. Freeman, Research policy 31(2), 191-211 (2002)
2. M.P. Hekkert, R.A. Suurs, S.O. Negro, S. Kuhlmann, R.E. Smits, Technological forecasting and social change 74(4), 413-432 (2007)
3. E.S. Margianti, M.A. Ikramov, A.M. Abdullaev, *Entrepreneurship in Uzbekistan: trends, competitiveness, efficiency* (Gunadarma Publisher, Indonesia, Jakarta, 2016)
4. E.S. Margianti, M.A. Ikramov, A.M. Abdullaev, K.I. Kurpayanidi, A.Sh. Khudaykulov, *Role of goal orientation as a predictor of social capital: Practical suggestions for the development of team cohesiveness* (Gunadarma Publisher, Indonesia, Jakarta, 2020)
5. E.S. Margianti, M.A. Ikramov, A.M. Abdullaev, *Entrepreneurship in Uzbekistan: trends, competitiveness, efficiency* (Gunadarma Publisher, Indonesia, Jakarta, 2016)

market has given impetus to the development of a number of export-oriented commodities and extractive industries, but caused no perceptible increase in volumes of high-tech products.

Thus we have the following negative trends - insufficient financing innovation, low productivity, high degree of moral and physical wear and tear of fixed assets, the existence of spare capacity in the high-tech sector, the excessive length of the innovation process, imbalances in the structure of exports of industrial products, poor interaction of R & D and production, the concentration of innovative activity in the three fields (the share of fuel and energy complex, chemical industry and mechanical engineering account for 70% of innovative enterprises). Note reduction of the share "a fundamentally new and improved products" in the total volume of production innovation-active organizations. Studies show that only one fifth of innovative enterprises to innovate in the field of production technology. The rest of the innovation falls on the infrastructure, organization, marketing and other activities with a minimum of high-tech.

According to the authors, these trends while maintaining the technological backwardness of domestic enterprises by foreign competitors will inevitably increase. Accordingly, in the dynamic development of market relations, enhance competition, increase the rate of wear and tear with a deficit of investments, industrial companies face the need to balance the formation of independent innovation policy and to managerial staff, a new class of problems associated with the expediency of the search for effective solutions to enhance innovation activities.

Through a balanced innovation policy, ensuring the coordination of qualitative and quantitative relations of all elements of the innovation activity of the enterprise, the conditions for continuous innovation of self-development organization, to improve production efficiency and increase competitiveness in the long term.

If omitted enterprises are moving to the "start / stop" mode of the innovative processes characterized by inefficiency or break connections between the stages of innovation, the divergence of interests of innovation and slow the formation of organizational structures. As a result, it increases the risk of not achieving the set parameters implemented an innovative project.

Development of a theme study. Problems of innovative development of sufficiently developed both domestic and foreign researchers. This is the subject dedicated to the publication of foreign authors such as L. Vodachek, O. Vodachkova, P. Drucker, E. Mensvild, R. Nilsson, M. Porter, B. Santo, B. Twiss, Schumpeter, S. Winter, P. Foster, John. C. Van Horne, E. Jantsch and others.

Research focus on innovative perspective of many academic economists CIS: A. I. Anchishkin V. M. Anshin, M. A. Bendikov, L. S. Blyakhman, L. I. Vanchuhina, A. A. Dagaev, V. I. Duzhenkov, N. B. Ermasova, P. N. Zavlin, A. K. Kazantsev, L. E.

Mindeli, V. M. Mishin, A. M. Mukhamedyarov, L. N. Ogoleva, E. A. Oleynikov, A. P. Plotnikov, K. F. Puzyny, N. Z. Solodilova, A. I. Tatarkin, V. Y. Tyurina, R. A. Fatkhutdinov and others.

Among the famous scholars of Uzbekistan, at different times to investigate the problem or its individual aspects, should be called R. A. Alimov, T. M. Ahmedov, V. V. Baturina, M. R. Boltabaev, M. A. Buranova, S. S. Gulyamov, V. A. Ivonin, M. A. Ikramov I. I. Iskanderov, A. M. Kadyrov, M. H. Kamilova, G. I. Karimova, M. A. Mahkamov, N. M. Mahmudov, D. A. Muinov, M. P. Narzakulova, A. G. Nuriddinova, A. F. Rasulev, L. A. Sokolova, D. V. Trostyansky, M. L. Tursunhodzhaev, I. S. Tuhliev, N. A. Hashimova, N. M. Yusupova and others.

Evaluation questions of innovation activity and innovation management of industrial enterprise devoted to the work I. Ansoff, M. Meskon, F. Jansen, L. S. Valinurova, G. J. Goldstein, M. P. Golik, A. Y. Yegorov, S. B. Ildemenov, S. D. Ilyenkova, B. S. Kasayev, N. Kuzminih, V. G. Medynsky, A. B. Nikolaev, I. E. Rudakova, A. A. Trifilova and others.

However, insufficient attention is given to the conditions of the national innovation activity of industrial enterprises of the Republic of Uzbekistan. In addition, the ever-changing external environment and internal factors of functioning of industrial enterprises, the need for improvement of methodological approaches to prioritize the development of innovation and require a specification and substantiation of instruments of state support of innovation activity.

The urgency of these problems, and insufficient knowledge of their degree of elaboration determined the choice of research topics.

The purpose of research is to develop theoretical and methodological positions and develop methodological tools enhance innovative activity organization, based on the system-integration model of governance.

Achieving this goal requires the following tasks:

- Research entity classification analysis and refinement of the concept of innovation, the innovation process and innovation policy, innovation system;
- The development of a theoretical model of innovative development of the enterprise;
- Study the characteristics and the definition of the stages of the process of industrial innovation;
- Determination of the factors influencing the innovative activity of industrial enterprises;
- Identify and articulate the comparative organizational and economic characteristics of the activities of national and foreign corporations that determine the innovation potential and the basic requirements for efficiency and financial sustainability;

- The study of foreign experience and innovation capabilities of its use in domestic enterprises;

- Development of innovative methods of forming a balanced policy of industrial enterprises;

- The proposal and justification of methods of implementing the innovation policy of the enterprise.

The object of research monographs are national innovation system and innovative corporations.

As a **subject of study** are the methods of formation, evaluation and implementation of innovative policy and Industry Corporation.

Theoretical and methodological basis of the study were the results of studies of domestic and foreign scholars on issues of strategic and innovation management, innovation management and investments, the economy of the industrial enterprise, legal acts of legislative and executive authorities. When solving tasks used methods of comparative technical and economic analysis, methods of expert estimates, the methods of correlation and regression analysis, concretized in the models of innovation management.

The adopted research methodology using a specific toolkit will ensure adequate object, subject and methods of research, and to obtain reliable results.

As an **information base** study used official materials of the State Committee on Statistics of the Republic of Uzbekistan, legal documents, proceedings of conferences and symposia, the official statements of the industrial enterprises of the Republic of Uzbekistan, published in periodicals and online publications.

The scientific novelty of the research is to develop a method of forming and implementing a balanced innovation policy of industrial enterprise, which should be used as a tool to make informed management decisions.

The paper clarified the theoretical and methodical provisions for improving the management of innovative development based on the principles systemology and synergetic approach to the effectiveness of innovation systems, as well as measures of organization make effective management decisions on innovative activity as the main condition for increasing the efficiency and competitiveness of enterprises.

The main result will be the scientific novelty of the research and obtained by the author are:

1. The development of theoretical and methodological principles of management of innovative activity of the organization, including: clarifying signs reflecting the complexity, dynamism and openness to innovative activity the organization as well as its resource and investment security; addition typology of factors of innovation activity by the criteria of intra hierarchy and universality; substantiation of principles of

interaction between levels of government, providing incentives for innovation activity (the principle of hierarchy, feedback, self-development).

2. A system-integration model of management of innovative activity of the organization in which renowned augmented by three new components: an analysis of types of interaction between management levels, assessment of performance indicators of the strategic and operational management, and indicators of innovation activity, as well as the choice of strategy of innovative development, depending on the nature of the inter-layer interaction that allows for coordinated functioning levels of government in the direction of increasing innovation activity of the organization.

3. The proposed organizational and economic mechanism of the use of system integration model of management of innovative activity, including the consistent implementation stages: calculation of integral index of innovation activity, assess the barriers of innovation activity, study the relationships between indicators of the strategic and operational levels and the indicators of innovation activity, correction and detail models , the development of strategic measures to stimulate innovation activities of the organization. The mechanism allows to adapt the model to organizations with different levels of innovation activity - are revealed and systematized management problems now due to the contradictions of innovative development of the construction complex of the country and the region at the present stage.

4. Conceptual model of innovative development of industrial enterprises, graphical interpretation with respect to which the parameter of time, market opportunities and knowledge management, innovation determines the bonus;

5. develop a systematic classification of the factors determining the innovative activity of industrial enterprises;

6. Ways of implementation of innovation policy with a balanced system of innovation indicators and project approach.

The practical significance of the research results is the possibility to use industrial corporations comprehensive method of forming a balanced innovation policy, methods of its implementation on the basis of MTSIP and project approach, as well as a system of indicators to measure the effectiveness of the innovative project. The use of this toolkit helps make informed management decisions in the formation of innovation policy, the choice of innovation and implementation of specific innovation project that accelerates the introduction and diffusion of innovation in the industry.

The structure and volume of work. The monograph consists of the introduction, four chapters, conclusions, list of references and appendices.

CHAPTER I. THEORETICAL AND METHODOLOGICAL ISSUES OF INNOVATION MANAGEMENT OF BUSINESS ENTITIES IN INDUSTRY

1.1. National innovation system as a key factor in the development of the economy of Uzbekistan

The concept of “development” comes from the Greek word “Phusis,” a concept commonly used by Homère. To get an idea on the criterion of “development,” it is imperative to participate in the life of the country in order to challenge the uncontrolled development in a world where individualism and ostentatious consumption thrive; they are often described by Veblen (1979) as situations that have been forged in the race for development, leading to pollution that suffocates people, destroys nature and deteriorates the quality of life.

To determine the nature and functions of the national innovation system theory of systems should be addressed. Yu. P. Surmin, author of the widely cited textbook, writes: "Isolation and construction of the system is carried out as follows: the aim is put, that must be provided by system; defined function (or functions), which provides the implementation of function. The aim is a condition at which trend movement of the object is aimed. The goal is usually caused by a problem situation, which can not be resolved in cash. And the system is a means of solving the problem" (Fig. 1.1)[3] .

The study of frequently cited scientists allowed the public to systematize the definition of "national innovation system" used in international practice and scientists of Uzbekistan, the CIS countries. Studies of evolution of the concept of "national innovation system" and the analysis of modern approaches to the definition of the concept allowed to formulate the following conclusions.

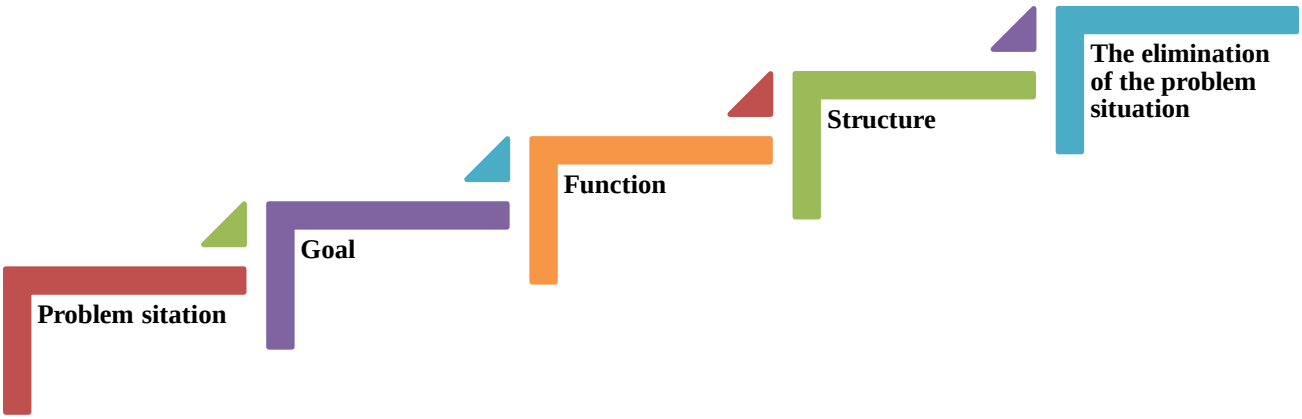

Fig. 1.1. Constructing system.

[3] Trofimova, L.A., Trofimov, V.V. (2012). Innovacionnye podhody k prinjatiju upravlencheskih reshenij: uchebnoe posobie. Sankt-Peterburgskij gosudarstvennyj universitet Jekonomiki i Finansov.

Firstly, to date there is no single, universally accepted concept of "national innovation system". The lack of common views stipulates different approaches to the methodology of formation of the national innovation system and its components.

Secondly, to date, there is no three main interpretations of the concept of "national innovation system", as E. V. Morgunov and G. Snegirev considers (a set of institutions, a complex conjugate of economic instruments and activities, a part of the national economic system[4] , and not four, as suggested by S. P. Lapaev (combination of different elements and components, a set of measures and mechanisms; instrument of economic policy; the control object (the state))[5].

In the total population of approaches to the definition of the national innovation system eight directions and accordingly the authors can be distinguished, that follow these directions. Thus, the national innovation system is defined as:

• as an aggregate (set) consisting of institutions: R. Nelson, N. Rosenberg[6]; S. Metcalf[7]; N. I. Ivanov[8]; E. V. Morgunov, G. V. Snegirev[9]; S. V. Shaposhnikova[10]; K. I. Kurpayanidi[11]; S. Sh. Abdullayev, A. M. Sadykova[12]; M. K. Faizulloev[13];

[4] Morgunov, E.V., Snegirev, G.V. (2009). Sobstvennost' i rynok **7**, 10-21.
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Kurpayanidi, K. I., & Abdullaev, A. M. (2018). Actual issues of the functioning of an innovative industrial enterprise. ISJ Theoretical & Applied Science, 11(67), 74. Doi: https://dx.doi.org/10.15863/TAS.2018.11.67.14
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• as an aggregate (set) institutions and various elements and components: C. Edquist, B. O. Lundvall [14]; P. Patel, K. Pavitt[15]; S. Faison[16]; E. M. Babosov[17] .

• as a network of institutions (organizations, agencies) and targeted (directed) activities: C. Freeman[18]; H. Nyosi, P. Saviotti, B. Bellon, M. Crow[19]; V. S. Bochko, E. G. Animitsa, V. N. Belkin[20]; S. V. Wolfson,[21]; L. A. Trofimova, V. V. Trofimov[22]; S. P. Lapaev[23]; F. G. Kasumov, A. D. Guseynova[24];

• as various elements, components, and the interaction between them: B. A. Lundvall [25]; N. F. Chebotarev [26];

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• as part of the national economic system: A. Emelyanov[27] ;

• as a triple helix (the concept of knowledge production: University -Government - business (enterprise, industry), formulated A. Goto[28]; N. I. Ivanov[29];

• through a broad interpretation, which includes an interdisciplinary approach: C. Edquist[30]; B. N. Kuzyk, Y. V. Yakovets[31] [36];

• through social capital: K. Freeman, considering the national innovation system as a "social ability of the nation to technical changes"[32]; B. O. Lundvall, B. Johnson, E. S. Anderson, B. Dalum, when considering the national innovation system to explore the "interaction of the four types of capital: industrial, natural, intellectual and social"[33]; B. O. Lundvall, said that scientists have criticized "... a broad approach to the national innovation system, since the broad approach of national innovation system includes virtually everything that is in the state. It is necessary to consider social capital as well"[34]; B. O. Lundvall, B. Gregersen, B. Johnson, E. Lorenz, based on consideration of the national innovation system as the interaction between users and manufacturers in connection with the development of new products[35].

Thirdly, when considering the national innovation system, only foreign authors examine in detail the adjective "national", but does not include in the definition of the national innovation system any special characteristics of the state as a legal order in a certain territory. Uzbek scientists, adjectives "national" and "state" consider as synonyms of the word, without the emphasis on their relationship and differences. Essentially, the scientists use as synonyms both the notion of "national innovation system" and "innovation system".

None of the proposed definitions of the national innovation system, both foreign and domestic scientists, does not contain the characteristics of the state or national

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characteristics, implying that it is the composition and characteristics of the institutions, the various elements and components, mechanisms of interaction in the national innovation system, or public policy and allow to highlight features of national innovation system for each state.

Fourthly, in some proposed definition in detail investigated (registered) the process of "knowledge management", in some studies associated with knowledge of technologies or simply emphasized technological process.

In the process of knowledge management, attention is emphasized by: B. O. Lundvall[36], Ch. Edquist[37], Yu. S. Emelyanov[38].

The technological process was highlighted in the works of C.Freeman; E. V. Morgunov[39] .

The process of knowledge management and technology was considered by following scholars: S. Metcalfe; N. F. Chebotarev; C. Freeman; V. S. Bochko, E. G. Animitsa, V. N. Belkin; L. A. Trofimova, V. V. Trofimov, S. P. Lapaev.

Fifthly, over time, scientists are developing their views on the understanding of the national innovation system. So, C. Freeman in 1987 considers the national innovation system as a network of institutions[40], and in 2002 as the nation's social capacity to make technical changes[41]. B. O. Lundvall in 2002 understands the national innovation system elements and relationships [42], and in 2007 work the focus is on the interaction of users and producers due to the development of new products, etc. .

In parallel with the analysis of scientific views of scientists the regulations on the subject of "national innovation system" of Uzbekistan and the countries of the Commonwealth of Independent States (CIS) was also investigated. The CIS countries have been selected as the former post-soviet space (USSR), on whose territory the common science and technology policy took place, and with the acquisition of

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independence of CIS countries, as well as Uzbekistan, they themselves started to determine the direction of their socio-economic development.

The analysis allowed us to formulate the following conclusions.

Firstly, to date, legal and regulatory framework of the Republic of Uzbekistan does not contain a formal definition of "national innovation system", this definition is present in the concept of innovative development of the Republic of Uzbekistan to 2020 as "a set of organizations (structures), institutions, relationships of knowledge and technologies taking into account all sectors of the economy and public life".

Secondly, the term "national" in the legal framework of the Republic of Uzbekistan is rarely used.

In the legislation of Uzbekistan, the word "national" is present in the laws "On Education", "On Defense", "On national training programs".

The word "national" is often used in combination with the word "interest". In our opinion, the national interests of Uzbekistan are understood as a set of macroeconomic and macro politic tasks of the state. National interests are provided by institutions of state power, performing its functions in collaboration with community organizations.

Thirdly, the former post-Soviet countries - independent documents on the innovative development of the country exist only in Belarus, Kazakhstan, Kyrgyzstan and Uzbekistan. Determination of the national innovation system of the Republic of Belarus and the Russian Federation meets the definition of "innovation system" described in «The concept of innovative development of the Republic of Uzbekistan for 2012-2020». In Kazakhstan, the development of the national innovation system is provided through a regional innovation system. Kyrgyzstan has defined only the main directions of innovative development of the country.

Analysis of the evolution of the concept and the concept of "national innovation system", the concept of national innovation system and the theory of systems have allowed to define national innovation system in the classification categories of the system approach (Fig.1.2).

National Innovation System in the category of:

• understanding of the system – it is a system of the universe, which is a combination of the system and its environment;

• properties of the system has: the emergence - irreducibility to the properties of the elements of the system; openness - the absence of complete isolation from the environment and the presence of degrees of freedom in the behavior of the elements;

• system status - organizational ordering system in accordance with system-factors;

• system analysis: structural analysis - analysis of the structure of the system as a set of relationships between the parts, identifying values for a single element of a

structured whole in certain way; structural and functional analysis - selection of elements of interaction and determination of their place and role in the functioning of the system;

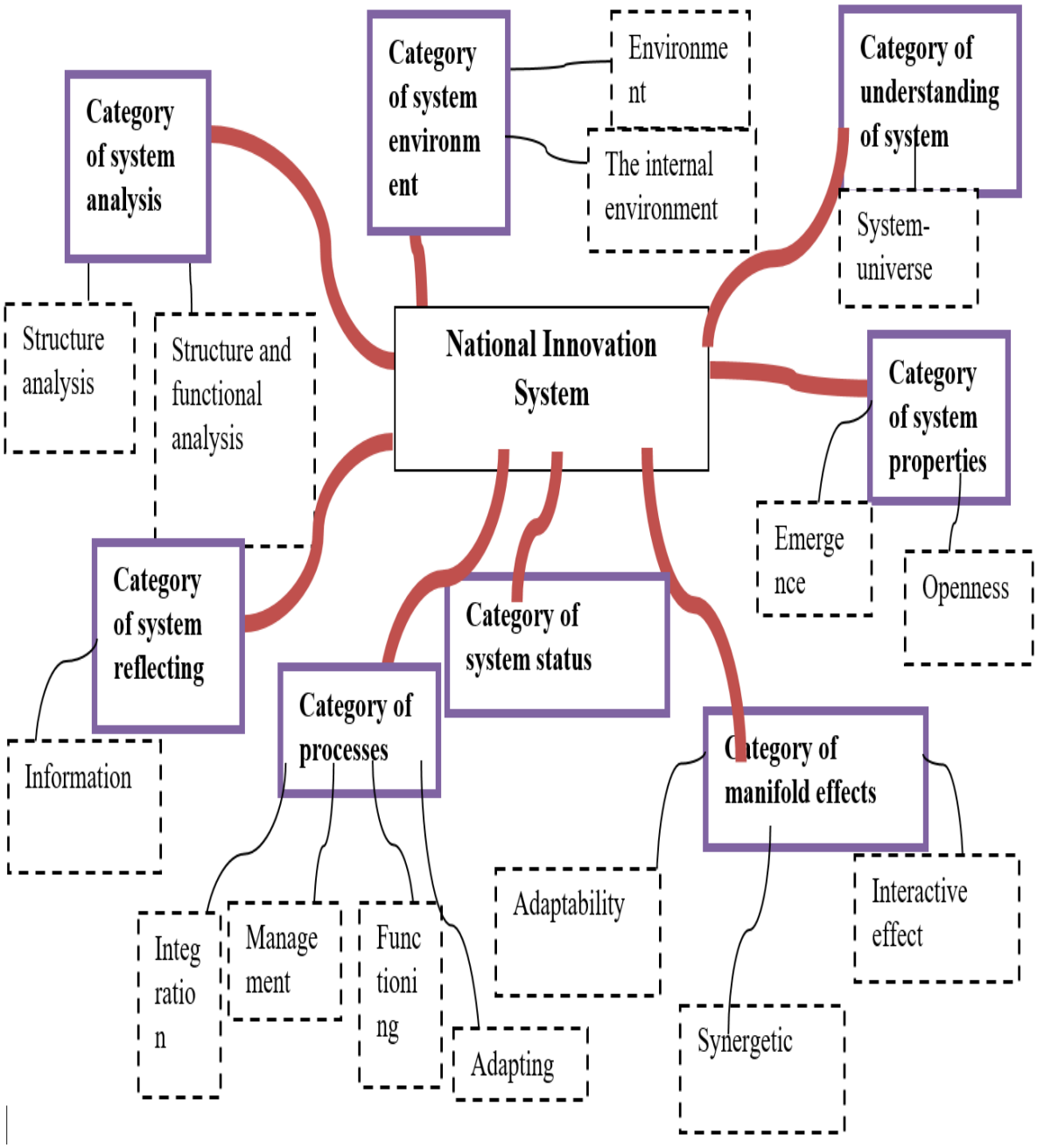

Fig. 1.2. The national innovation system in the classification of the categories of systematic approach.

• *variety of effects:* an integrative effect - the appearance of new qualities inherent in the system as a whole; adaptability - property of the system to preserve their identity in terms of variability of the environment; a synergistic effect - the effect of

multiplying the result of the system, which increases the amount of results of the functioning of its individual components;

• *processes:* functioning- operation of the system over time; management - bringing the system into balance or achieving goals; integration - the process and the mechanism of association and connectivity of elements; adaptation - the adaptation of the system to the environment without losing their identity;

• *reflection of the system:* Information - details, knowledge of observer about the system, reflection of its diversity;

• *environment of the system:* environment - environment system or set of objects, which are located beyond the boundaries of the system, they affect it, but do not belong to her; internal environment - a set of objects that are within the boundaries of the system, affects its behavior, but do not belong to her.

The analysis has allowed the author to formulate a definition of *"national innovation system".* According to the authors of this study, the national innovation system is a complex, open, dynamic, organized system-universe, based on economic relations and the political system of the country, which regulates with norms rights of innovation processes, internal and external institutional environment for economic actors in order to preserve and increase national wealth.

The key challenge in all countries is to accelerate the technological development of the global economy, increasing competition for the factors that determine the competitiveness of national innovation systems. Based on this, the aim is to increase the level of innovation activity of the economy. Currently, due to the reduction of the period of realization of scientific innovations to entrepreneurs/enterprises, it is necessary to quickly respond to changing national and international needs. Rapid response can only provide a temporary advantage, as it can be used, copied, imitated by competitors in both domestic and foreign markets. Innovation activity - the most flexible indicator of status and competitiveness of the national economy.

Innovative activity is manifested through the innovative activities of economic entities (individuals and entities) operating in particular institutional environment.

In any system, including the national innovation system, there are certain functions. Analysis of the post-Soviet scientists' works allowed to count about 30 functions of the national innovation system.

Foreign scientists are more or less unanimous in allocation of functions of innovative systems and national innovation systems. Scientist of Technological University Chalmers (Sweden) A. Johnson said: "The aim of the innovation system is to develop, distribute and use innovation. There are two main features that are two directly related to the innovative process:

1) the identification of problems, bottlenecks of the innovation system;

2) the creation of new knowledge.

The third function is related to the maintenance of the innovation process and includes:

3.1) providing incentives for innovation;

3.2) providing necessary resources;

3.3) direction of search, i.e., determining strategic priorities;

3.4) determining the potential for growth of innovation;

3.5) facilitating the exchange of information and knowledge;

3.6) stimulating innovation and the creation of markets of innovation;

3.7) reduction of social uncertainty markets, i.e. preventing or resolving conflicts between companies and individuals;

3.8) counteracting resistance to changes that arise in the community with the introduction of changes, i.e. the legitimacy of the introduction of a mechanism for innovation"[43].

M. P. Hekkert and S. O. Negro in their work in 2007 are emphasizing following functions:

"1) entrepreneurial activities;

2) the development of knowledge (training);

3) diffusion through the knowledge network, i.e. exchange of information;

4) guide to finding the priority areas of activity;

5) formation of the market;

6) resource mobilization;

7) establishment of legitimacy/counteraction to resist change".

In their later work in 2009 they once again convincingly are limited to listed seven functions[44] .

Based on the fact that:

• "function - (lat. function - fulfillment, implementation) –

1) purpose;

2) activity, duty, work";

• "functions are the directions of activity of the system that interacts with the environment";

• "function inherent in the system and its components, and functions of the system is integrated result of the operation of its constituent parts".

Following conclusions can be made.

[43] Johnson, A. (2001, June). Functions in innovation system approaches. In Nelson and Winter Conference, Aalborg, Denmark (pp. 12-15).

[44] Hekkert, M. P., & Negro, S. O. (2009). Functions of innovation systems as a framework to understand sustainable technological change: Empirical evidence for earlier claims. Technological forecasting and social change, 76(4), 584-594. DOI: https://doi.org/10.1016/j.techfore.2008.04.013

Firstly, national innovation system is given a number of "alien" functions. For example, the formation of a national innovation policy; development and maintenance of legal and regulatory framework; the choice of priorities in the field of innovation, researches and developments etc. refer to public functions and functions of authorities of the State (which have more specific nature). Further, generation of knowledge, dissemination of knowledge, storing knowledge etc. relate to the education system.

Secondly, neither of author does not emphasize internal and external factors of the national innovation system, in spite of active development lately supranational and global processes in the world economy.

Thirdly, as national innovation system on the category of the manifold effects has adaptability (property of the system to preserve their identity in terms of variability of the environment), the policies and actions of the state must not cause a system to have a crisis situation. National innovation system should have features like "properties in the dynamics" that lead to the implementation of goal, even in changing conditions.

Table. 1.1. shows the theoretical model of national innovation system, which were considered by government of Uzbekistan as a potential for use in the country:

• market and evolutionary retaining the support and financing of scientific research and technological development;

• market and radical with support and financing of only those areas of research and technological developments that are needed to implement the functions of the state;

• institutional "completion", envisaging the development of the missing elements and the spread of new forms of innovation;

• innovative and active - through the mechanism "supply creates demand," with minimal involvement of state.

Table 1. 1. Theoretical model of development of the national innovation system features of the approaches to the implementation of the state innovation policy in foreign countries.

Model	Formation of national innovation system	Functions of the state	Features of the model	Main risks
Market Evolutionary	Effective demand generates an adequate offer	1. Support (free subsidizing) of production system of scientific manpower, in the sphere of fundamental research. 2. Reducing transaction barriers on the	Structural elements of the NIS are created and developed under the influence and the extent of effective demand subjects (one of which is the State itself in	Storing segmentation and incomplete NIS, increasing technological dependence of the economy on foreign producers of technology

		way to innovation and to stimulation of private demand for innovation	the framework of its functions)	
Market Radical	Effective demand generates an adequate offer	Financing only those areas that are required to implement the functions of the state	The reduction of the public sector	Chance of dismantling national basic science and reduction of production of scientific staff
Institutional "completion"	Development of the missing elements and the spread of new forms of	Statesupportof NIS	Enhanced scattering of budgetary resources for a variety of existing and new directions	Automatic generation of competitive NIS will not happen due to the low quality of its existing elements
Innovative Active	Supply creates demand	The increase of expenses on the commercialization of advanced technologies to quickly bring to the practical applicability the existing level of backlog	Low demand for innovation in the business sector due to the lack of supply of innovative product	Lack of demand on advanced commercial technologies
"Knowledge-active"	The focus shifted to the beginning of the innovation cycle and on the development of innovative education	1. Intense investment in human capital. 2. "Connection" of supply and demand and the needs of formation in the various innovation institutes	The creation of "innovative person" who will be inclined to innovation and new knowledge, regardless of the main areas of activity	Long term perspective of realization and deriving effect

Table 1.2 presents main areas of modern innovation policy of foreign countries. Each country defines on its own way, through implementation of appropriate public policies, directions of functioning and development of national innovation system.

Table 1.2. Main directions of modern innovation policy of foreign countries.

Direction of innovation policy	Specifics	Countries
Optimization of the structure of the national innovation system	Optimization of the system of state management and planning in the field of innovation	Japan, Norway, India, Chile

	Optimization of public funding of science and innovation sphere	USA, France, Great Britain, Denmark, Norway, Sweden, Taiwan, Australia
	Development of basic researches	Great Britain, Sweden, Slovenia
Stimulation of innovation cooperation of business and science (universities) in the country	Promoting symmetrical convergence of universities and corporations	USA, Finland
	Large public investments in science and innovation and attraction of national private capital	Israel, Finland
	Stimulation of innovative activity of the private sector with the involvement of foreign capital in the innovation sphere	UK, Ireland, China, Korea, Malaysia, India, Israel
	Stimulation of innovative initiatives of research sector	Germany, Japan, New Zealand, Denmark
Integration into international innovation networks	Complex integration	Finland, Israel, the Netherlands, China
	technological specialization	Korea, Malaysia, Singapore, Taiwan, India
Establishing internal innovation networks	Creating special conditions for the formation of relationships in the sphere of innovation	United States, Norway, Ireland
	Stimulating initiatives of national regions	France, Germany, Finland
The formation of the national innovation system	The restructuring of the state sector of science	Bulgaria, Poland, Lithuania
	Initiation of the integration of science and education	Latvia, Estonia, Czech Republic
	The involvement of small and medium-sized businesses in the innovation sphere	Romania, Czech Republic, Slovakia, Latvia, Estonia, Turkey, Chile
	Identification of priority directions in the field of export of high technology	Czech Republic, Romania, Chile, Turkey

Initially, the authors of this article have formulated following functions of national innovation system:

- *legal* – system provides following established by the state rules and regulations in the field of innovation, as well as feedback to improve the regulatory framework;
- *resource* - creating conditions for an optimal allocation of natural, production, human and social resources among all subjects of innovation activity. Tangible and intangible resources are the basis of innovative activities within the national economic system;
- *function of knowledge management* - the creation of conditions for the creation, transmission and storage of knowledge - creative foundation for innovation as the creation of specific activities that are unique to humans. Mediated by the action of this function is the development of human capital as the main carrier of knowledge;
- *information* - support and development of processes of storage, transmission and processing of information both inside the system (between the individual components, subsystems and system state as a whole), and in cooperation with national innovation system with environment (external environment, global level of development of science and technology, conditions in international processes);
- *organizational* - the development of forms and structures of institutions and organizations, mechanisms of their interaction, cooperation and coordination. This feature is aimed at developing diversity elements of the national innovation system and the expansion of intra-relationships;
- *function of competitiveness* - providing such state of economic, technological, organizational and structural efficiency, which allows the national innovation system to be competitive in the global innovation system. This ensures active cooperation of the national innovation system with the environment, aimed at a specific result;
- *function of dynamic self-organization and development* – determined by flowing innovative processes within the system, in particular organizational innovation, focused on the development and evolution in changing environment due to the accumulation of internal capacity. The innovative nature of flowing processes occurring in the NIS requires constant adaptation.

Analysis of the above functions as well as functions of the national innovation system, allocated by Russian scientists, and detailed study of the theory of systems changed the views of the authors.

Exterior features of the national innovation system

Transformative function is inherent to creative systems such as national innovation system is to convert the environment, bringing it into conformity with its essence. Transformative function of the national innovation system is manifested in the

preservation and increase in value and structural terms of intangible capital of the national wealth.

Consumer function is connected to the input (production) and output (consumption) of innovative products (goods, services) and is manifested through the process of innovation, or innovation activity. For the production of innovative products it is necessary to find and "grow" an innovative product (goods, services) of entrepreneur/enterprise (company), branch etc. Consumption is manifested through the finance/investment, human resources, environment infrastructure etc. On the output there should be subjects of consumption of innovative products (goods, services).

Function of absorption of the national innovation system is manifested in its relation to the supranational innovation system and the global innovation system. Companies are looking for a more favorable environment for their production around the world, according to the "new theory of international trade" and "new economic geography" by P. Krugman. Function of absorption is most clearly manifested through technological trajectory of the environment, social and network interaction, international trade agreements, international investment agreements, etc.

The adaptive function ensures coordination of the system with its environment, mutual change in behavior. In the particular case there is reference to "innovative person". National innovation system must contribute to the empowerment of people through voluntary action for innovation, innovation activity (bring the knowledge of "what, how, why"), and the person should be interested in innovation, innovation activity ("to know and participate").

As the academician of Russian Academy of Science A. I. Tatarkin mentions, "fundamental changes in social and economic system during the reforms have led to a radical transformation of the conditions of occurrence of motivational processes. A significant part of enterprises increasingly focused on a strategy of coercion, using a strong for current stage negative motive of dismissal or unemployment"[45].

Serving function of the national innovation system is shown in its top-level hierarchy as compared with:

- classification of the geography of innovation - regional, inter-regional and local innovation systems;
- functional and process classification innovation;
- classification of high-tech and knowledge intensive products (goods, services).

"The most important role of internal features is that they provide the necessary, for the functioning of the external system, internal dynamics"[46].

[45] Tatarkin, A. I., & Kotlyarova, S. N. (2013). Regional development institutions as an economic growth factors. *Economy of Region/Ekonomika Regiona, (3).*
[46] Surmin, J.P. (2003). Theory of systems and system analysis (MAUP, K.)

Internal functions of the national innovation system

The monitoring function is shown in qualitative and quantitative assessment and consideration of the results of the national innovation system:

- comparison of the actual status with the objectives (recognition of epochal, basis, improving innovation and pseudo-innovative);
- verification of compliance with the declared (control) and carried out (supervision) activities established by legislative and other normative legal requirements;
- avoiding the establishment of monopolistic dictate of some market participants over others.

The function of coordination and harmonization is manifested in:

- coordinated joint actions of all components of the national innovation system, from the idea of an innovative product (good, services) to the commercialization of the product (good, services);
- horizontal ordering of components of the national innovation system.

Function of coordination dominates in the subject-subject and object-object interactions.

Organizational-administrative function lies in:

- consolidation of elements and subsystems of the national innovation system of specific action of a functional in a clearly defined sequence;
- adoption of specific decisions on individual objects of the national innovation system;
- regulation of activity, that allows managing body to fulfill its goals and objectives.

The function of subordination (from the latin. subordinate - collateral subordination) and reordination (from the latin. reordination - reassignment) includes:

- vertical ordering of the system, where one of the constituent elements play a leading role, defining the beginning in the work of others;
- management processes in the interaction;
- legal subordination of parts or elements of a community over others, both horizontally and vertically.

Function of subordination dominates the subject-object and object-subject relationship.

Function of allocation - efficient allocation of factors of production in areas where their use will provide the greatest return.

Conclusions

Thus, on the basis of the conducted study purposeful analytical definition of the concept "national innovation system" was presented. Proposed definition of the national innovation system:

1) takes into account the fundamental components of the concept of national innovation system: theory of firm, innovation theory, theory of knowledge management, theory of systems, theory of institutionalism, theory of national wealth, theory of national economy;

2) marked complexity, openness and dynamism of the national innovation system;

3) pointed out how to use the subject of investigation in order to achieve any purpose, what are the functions performed based on.

Separation of internal and external environment of the national innovation system has allowed to formulate and justify its internal and external functions. Exterior features of the national innovation system: converting, consuming, absorbing, adaptive, serving. Internal functions of the national innovation system: controlling, coordinating and harmonizing, organizational and administrative, subordinating and reordinating, allocating.

1.2. Theoretical foundations and principles of effective functioning of an innovation-oriented corporation

The results of the analysis of problems of innovative development show that it is necessary to clarify and supplement the theoretical and methodological assumptions of the theory of organization of modern corporations in terms of the latest scientific achievements in the field of system-integration theory, theory of resources, formation of a strategic competitive advantage, theory of routines. Moreover, strong influence on theoretical and applied research on the formation of tools and mechanisms of improving the management of the modern corporation has actual practice of successful development of modern industrial corporations that have changed the structure of assets, policy formation costs, investment, and provision of balanced growth of the main financial parameters.

In private industrial corporation maximization of the utility takes place in the related market economy economic system to the same extent as that of maximizing profits or income of owners of the corporation; public industrial corporations owned by regional corporations may aim to improve the utility of all citizens by providing collective services and even the failure of their own profit; private corporations attempt to maximize their usefulness by means of achieved income.

We believe that, along with the problems of the organization of production[47], study object of theory of firm[48] can be represented as the sum of all economic decisions that are taken within the corporation[49].

These include the decision on goal-setting of corporation (for example, profit maximization, the optimal supply of goods, achievement of economic domination, etc.), the structure of the company (e.g., cost-effective choice of legal form, choice of the optimal placement) on investments and financing, decisions on the development of the production program, on the choice of production technology or marketing policies. Production as a combination of factors of production is determined, first of all, by values which are independent of the historically given economic system. They can be called indifferent to the system of factors[50]. Secondly, production has impact the circumstances, which are derived from the empirically given economic system, which he calls caused by system variables.

Indifferent to the system factors are, first of all, the factors of production. Thus, in every industrial corporation (irrespective of whether it is a market, planning or other types of economic systems) factors of labor, capital goods and raw materials are combined, this combination occurs in each case on the basis of purely formal principle of profitability (economic principle)[51].

Although depending on the type of economic system setting goals of the corporation may be different, for example, the corporation market system tends to get the most profit and the corporation planning system tries to perform a specific production plan, any one of these goals is realized on the basis of profitability.

The principle of profitability, along with a system of production factors is the quantity that determines the company and independent of the economic system.

Third indifferent to the system factor is the financial balance of the corporation. Production can only exist if it makes the payments in a timely manner. This applies to the corporation market system, in which it maintains its financial equilibrium, and the planning system in which financial balance can be achieved by means of subsidies. Thus, the conventional, classical approach of theory of firm considers it as a closed system with deterministic objectives stable over a long period of time[52].

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[48] Lauks G. Osnovy organizacii: upravlenie prinjatiem reshenij: per. 4- go nem. izdanija / G. Lauks, F. Lirmann. - M.: Delo i Servis, 2006.

[49] Volkov O. I., Skljarenko V. K. Jekonomika predprijatija. – M. : INFRA-M, 2008.

[50] Klochkova EN, Kuznetsov VI, Platonov TE Business Economics // M .: Yurayt. - 2014.

[51] Kavun O. A. Diversification of Business Networks Activity in Trade: its Essence, Forms, Motives and Risks //Problems of Economy. – 2014. – №. 2.

[52] Kat'kalo V. S. Jevoljucija teorii strategicheskogo upravlenija //SPb.: Izdatel'stvo «Vysshaja shkola menedzhmenta. – 2006.

Current stage of the evolutionary development of social production dictates withdrawal from the classical theory of the firm, the basic concept of which is that company's success is determined by a rational organization of production and improvement of the organizational structure, by reducing costs through optimal resource utilization. All this causes to clarification of the concept of "corporation" on the basis of generalization of the practice of production over the last 30-40 years, as described in the works of domestic and foreign scientists[53], in particular, system-integration theory of Kleiner G.B[54].

At the end of XX - beginning of XXI century, industrialized countries have carried out large-scale organizational restructuring associated with the implementation of a new paradigm for the development of resources and quality management. This paradigm occurred on the basis of generalization of world practice, in particular, by such scholars as: R. Nelson and, Winter, J. Kornai, J. Stiglitz, D. S. Lvov, O. Williamson, G. Dozy, D. Tees, G. B. Kleiner, E. V. Popov, V. I. Suslov, V. B. Kondratyev and presented in concentrated way by system-integration theory of G. B. Kleiner[55]. The main thesis of this theory: a modern corporation is a multi-layer structure within which the integration takes place in space and time flow of material, financial, labor, information and other resources. Thus the term "resource" is significantly expanded and complemented by the concepts of "key competencies", "dynamic capabilities", "routines". Expansion of the concept of "resource" leads to clarification of the concept of "factor of production", i.e. land, labor; capital is supplemented by a factor "human capital", as proven by the practice of so-called new businesses in the structure of assets, in which intangible articles prevail.

Consequently, economy of corporation can no longer be perceived as the optimal use of only limited material resources, since the formation of the new value and competitive advantage moves to intellectual capital and innovation, and this means in particular that it is necessary to properly form the production costs due to a new meaning of the concept "Resource".

The main system elements of the corporation are "human capital»---► «entrepreneurship" ---► "advanced technology" ---► "routines".

According to Schumpeter[56] locomotives of technological advances are just large companies, but they are due to the sales volume, access to finance is able to bear the costs of innovation, to carry out innovative projects. In their innovative behavior the

[53] Teece, D. J., Rumelt, R., Dosi, G., & Winter, S. (1994). Understanding corporate coherence: Theory and evidence. *Journal of economic behavior & organization*, *23*(1), 1-30.
[54] Klejner, G. B. (2019). E «konomika ekosistem: shag v budushhee. *Ekonomicheskoe vozrozhdenie Rossii*, (1), 59.
[55] Klejner, G. B. (2008). Strategija predprijatija. *M.: Delo*, *568*.
[56] Schumpeter, J. A., & Fain, G. (1951). *Capitalisme, socialisme et démocratie* (pp. 168-193). Paris: Payot.

effects of scale and diversity (alignment) can easily be seen. Diversification and concentration allows spending a large amount of profits on innovation, better position to implement non-standard developments.

Today, it is assumed that the nature of the relationships of considered phenomena are more complex than Schumpeter anticipated, innovation and market structure are endogenous variables, the biggest innovations of the 20th century were made outside the big firms, but it is large corporations that brought to market the invention and mass production.

Semantically, the term "corporation" as the most advanced in qualitative terms the concept of "corporation" in our view, should be seen not only as large integrated structures, but also as a carrier and a conductor of new production and information technologies, as well as the implementation of advanced management methods[57]. This is due to the fact that large corporations have innovative, financial, production and human resources.

Modern "game rules" are dictated by major foreign corporations, free access to the technology market is substantially limited, corporate mechanisms allow an increasing amount of added value to by accumulate in countries of "golden billion". The paper[58] notes that the emergence of large domestic corporations focused on effective demand - a key factor in changing traditional system of industry.

Currently, assets of domestic corporations understated, investment unattractiveness, lack of working capital, obsolete technology cannot solve the problem of innovative development.

This raises the question, what properties should have a management of company to implement rapid change? How should the management system be rebuilt or improved, which structures, elements and processes should be touched, and how to follow the concept of change.

The overall result of the study of theoretical and practical problems of domestic innovative development is the conclusion that innovation processes are the basis of the strategic directions of development of the national economy of Uzbekistan.

Obviously, the creation of corporations, the concentration of capital, production capacity occurs in industries of technological breakthrough, producing entrepreneurial rents, in certain historical period. In the capitalist system, there is one distinct advantage - it is the historical experience of the implementation of innovation, resource support for innovative development. That is, the emergence and implementation of new technological order, new technologies based on the previous structure, which reaching

[57] Konev I. Sistemnaja strategija organizacionnyh izmenenij v razvivajushhejsja korporacii //Problemy teorii i praktiki upravlenija. – 2005. – №. 3. – S. 88-94.
[58] Vin'kov A.A., Gurova T.I., Ruban O.L., i dr. Sozdateli budushhego - gazeli s mozgom obez'jany // Jekspert № 10 (744), 14 - 20 marta 2011. S. 17-31.

the limit of effectiveness ends and the technological advances is offered by this time fundamentally new solutions in the field of basic technologies. There was an evolutionary development of organizational and resource conditions for change of orders. Role of corporations in the course of this objective is to concentrate resources for the implementation of new technologies and new product development.

Along with the development of practical achievements, complexity of business economics, corporations and accumulated problems of its scientific understanding.

Configuration and competence as the possession of assets, mainly determines the result of competition and the competitiveness of corporations.

We support the statement of D. Tisza that the modern corporation focused on providing physical and social infrastructure, as well as the allocation of resources in order to transform knowledge into competence[59].

Configuration and competence as the possession of assets, mainly determines the result of competition and the competitiveness of corporations.

In our opinion, Uzbekistan doesn't have innovation-driven corporations yet. According to some scientists, the government, as well as the top management of large companies continue to underestimate and undervalue systemic problems at the micro level, at the level of industrial corporations, that is where the added value is generated, thereby ensuring stable economic growth[60].

Economic globalization has led to the distinction of the "new company" from the traditional company, on the basis of which well-known theories of firms and their competitiveness. Traditionally, companies had such signs as[61]:

■ significant capital intensity of assets (economies in scale of production, building and overcoming market barriers);

■ strong vertical integration, control over suppliers and customers;

■ administrative methods of personnel management;

■ attracting more investors and the dispersion of the share capital, high demand for investments, capital assets, high risks;

■ main problem of corporate control;

■ localization of the company, which is determined by its tangible assets.

In today's economy the role and weight of the individual assets are significantly changed. Tangible assets, as the main source of income of the corporation, have become less significant. Increased competition has identified innovation as a mechanism of development and competitiveness on the basis of human capital. Modern

[59] Tis Dzh. D. Vyjavlenie dinamicheskih sposobnostej: priroda i mikroosnovanija (ustojchivyh) rezul'tatov kompanii. // Rossijskij zhurnal menedzhmenta, 2009, Tom 7, №4, S. 59-108.
[60] Rajnert Je. Zabytye uroki proshlyh uspehov //Jekspert. – 2010. – T. 1. – №. 687. – S. 28.12.
[61] Aaker D. Biznes-strategija. Ot izuchenija rynochnoj sredy do vyrabotki besproigryshnyh reshenij. – Litres, 2014.

markets intensified factor of supply of goods and services and as a result - have led to an increase in competition in the market of intermediate products, which contributed to the process of destruction of the vertically integrated corporations.

Creation of new knowledge in the form of autonomous or "specialized" innovation does not require a complex organization and is acceptable for small organizational forms. However, for the commercialization of new technologies, carrying out innovation on a constant "industrial" basis require a complex organization. New challenges require new organizational forms, understanding the nature of knowledge and competence as a strategic asset.

As a consequence, under the pressure of globalization, communications, human and information technology resources and knowledge, human capital, intangible assets become major element of corporate assets, new forms of cooperation in the field of research and development, implementation and funding of innovative projects, such as the concept of "open innovation" strategic alliances[62].

For example, such changes have taken place in a number of Western corporations - the ratio of tangible and intangible assets has changed in the ratio of about 10-30% in the share of 70-90% of the material and intangible assets. Moreover, the basic business processes of corporations change, the strategy of generation of added value also changes. Traditional structures aimed at production and sales structures are giving way to providing a variety of warranty, after-sales maintenance and repair of sold goods[63].

It should be stated that the conditions and operation of modern corporations have changed dramatically, and the quality of these changes requires a review of many of the theory of economics and organization of businesses and corporations[64].

As can be concluded from[65] the modern corporation can be considered as a repository of knowledge – knowledge, embedded in business and routine business processes. The knowledge base includes technological competence and knowledge of customer needs and ability of suppliers. This competence may be competitive advantage to the extent that they are difficult to be simulated. The ability of firms to identify and explore new opportunities to reconfigure their knowledge as assets,

[62] Gassmann O. Opening up the innovation process: towards an agenda //R&d Management. – 2006. – Т. 36. – №. 3. – С. 223-228

[63] Kondrat'ev V. B. Korporativnoe upravlenie v Rossii //M.: MGIMO-Universitet. – 2012.

[64] Klejner G. B. Sistemnaja paradigma i jekonomicheskaja politika //Obshhestvennye nauki i sovremennost'. – 2007. – №. 3. – S. 99-114.

[65] Mil'ner B.Z. Innovacionnoe razvitie: jekonomika, intellektual'nye resursy, upravlenie znanijami / Pod red. B.Z. Mil'nera. - M.: INFRA-M,2009.

competencies and complementary assets to select organizational forms, optimally allocate resources, all this determines the dynamic capabilities of the company[66].

The success of the corporation is expressed in competitive advantage; the company's position depends on innovation. That is innovation-oriented corporation characterized by the level of innovation activity - an integrated feature of its innovative activity, including susceptibility to innovation, degree of intensity of the action undertaken by the transformation of innovations and their timeliness, ability to develop and apply modern methods of planning and organization of production. Innovation-oriented corporations are characterized by a constant willingness to update the main elements of the innovation system - their knowledge, technological equipment, search for key competences and dynamic capabilities.

The ability of corporations to create, adjust, sharpen or replace the business model, that is a plan of organizational and financial "architecture" of business, which outlines the contours of the solutions, necessary to make a profit, is fundamental to dynamic capabilities.

Successful detection and measurement of technological and market opportunities, the selection of technologies and product features, design business models and financial resources investment opportunities may lead to profitability and growth of the company. Profit growth, in turn, contributes to the development of resources and assets of the corporation.

The key to sustainable, profitable growth, as has been said, is the ability to recombine and reconfigure assets and organizational structures as the company grows and changes in markets and technologies - two sources of unavoidable changes[67]. Reconfiguration is necessary to maintain the evolutionary conformity. That is, the success leads to the formation of routines, as it is necessary to production efficiency. Routines help to maintain continuity until a shift in the environment.

The dynamic potential of the company is a rapid response to the ever changing environment of being able to create and recombine the internal and external competence. Dynamic concept is very closely linked to the economic theory of evolutionary version of the company that explores the competitive advantages, namely from the point of development.

In this sense, the concept of dynamic capabilities has the concept of entrepreneurship with a consequent priority to Schumpeterian rents as a measure of the level of competitive advantages of the company. This competence, underlying industrial, institutional and strategic decisions are implicit (latent) knowledge and

[66] Leih S., Linden G., Teece D. Business Model Innovation and Organizational Design: A Dynamic Capabilities Perspective. – 2014.

[67] Turova Je. Znachenie intellektual'nogo kapitala v dostizhenii ustojchivyh konkurentnyh preimushhestv sovremennoj kompanii. – Litres, 2014.

formed by the accumulation of a specific historical experience in a specific, unique social environment of the company. From here organizational competence cannot easily be transferred to others (be the subject of market transactions) and to a large extent predetermined by the historical trajectory of the firm.

Dynamic approach should be preferred when analyzing fundamental to modern management theory and practice of knowledge management issues. In the literature on this subject resource approach (in his "dynamic"[68] interpretation) took synonymous name of "the concept of intellectual capacity"[69]. When defining knowledge as an asset of the company's strategic logic of action becomes an extension of the resource approach in general and the concept of dynamic capabilities such as: benefits in the performance of some firms over others are a consequence of differences in the knowledge, i.e. core competencies[70]. Many authors[71] have identified organizational processes by which firms synthesize and acquire new intellectual resources and generate new methods for their use.

According to the authors[72] within the last phase of the development of strategic management the diversity of approaches was determined, on the other hand common trait diversity – innovation was found. Modern corporation should be effective in terms of resources, on the other hand - the innovative[73]. That is, corporations have to develop the ability to innovations - the continuous cultivation of new business concepts (strategies). Innovation should be a means of ensuring the sustainability and resilience of the corporation to external perturbations. Sustainable competitive advantage is based on continuous innovation.

In an open economy with rapid technological change, the concept of dynamic capabilities highlights the managerial competence, which can help companies achieve competitive advantage. For the success the creation of new products and processes are required, as well as based on the entrepreneurial spirit of the management, introduction of new organizational forms and business models.

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[68] Bendikov M.A. Dzhamaj E.V. Identifikacija i izmerenie intellektual'nogo kapitala innovacionno aktivnogo predprijatija // Jekonomicheskaja nauka sovremennoj Rossii, №4 2001, s. 83-108.

[69] Mil'ner B.Z. Gorizontal'nye svjazi v organizacii i upravlenie innovacijami // Problemy teorii i praktiki upravlenija, №10, 2011. S. 19-30.

[70] Kravchenko N.A., Kuznecova S.A., Markova V.D. i dr. Problemy formirovanija rossijskoj innovacionnoj sistemy i razvitija konkurentosposbonosti predprijatij / pod. red. V.V. Titova. - Novosibirsk : IJeOPP SO RAN,2009.- 280 s.

[71] Popov E.V. Innovacionnoe razvitie jekonomiki znanij monografija / [Popov E. V. i dr.] ; pod obshh. red. A. I. Tatarkina ; Rossijskaja akad. nauk, Ural'skoe otd-nie, In-t jekonomiki. Ekaterinburg, 2011. - 646 s.

[72] Titov V.V. Optimizacija upravlenija promyshlennoj korporaciej: voprosy metodologii i modelirovanija. - Novosibirsk: IJeOPP SO RAN, 2007. - 256 s.

[73] Hamel G., Prahalad K. K. Konkuriruja za budushhee. Sozdanie rynkov zavtrashnego dnja. – M. : ZAO" Olimp-Biznes", 2002.

Model of management system of such corporation, as rightly pointed out by Professor Titov V. V., should include not only the decision-making process, but also take into account the processes – financial and economic, productive and innovative[74]. The integration of these processes into a single model will ensure the construction of an effective system of corporate management.

What economic goals are set now at this level of government? The main thing here is to forecast trends in the use of scientific and technological progress (STP) in the development of new products, in determining the demand for it, in creating an effective business model in the assessment of opportunities for improvement of technology and organization of production, management, etc.[75].

The experience of countries with market economies suggests that the transition "infirm planning and long-term strategic" was defined by acceleration of the process of innovation and economic development, increased competition and the pressure of increasing uncertainty. The main task of the top management of most corporations is the development of long-term strategy, taking into account environmental factors.

During this period, there were management development tools such as a method of control scenarios, economic and mathematical modeling, and forecasting, extensive use of expert assessments in the development of options of economic behavior.

It pushes us to the fact that the modernization of the national economy in the direction of innovative development strategies should take into account the world experience. We affirm that major innovation of the corporation is imperative emergence of innovative economy. Therefore, domestic corporations should follow the general principles of good models of modern corporations that can accumulate resources and competence for implementing innovations.

For this type of company it is necessary to perform basic relations between the basic parameters of its effective development, such as stock and equity capital, volume of production, production and investment costs, payback period, internal rate of return of innovative projects, net profit, return on assets and return on sales, and some others, which will be discussed in more detail hereinafter. Why is this necessary? These corporations together with their surroundings and communication (infrastructure) form an innovative system. In this system, issues of investment and self-investment are solved; mechanisms of investment attractiveness, industry competency, research capacity and human capital are formed. This is clearly written and said by scholars such as M. Rose, W. Daellenbah, D. D. Tees, G. Hamel, K. Prahalad, G. Chesboro, V. B. Kondratiev, and B. G. Kleiner. The point is that not every corporation, even if it

[74] Titov V.V. Optimizacija upravlenija promyshlennoj korporaciej: voprosy metodologii i modelirovanija. - Novosibirsk: IJeOPP SO RAN, 2007. - 256 s.

[75] Titov V.V., Mezhov I.S., Solodilov A.A. Proizvodstvennyj menedzhment: osnovnye principy i instrumenty organizacionnogo razvitija. - Novosibirsk: IJeOPP SO RAN, 2008. - 276 s.

wanted to, is capable of constant innovation. This is especially true in our case: outdated technology and production capacity, limited capital and financial sources of investment, lack of own R & D base.

We propose the concept of innovation-oriented industrial corporations, the main purpose and meaning of the concept is to determine the classification features for the corporation that can efficiently meet the challenges of innovation in the production of a long period of time, as it is done by leading foreign companies. The study showed that the majority of domestic corporations do not have such classification features; its activities are guided primarily by the current production and do not have the necessary assets to innovative production.

Numerous scientific studies from the perspective of strategic management theory and the theory of resources show that the monopoly on hard copied resources and competences enables the firm to compete successfully in the industry and global markets. As analysis shows, it is innovation-oriented industrial corporations have innovative monopoly that allows for the Schumpeterian rents from the market implementation of advanced asset structure.

"Corporation" as the most advanced in qualitative aspect of the term in relation to the concept of "corporation", in our opinion, should reflect not only the size and integration structures, but also point to qualities such as new manufacturing and information technology, advanced management methods, large innovation, finance, production and human resources. Then to the classification criteria of such corporation the following must be included:

- high innovative potential, which is determined by the cutting-edge technology for the industry, the basis of the study, laboratory equipment, the presence of scientists, designers, engineers' high-level capital and routines at all levels;
- core competencies are the possession of hard copied knowledge and skills that enable to achieve competitive advantages;
- dynamic capacity - the ability of the company to identify and explore new opportunities, to reconfigure their knowledge as assets, competencies and complementary assets, to select organizational forms, optimally allocate resources;
- speed of the transition from development to production and sales.

Based on the aforesaid, under the innovation-oriented corporation we will understand such a corporation which, having a high potential for innovation, with core competencies, with the ability to rapidly generate ideas, bring them to mass production, and implementing innovations, receives rent and average industry profit on a long period of time. In such corporation, which has the above classification features, in fact, factors of production are determined by different and priorities of impact on innovation process are set.

With this understanding of the corporation it is necessary to address theoretical and procedural problems of instrumental studies of innovative processes in modern corporations.

The proposed model for analyzing the above problems of the economy of innovative corporations shows that industrial innovation, economic and financial aspects must be considered as a complex and multidimensional system compared to the economy of traditional corporation.

Analysis of effectiveness of activity of established corporations, survey of the views of experts and authoritative analysis of scientific publications on industrial innovation and investment, as well as studies done with our participation, show that the creation of domestic competitive innovation-driven corporation, is possible only on the basis of evidence-based methodologies and techniques of organization of production systems.

1.3. Theory of managing innovative activity of industrial corporations

In the implementation of the innovation tasks of the corporation a major role plays the production structure of the corporation, which plays the role of the immediate implementation of innovative ideas into practice[76].

The production structure of the company is the aggregate of the production units, either directly or indirectly involved in the production process, the spatial construction of which shall be based on certain principles and factors[77]

This definition focuses on the fact that the most important element of the production structure of the corporation serves a set of production units, which has its own structure, the study of the combination of which is both scientific and practical interest.

The structural composition of the elements of the production structure of the corporation is shown in Fig. 1.3.1.

The composition of the elements of the production structure (PS) of corporation pre-determined by the nature of the problem solved (PS) and the composition of departments of organizational structure of management (OSM), i.e.

PS-----► OSM----- ►PS (1.1)

[76] Kurpayanidi, K. I. (2019). Theoretical basis of management of innovative activity of industrial corporation. *ISJ Theoretical & Applied Science*, *1*(69), 7.

[77] An'shin, V. M., & Dagaev, A. A. (2007). Innovacionnyj menedzhment. Koncepcii, mnogourovnevye strategii i mehanizmy innovacionnogo razvitija. *VM An'shin, AA Dagaev.—3-e izd., pererab. i dop.—M.: Delo*.

Diversity is feature of innovation. With this in mind, every company is trying to structure it taking into account peculiarities of its own functioning. This is a recognized fact, according to which innovation management and organizational structure affects the production structure of the corporation. The extent to which they are involved and what are the components of a serious question, the solution of which depends on production management in innovation in the corporation. Obviously, it is appropriate to express the assumption that the implementation of management processes in innovation for the success of their implementation

It should focus on the reasonable integration of different management structures with individual structural components of the industrial structures of the corporation, as well as their elements. In other words, for every organizational and administrative problems should be approached strictly individual.

At the same time we should not forget that the production management of innovative activity in modern conditions will involve a certain extent reengineering, alliances theory, the theory of the internal market.

Innovation inherent diversity. With this in mind, every company is trying it's structured with taking into account peculiarities of its own functioning. This is a recognized fact, according to which innovation management and organizational structure affects the production structure of the corporation. The extent to which they are involved and what their constituents - a serious question, the solution of which depends on production management in innovation in the corporation.

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The solution of this problem is extremely mobility, dynamism, and focus on the organic combination of the activities of management and production units in the implementation of innovations. In this regard, there is a need to develop tools to integrate them through, and sometimes pre-differentiation of each of them to develop approaches to solving this problem. Generated funds should form the basis for the theoretical and methodological problems and solutions put forward in their totality represent the tool.

Structural components of production structure of corporation	Elements of structural components of production structure of corporation

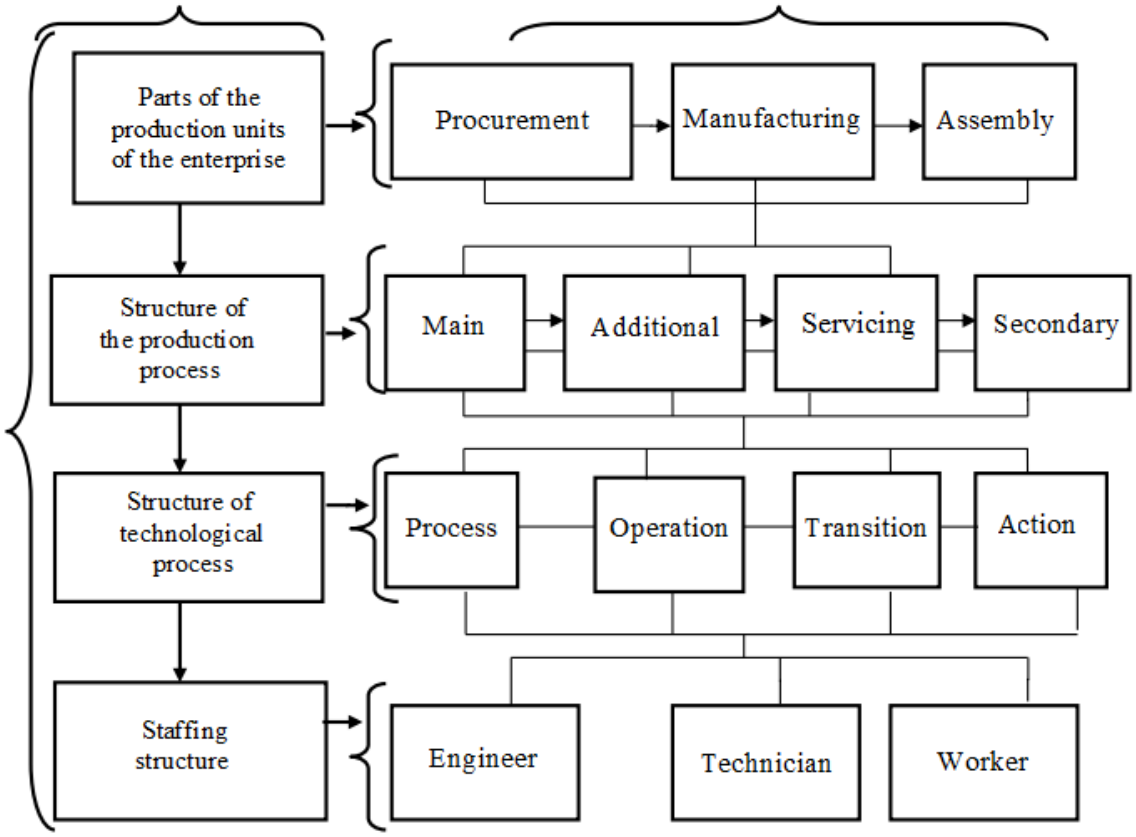

Fig. 1.3.1. The structural composition of the elements of the production structure businesses

Toolkit - a set of elements designed to influence the management and production subsystems companies in introducing innovations to produce the desired results[78]. In the toolkit include:

- management and production subsystems of the corporation;
- principles of the mechanism called;
- management investigated the mechanism;
- controlling;
- logization;
- temporal aspect of the functioning of the designated mechanism. Systematically selected elements of the test tools are shown in Fig. 1.3.2.

[78] Gee, J. P. (2010). *How to do discourse analysis: A toolkit: A toolkit*. Routledge.

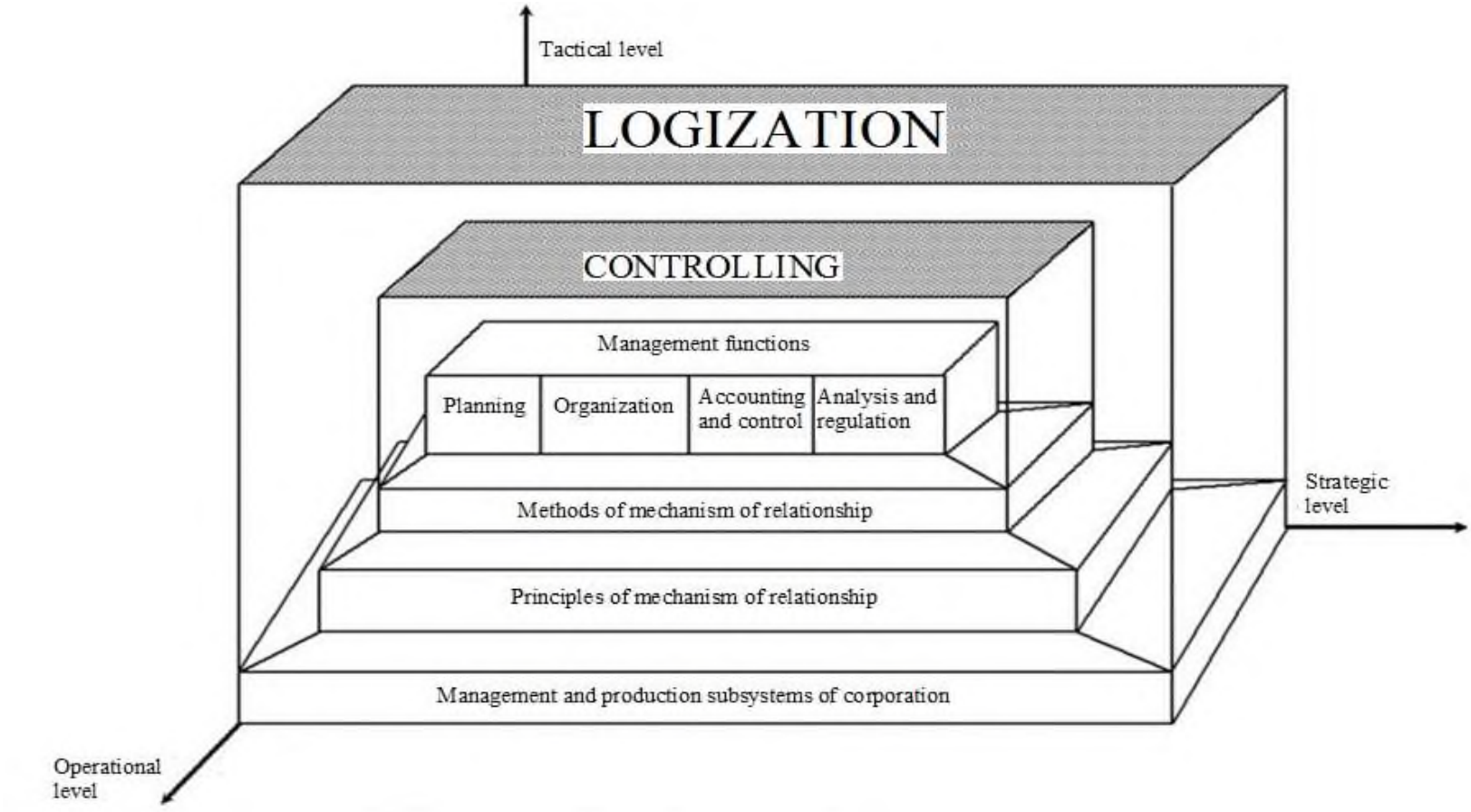

Fig. 1.3.2 System representation of elements of the equipment management in the relationship with organizational management structure of the corporation and its production structure

Recognizing the importance of the elements of the equipment, and the relationship of the level, it is arranged in the form of their axes with respect to them and that other tools are presented in Fig. 1.3.2.

The first elements of the superstructure are the principles. The reason is that the principles represent a starting position of any theory. In this case, it is our task to develop solutions that require the separation of rules or principles that you must at the same time to use. It should be noted that the allocation principles are the result of generalization objectively existing laws inherent features characteristic of the facts and features that make up the general principle of solving the problem of the development of a mechanism for managing the interactions of management structure and industrial structure of the corporation in the implementation of innovations.

Proceeding from the above the basic principles of problem to be solved include:

1. The principle of the rule. It is based on the recognition of the significance of the decisions of higher authorities for all departments and management structures of production.

2. The principle of reciprocity, which means that the structures created by the company to address operational, tactical, strategic tasks can be granted certain rights and privileges, subject to all the latest requirements put forward to them.

3. The principle of horizontal equity, pre-empting the equivalent position of the units are in equal economic conditions.

4. The principle of transparency that characterizes the compulsory bringing to the public budget of all departments as well as the credentials of compliance units budgets.

5. Principles of departmentalization based on the creation in connection with the operational needs of new units - departments. This requires a thorough justification for the creation of new units.

6. This principle is closely connected with the principle of separation of powers, which requires that each unit was allocated a specific area (the range of tasks and responsibilities), in which it would have the exclusive authority.

7. The principle of division into sections (According to Jdanov). It is believed that this principle is the first organizational law. Construction companies are always internally differentiated into shops, sites, departments, subdivisions, etc. The company's activities as a whole consist of its parts work or elements. For the most experienced manager task management company as a whole, without isolating it shops, departments, without distinction of roles and responsibilities would be unbearable. It is therefore extremely important to find one universal trait, which should form the basis for grouping the elements of labor organization.

8. The principle of detailed analysis of the work, which means that all the work, should be broken down into parts, operations, complex and simple elements. Each element should be subject to constant review in order to identify existing reserves.

Emphasized principles for solving the problem of constant allow you to select the most effective methods for managing change in the management structure and industrial structure of the corporation.

It should be noted that an important difference between principles and methods is that management principles are permanent and binding. The totality of the management techniques can vary depending on changing conditions while retaining principles.

The relationship between the principles and methods of one-sided. The principle allows you to create a system of methods and each method separately. But every single method does not have the same impact on the management principle. Only the totality of methods under certain conditions can have a reverse effect on the structure of the principles on the form of their use.

Turning to the subject of the methods of the work involved, you must be emphasized that in the classical representation method - a method of investigation, which will be converted to examine the economic system through the development of scientific results and implementation of its practical implementation. Regarding the latter, it should be noted that the practical implementation of scientific results itself is due to their use of specific methodological developments.

The methods of this research are manifold. Of course, they fit into the classic group of management practices, which include economic, organizational, and administrative. At the same time, emphasizing the specifics of the study, we would like to highlight a few, the most relevant of the specific ways.

First of all it is - a genetic method of investigation of economic processes. The essence of this method lies in the fact that the forms and methods of conversion should be dictated by the objective state of the economy of the corporation.

Method of organizational modeling involves the development of formalized mathematical, graphics, engine and other maps of distribution of powers and responsibilities in the organization, which is the basis for building, analyzing and evaluating different options of possible organizational structures for the management of specific objects.

Forecasting methods: statistical and heuristic. Statistical - prediction method, based on mathematical statistics. The heuristic is based on the methods of calculation and procedures arising from the experience and intuition of experts engaged in the forecast.

The method of expert evaluations in management - a method of forecasting, based on consensus of the expert group.

Administrative management method involves a direct impact on the managed object and the unique solution corresponding to the economic situation, binding for execution.

Describing the methods of investigation, it should be emphasized that the study conducted preferably activation of integration methods; it does not exclude an option of applying them consistently.

Since the problem under consideration concerns a specific type of governance, recognizing the essence of management in the implementation of the impact on the controlled management structure in order to obtain the desired result, it should be noted that the impact of the process takes place through the implementation of specific activities, which are called functions.

Classical composition of management functions include: planning -organization - accounting and control - analysis and regulation[79].

The function of planning and defining the acts leading to the above list of basic management functions[80]. With this it has the opportunity to anticipate the course of solving the problem.

The function allows the organization to put into practice the idea of planning formed.

Accounting and control function makes it possible to assess the actual state of affairs on the practical implementation of the problem that causes the identification of deviations.

Function analysis and management allows us to reduce the identified deviations to zero.

It should be kept in mind that the management of the two-faced. On one side is a single act of targeting, on the other - a process (processes), implemented in time and therefore bears repeating character due to cyclical social production. This control loop should be considered from the point of view of content and in terms of the structure (shape). In this case, function or step of management as elements of the process control reflects its different sides. If the composition of functions reflects the content side of the management process, the structure of the stage expresses spatial boundaries, time periods and the sequence of the functions for each cycle.

Classical control[81] functions within a solved problem are projected be as follows:

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[79] Keith, N., & Frese, M. (2005). Self-regulation in error management training: emotion control and metacognition as mediators of performance effects. *Journal of Applied Psychology*, *90*(4), 677.

[80] Turner, J. R. (2009). *Handbook of project-based management: Leading strategic change in organizations*. McGraw-Hill Education.

[81] van Dijk, J. P., Kawakami, E., Schouten, R. N., Veldhorst, M., Vandersypen, L. M., Babaie, M., ... & Sebastiano, F. (2019). Impact of classical control electronics on qubit fidelity. *Physical Review Applied*, *12*(4), 044054.

1. Modeling the activity of all management subsystems and elements of the production structure in the implementation of innovations;

2. Organization of practical implementation of the developed model of the organization in the implementation of innovations;

3. The conformity assessment of the planned model innovation its actual state. Isolation of deviations;

4. Analysis of the causes of deviations and develop measures to eliminate them.

The logic of the classical relationship management functions and control functions in the problem shown in Fig. 1.3.3.

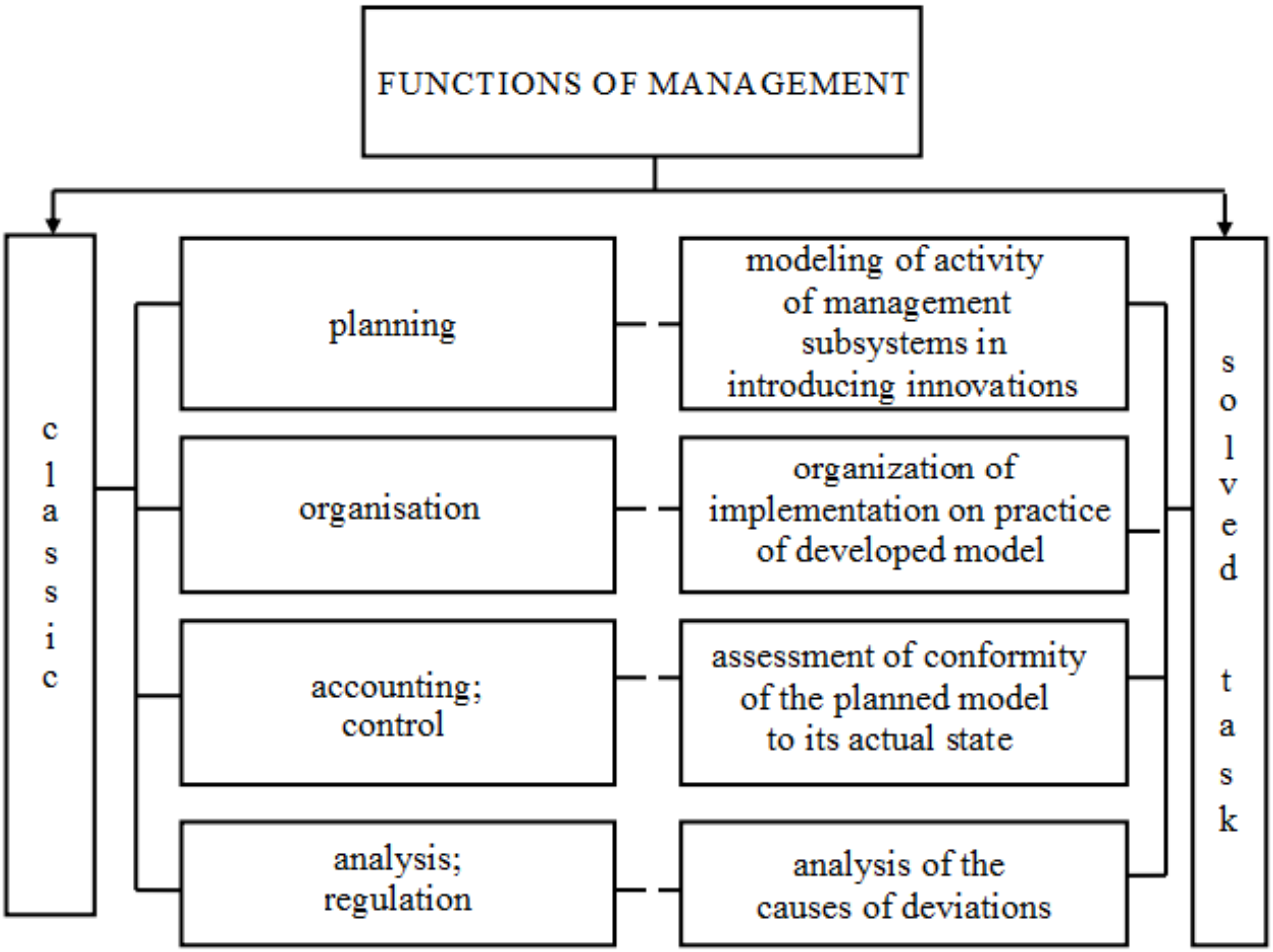

Fig. 1.3.3. Logic of the relationship of classical functions of management and control functions for tasks

The above management is the backbone; their implementation will contribute to the overall solution of the problem[82]. However, it should be that the main line is always

[82] Xie, J., & Wang, X. (2008). A survey of mobility management in hybrid wireless mesh networks. *IEEE network*, *22*(6), 34-40.

accompanied by a collection of local ones. Therefore, we carry out local functions and define them the following characteristic features:

- "length function", which is defined by a sphere, the size of the impact of the vertical and horizontal organizational structure of management;
- "independence" of the function. It can be fully or equity, that is, by one or more units;
- "character" function, which expresses her certainty and uncertainty. Certain functions should be fixed by legislation;
- "orientation" function to indicate what activities the company directed its impact;
- "the power and the measure" the impact on the object. On this basis functions may be establishing, asserting that require providing advisory, analytical, etc.

In other words, the practical implementation of the tool-functions relationship management organizational structure and management of the production structure of the company - will generate well-defined, the optimal composition and content of the papers, and actions aimed at implementing each function, as well as the development of technology regulation of their implementation, taking into account the features of the corporation.

The following elements are considered tools - controlling. Controlling - information-analytical system, which provides the company's management information for management decisions[83].

Thus the main objective of controlling is to ensure the stability of the planned course of events accompanying the solution. In this sense controlling is an analog of a pilot, who on the basis of continuous monitoring of the captain gives advice[84]. In accordance with the above, the controlling entity is as follows: controlling - is the management relationship management organizational structure and production structure of the corporation.

Based on the selected target, the basic function of controlling:

- The control - collection and systematization of data;
- Analytical - Processing and analysis of information;
- Recommendatory - the integration of the information collected for the purposes of management.

Thus, the main task of controlling is to provide methodological and instrumental framework to support the implementation of the basic functions of management. In turn, the main elements of controlling should be considered:

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[83] Ob innovacionnom centre «Skolkovo»: federal'nyj zakon ot 28.09.2010 №244-FZ // Sobranie zakonodatel'stva RF. - 2010. - № 40. - St. 4970.

[84] Ayupov, S., & Arifjanov, A. (2017). Information–analytical technologies of decision support in management of power systems. In *Proceedings of the Tenth International Conference on Management Science and Engineering Management* (pp. 827-839). Springer, Singapore.

1. The coordination and planning - creating methodological basis of formation of operational, tactical, strategic management plans for interconnection of the organizational structure and production structure of the corporation in the implementation of innovations;

2. Support for the organization - creating a mechanism adjusting approaches to business processes;

3. Accounting - creating the optimal structure of processes of motion information.

4. Research - development and effective functioning of the tools of analytical processing of data for management decision-making;

5. Development of recommendations - the integration of information collected and processed, and to ensure management recommendations for management decisions.

Since innovation affects all units of the organizational structure of management and production structure of the corporation, then each unit will obviously be determined by the specific task that must be done by a specific date and to a certain extent[85]. Track timeliness of these tasks is designed to controlling. For example, tracing the development of technological processes on terms within the development of new products will allow time to identify deviations arising in this case. To monitor the development of technical processes can use Table. 1.3.1.

The need to bring the offset value to zero will require the implementation of analytical work, which must be backed by institutional support. Such work can be carried out using the tab. 1.3.2.

Table 1.3.1

Development of technological process

Development of technological process (name of goods)			
Name of operation	Planned date of fulfillment	Factual date of fulfillment	Deviations (in days)

[85] Kurpayanidi, K. I. (2019). Theoretical basis of management of innovative activity of industrial corporation. *ISJ Theoretical & Applied Science*, *1*(69), 7.

Table 1.3.2

Analytical table

Analytical table by jointing deviations arising in the development of technological processes			
Name of operation	Deviations (in days)	Reason for deviation	Measures to eliminate the deviation

This example illustrates the practice of controlling, which should be subject to all the processes occurring in the corporation.

An important element of the reporting tool is logisation.

In fact - the new term. Its introduction is due to the need to highlight the interconnectedness of all the previously mentioned elements of the test equipment. And this relationship is manifested both in the static approach to the problem, and in dynamic. Obviously, the recognition of the presence in the composition tools enable logisation subsequently develops a mechanism for the functioning of the studied species management, as well as some techniques and models thereof.

It should be noted that logisation acknowledged highlight and reflect the unity of the problem to be solved with the whole economic mechanism of the corporation. This underlines the unity of the economic, organizational, administrative rules in force at the company. On the basis of the formation is carried out logisation channels of communication between the departments of management and organizational structure of the production structure of the corporation.

The effect of all these elements of the equipment is carried out in terms of time in which there are three components - the operational level, tactical level, strategic level. The reason is that any corporation tends to organize its activities in all its manifestations on the basis of the prerequisites for a strategy that flows into planning tactics, annual ongoing activities, together with operational deviations or difficulties arise, causing the need for adjustments to previously spent tactics, and if necessary, and strategy.

Summary description of implementation tools directions relationship organizational structure of corporation management and production structure is presented in Table. 1.3.3.

Table 1.3.3.

Directions of implementation relationship toolkit of organizational management of corporation and its production structure

Correlation tools	The intended use	Areas of implementation of tools
Party relationship management organizational structure and industrial structure	Development and implementation of rational management actions	The study of organizational and economic essence of corporation management system, and the logic of construction of industrial structures
Management and production logisation	The manifestation of the functional relationship and information management of the constituent elements of the organizational structure and industrial structure	Formation of the channels of communication between the departments of management and organizational structure of the production structure of the corporation
Controlling	Enabling traceability of the processes of management and production processes	Rapid detection of abnormalities that occur in the processes of management and production
The temporal aspect	Implementation of the interim linking management processes and production processes	The organization of strategic, tactical and operational relationship management and production activities
Principles	Development of assumptions to solve this problem	Highlight Scope of applications developed rules of
Methods	Development of studying ways	Forming techniques and ways that allows to implement the idea worked out

In Chapter 1, the following results were obtained:

The main issues of implementation of the innovation process in the organization, namely: the basic concept of the innovation system, the model and the stages of the innovation process, analyzed the factors of increasing innovation activity, offered their updated systematization and classification. Analysis of factors of innovation activity led to the conclusion that it is often considered as factors functional subsystems organization, and least studied factor - the identification and interaction of strategic and operational levels of the organization. Based on the analysis of approaches to management levels were identified for analysis of the most promising ways of increasing innovation activity: the evolutionary system-integration theory and the theory of self-development. From the perspective of these theories, analyzed the interaction of strategic and operational levels of management (for example, marketing subsystem), identified approaches to defining levels of government and their

interaction, the principles of cooperation, describes the process of harmonization of the levels of management, the scheme of coordination of strategic and operational levels of management subsystem marketing in terms of subjects, objects, tools, features and results identified eight types of interaction and possible mechanisms for addressing the problems of interaction and coordination. Thus,

1) clarify the typology of the factors increasing the innovative activity of the organization, namely:

systematized classification criteria take into account the need for interaction between management levels of functional subsystems of the organization as a factor of innovation.

2) basic principles of management of innovation activity, depending on the nature of the interaction of management levels:

the principle of hierarchy, feedback and self-development in accordance with the evolution of system-integration theory and the theory of self-organization.

CHAPTER II. METHODOLOGICAL TOOLS FOR THE MANAGEMENT OF INNOVATIVE ACTIVITIES OF BUSINESS ENTITIES IN INDUSTRY

2.1. Analysis of the factors of increasing the innovative activity of industrial corporations

An analysis of the theoretical foundations of increasing innovation activity showed that the organization can only be competitive if it is to improve their innovative activity, which, as we saw earlier, there is a comprehensive description of its innovative activities, including the degree of intensity of the action undertaken by the head inclined to search for a new and timeliness the ability to mobilize the potential of the required quantity and quality, including its hidden side, the ability to ensure the validity of the methods used and the progressive, rational technology in composition and sequence[86]. On innovation activity is affecting the knowledge of which allows the development of mechanisms for its development and promotion of modern organizations[87]. We analyze their essence.

The essence of the concept of "factor of innovation activity" is revealed few authors, and the detected variations are diverse. Refer to Table 2.1.

Table 2.1. Options for the interpretation of the concept of "factor of innovative activity"

№	Author, source	The essence of the "factor of innovative activity"
1	Vasil'ev I. A.[88]	Leverage innovative activity, stimulate or slow down the growth rate of its level. The investigation the factors - a certain economic status (position) of the company, which can be characterized by a set of attributes of innovation activity.
2	Sidorenko V. G.[89]	Motive formation of innovative strategy, which aims to create innovations that become commodities in the market.
3	Piven' A. V.[90]	Possibilities of increasing innovation activity.

[86] Nieto, M. J., & Santamaría, L. (2007). The importance of diverse collaborative networks for the novelty of product innovation. *Technovation*, *27*(6-7), 367-377.
[87] Bollinger, A. S., & Smith, R. D. (2001). Managing organizational knowledge as a strategic asset. *Journal of knowledge management*.
[88] Vasil'ev, I. A. (2010). Metodicheskie voprosy jekonomicheskoj ocenki innovacionnoj aktivnosti generirujushhih predprijatij jelektrojenergeticheskoj otrasli. *Mikrojekonomika*, (1), 47.
[89] Sidorenko, V. G. (2008). Sovershenstvovanie upravlenija innovacionnoj aktivnost'ju organizacij v rossijskoj jekonomike: dis.… kand. jekon. nauk: 08.00. 05. *17*.
[90] Piven' A.V. Ocenka i upravlenie innovacionnoj aktivnost'ju promyshlennyh predprijatij (na primere predprijatij Habarovskogo kraja): dis. … kand. jekon. nauk: 08.00.05. – Habarovsk, 2009. – 171 s.

4	Tovstenko B. P.[91], Ershov V. F.[92]	At different levels: the macro level - historically developed situation, meso - a collection of objects and the conditions with which the company is facing in everyday life, micro level - the factors determining the competitiveness
5	Skopina I. V. et al[93]	The main measure of innovation field, increasing the innovative activity of the public and private sectors.
6	Tokarev B. E.	Effects on the sale of innovative products.
7	S. Jentoni, M. Dzhonson, Dzh. Sinfild, Je. Oltman	The condition required not spontaneous, one-time innovations and for the systematic implementation of the innovation process

The definition proposed by I. Vasilyev, considered that factor - is the "lever" with which you can change the innovative activity: these levers can be stimulating and inhibitory nature; they should be regarded as a combination of factors in each situation; it is an optimal combination contributes to changing the situation of the organization and the level of innovation activity. This study is based on this definition as the most fully reflects the essence of the search term.

Factors innovative activity offered by different authors (24 approach 30 sources), are presented *in Appendix 1*. Let us analyze these approaches in more detail. Analysis of work allows you to select several areas of classification of factors of innovation activity.

I. The division of factors internal and external.

Valeeva E. O.[94] shares the factors of change and innovation activity influences on innovative activity, but the essence of these concepts is not defined by the author. Factors of innovation activity in this work are divided into external and internal. Among the advantages of the proposed E. Valeeva approach, you can specify that identified with it have the greatest impact on the consideration, the tourist market factors - seasonality; the author takes into account the specifics of the tourism market. In some cases, it proposed to take into account not all of the factors in the multidimensional force, indicating the flexibility of the proposed approach. Given

[91]Tovstenko, B. P. (2012). Faktory, vlijajushhie na innovacionnuju aktivnost' predprijatija. *Rossijskij jekonomicheskij internet zhurnal*, (2). [Electronic resource]. –URL: http://www.e-rej.ru/Articles/2012/Tovstenko.pdf

[92] Ershov, V. F. (2002). Restrukturizacija proizvodstvennyh sistem v mashinostroenii. SPb.: SPbGIJeU.

[93] Skopina, I. V., Baklanova, J. O., & Skopin, A. O. (2006). Innovacionnaja aktivnost'kak pokazatel'jekonomicheskogo razvitija regiona. *Regional'naja jekonomika i upravlenie: jelektronnyj nauchnyj zhurnal*, (31).

[94] Valeeva, E. O. (2005). Upravlenie innovacionnoj aktivnost'ju turistskoj firmy: dis.… kand. jekon. nauk: 08.00. 05.

these factors, the author presents the innovation and the economic mechanism, consisting of organizational and managerial, financial, economic, technical and technological, legal, informational, moral and psychological factors; factors that determine the level of innovative activity; In addition, factors allocated different levels of management. At the same time, it is possible to identify some shortcomings: clearly established selection process influencing factors in a particular case, the question remains of the interaction of the factors themselves to each other.

Just like E. Valeyeva, Agabeyov S. and E. Levina, internal and external factors contributed Gorban M. et al. It is noteworthy that the group of authors is based on an empirical analysis of real enterprises. Positive aspects of the approach are the difference of innovative activity of the country and the company, including any influence on innovative activity at various levels, consideration of both stimulating and hindering factors, which was not the work of previous authors. But in our view, remain open following issues: the lack of quantifying the influence of factors, failure factors, the characteristics of the companies themselves.

Exactly the same principle was used to systematize the factors by V. G. Medynskij[95], advantages of the approach which, in our opinion, is the consideration of factors of different groups (internal and external, direct and indirect effects) and the allocation of stimulating and inhibiting factors.

To this group the works of M. E. Kass[96], Ju. Firsov[97] can be attributed. They also share factors in the external and internal factors but they are slightly different so that the approach, in our opinion, complement each other. The positive approach of these authors is that they considered methods of assessment of innovative development, developed the requirements for its indicators. But, in our opinion, is not in the clear distinction between innovation activity and innovation development, which could lead to a distortion of the results of theoretical research.

A more narrow approach, due to the fact that we consider only the economic factors of innovation activity, but also belong to this group - the division into internal and external - different work S. G. Avdoninoj[98], which indicates that external factors determine the internal and external factors that determine each other, as well as domestic.

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[95] Medynskij, V. G. (2008). Innovacionnyj menedzhment: uchebnik. *M.: INFRA-M*.

[96] Kass, M. E. (2012). Razrabotka metodov ocenki innovacionnoj dejatel'nosti predprijatija. Strategicheskoe upravlenie predprijatijami, organizacijami i regionami: Sb. statej VI Vserossijskoj nauchno-prakt. konferencii (Aprel'2012 g.).

[97] Firsov, J. (2012). Faktory i jelementy povyshenija innovacionnoj aktivnosti predprijatija. *RISK: resursy, informacija, snabzhenie, konkurencija*, (1), 148.

[98] Avdonina, S. G. (2011). Faktory innovacionnoj aktivnosti predprijatij. *Jekonomicheskie nauki*, (12), 33-36.

S. Agabekov and E. Levina[99], which offer three groups of factors, factors also divided into internal and external, but this provision in their work is not fully disclosed, in our opinion. Advantages of the approach seen in an attempt to classify the factors held communications "factor - the root cause," while many of the authors only point to factors without giving reasons. Identifying the causes contributes to the formation of true mechanisms for increasing innovation activity, taking into account the factors of influence. However, we think that the superficial analysis of external factors (considered only economic and legislative), as well as the fact that among the economic factors singled and external and internal, however, separately isolated internal factors (which introduces uncertainty principle of classification) they are disadvantages of this approach.

A. A. Nikol'skaja[100], A. E. Vlasova, S. D. Il'enkova, O. N. Mel'nikova also proposes to allocate internal and external factors, however, along with this, they offered a group such as resource and Scoring factors. In our opinion, this is a reasonable approach, but is not fully disclosed.

E.A. Mil'skaja[101] also results in a wide range of factors that can be attributed to both internal and external to the organization, but the factors are considered only as constraining innovation activity, in addition, they are not systematic.

In the works Dzh. Djej[102] the author also discusses the internal and external factors: culture, organizational structure and market. This approach is different in that the time factor is introduced, that is considered a permanent change. However, consideration of factors is not comprehensive. The advantage of the approach - to identify the major problems, which are reduced to the absence of interaction, the high dynamism of the environment.

II. Consideration of external factors or only internal.

B. L. Kljunja and Fan Juj.[103] They do not talk about the factors themselves, but indicate that innovation activity of enterprises should have a number of features in order to be able to improve innovative activity. In our opinion, these signs are the factors of the internal environment. This suggests that flaw approach is that the external

[99] Agabekov, S., & Levina, E. (2011). Vozmozhnye modifikacii pokazatelej innovacionnoj aktivnosti. *Jekonomicheskaja politika*, (2).

[100] Nikol'skaja, A. A. (2012). Innovacionnaja aktivnost'vysshih uchebnyh zavedenij: ocenka i ispol'zovanie pri opredelenii konkurentosposobnosti: dis.… kand. jekon. nauk: 08.00. 05.

[101] Mil'skaja, E. A. (2011). Klassifikacija innovacionno-aktivnyh predprijatij. *Materialy nauchno-prakticheskoj konferencii «Nauchnye issledovanija i innovacionnaja dejatel'nost'*, 84.

[102] Djej Dzh. S. (2020). Organizacija, orientirovannaja na rynok: kak ponjat', privlech' i uderzhat' cennyh klientov. *Jeksmo.*

[103] Kljunja, V. L., & Juj, F. (2011). Innovacionnoe predprijatie: sushhnost', soderzhanie i otlichitel'nye priznaki. *Vesshk BDU.* - Ser. 3. - 1.

environment is not considered. However, the authors point out the need for fairly complex factors, their connection to the control system.

V. A. Titov, A. F. Martynov[104] also considering only internal factors: the structure, resources, research and so forth. In this approach, a lot of positives: the construction of a hierarchy of factors account networking, building some models of factors. However, there is a drawback associated with the narrowness, insufficient knowledge of the matter: not disclosed the essence of each of these factors, not studied the nature of the relationship, the approach is applicable only to the education industry.

S. Jentoni, M. Dzhonson, Dzh. Sinfild, Je. Oltman suggested as factors of the internal aspects of the organization: asset management, the establishment of a growth strategy, optimal allocation of resources. This approach differs from the others in the group, so that within it dynamic factors are considered, and not static.

III. Allocation factors in accordance with the activities (functions of the organization)

This area classification represented a group of authors, offering to allocate economic factors, production, personnel and so on. To her it is possible to put A. I. Golushko[105] **& T.** V. Kolosova[106]**,** offering to allocate production, economic and other factors, the reasons for innovation. In our opinion, the main disadvantage of this separation - a small number of the factors considered: only the economy, production, legislation, demand, in addition, the authors - not isolated between the internal and external factors.

IV. Isolation of factors with respect to the innovation process.

As shown by the above analysis, innovative activities implemented as part of the innovation process. Because of this, many authors use a process approach. For example, A. V. Piven'[107] considering factors such as the possibility of increasing innovation activity in the stages of research and development, commercialization, performance assessment. The apparent advantage of this approach, in our, view is that the author considered factors at different stages of the innovation cycle and classified

[104] Martynov, A. F. (2006). Titov VA Metodologicheskie podhody k upravleniju innovacionnoj aktivnostju. *Transportnoe delo Rossii*, (12-4), 40-42.
[105] Golushko, A. I. (2003). Mehanizmy upravlenija innovacionnoj aktivnost'ju v regione (na primere Omskoj oblasti): dis... kand. jekon. nauk: 08.00. 05.
[106] Kolosova, T. V. (2012). Jekonomicheskoe razvitie predprijatija na osnove realizacii innovacij: prakticheskij opyt ispol'zovanija koncepcij. *Strategicheskoe upravlenie predprijatijami, organizacijami i regionami: Sb. statej VI Vserossijskoj nauchno-prakticheskoj konferencii (Aprel', 2012*, 99.
[107] Piven, A. V. (2009). Ocenka i upravlenie innovacionnoj aktivnost'ju promyshlennyh predprijatij (na primere predprijatij Habarovskogo kraja): dis.... kand. jekon. nauk: 08.00. 05.

by grade capabilities of the organization (current and future), that is the approach, unlike others, involves an analysis of the future state.

V. Separation factors by level (management)

So often in the literature as to the division of internal and external approach, we believe the division of the authors of the factors on the basis of multi-layered. It should be noted N. S. Sharamygina[108], O. Ju. Trilickaya[109], R.S. Petrov[110]. They propose to allocate factors macro, meso, micro-level. Moreover, within each level, they are classified as factors such as micro-level factors are considered resource, efficient, process. The advantages of their approach: developed a universal classification of factors of innovation activity (industry, region, size, specialization); disadvantages of the approach: the combination of options is not considered the above factors; there is no question about how they should be integrated with each other.

Another group of authors also shares the factors on levels of protection, but their approach is somewhat different**.** B. P. Tovstenko[111] & V. F. Ershov[112] offer nation-wide address global factors, meso-environment, and microenvironment. Just as in the previous approach, considered Process and Scoring factors. E. O. Valeeva[113] proposes to consider strategic and tactical factors. And those and others, according to its approach, affect only the internal environment. That, in our opinion, is an omission of the author.

VI. An integrated approach to the classification of factors (two or more criteria).

Significant contribution to the analysis of the factors of innovation activity making S. A. Makina and E. N. Maksimova[114] that proposed a system features five-classification criteria. The main advantages of the work: isolated signs of classification

[108] Sharamygin, N. S. (2012). Upravlenie innovacionnoj aktivnost'ju promyshlennyh predprijatij na osnove jeffektivnyh metodov ee ocenki i stimulirovanija: avtoref. dis.... kand. jekon. nauk: 08.00. 05.
[109] Trilickaja, O. Ju. (2013). Innovacionnaja aktivnost' kak faktor povyshenija konkurentosposobnosti predprijatija. Vestnik Volgogradskogo gosudarstvennogo universiteta. Serija 3: Jekonomika. Jekologija, (1).
[110] Petrov, R.S. (2010). Stimulating innovation and entrepreneurial activity as a tool for regional innovation policy. Creative Economy, (1).
[111] Tovstenko, B. P. (2012). Faktory, vlijajushhie na innovacionnuju aktivnost' predprijatija. *Rossijskij jekonomicheskij internet zhurnal*, (2).
[112] Ershov, V. F. (2002). Restrukturizacija proizvodstvennyh sistem v mashinostroenii. SPb.: SPbGIJeU.
[113] Valeeva, E. O. (2005). Upravlenie innovacionnoj aktivnost'ju turistskoj firmy: dis.… kand. jekon. nauk: 08.00. 05.
[114] Makina, S. A., & Maksimova, E. N. (2010). Analiz faktorov, vliiaiushchikh na innovatsionnuiu aktivnost'ros-siiskikh predpriiatiia [The analysis of the factors influencing the innovation activity of the Russian enterprises]. Audit i finansovyi analiz. *Audit i finansovyi analiz*, 368-372.

factors considered inhibitory and stimulatory factors, external internal; objective and subjective factors, the relationship is specified to various factors in the short and in the long term, proposed a matrix relationship factors relationship factors "internal /external - objective/ subjective". The disadvantage can be regarded as a lack of systematization and correlation approaches of different authors considered in work.

This category, we allowed ourselves to carry this author, as I. A. Vasil'ev[115], which also identifies several classification criteria, namely eight. Advantages of approach: offered an extensive classification of factors provides a definition of the concept of "factor" considered factors at different levels of management. At the same time it highlighted the lack of such an approach as a lack of information about the interaction of complex factors.

In the same vein argues V. G. Sidorenko[116], It offers two criteria of classification. Pros approach: consider two criteria for classifying factors (internal / external, objective / subjective); indicate how certain factors are linked. However, this approach seems too narrow to us: consider only the factors of economic activity affecting innovation.

B. E. Tokarev[117] also offers several criteria for the classification of factors of innovation activity: external / internal, direct and indirect impact of factors at different levels, consumer and marketing. It is noteworthy that in contrast to other market factors - marketing and demand - in a separate group. In our view, it is reasonable and right step, because consumer demand is a crucial factor in the marketing of new products. Positive aspects of the work: the inclusion of international factors, consumer factors, market incentives; the model of assessing the impact of various factors, taking into account the correction factors.

VII. Other approaches.

Among the works devoted to the analysis of factors of innovation activity, considered as regional aspects, factors impeding and stimulating innovative development. Among the first study of this can be attributed to the author, as the I. V. Naumov[118] who is considering as factors the activities of local authorities, urban infrastructure, and the availability of material resources of the municipality. Also, in

[115] Vasil'ev, I. A. (2010). Metodicheskie voprosy jekonomicheskoj ocenki innovacionnoj aktivnosti generirujushhih predprijatij jelektrojenergeticheskoj otrasli. *Mikrojekonomika*, (1), 47.
[116] Sidorenko, V. G. (2008). Sovershenstvovanie upravlenija innovacionnoj aktivnost'ju organizacij v rossijskoj jekonomike: dis.… kand. jekon. nauk: 08.00. 05.
[117] Tokarev, B. E. (2014). Opredelenie rynochnogo potenciala innovacionnogo produkta. *Marketing i marketingovye issledovanija*, (2).
[118] Naumov, I. V. (2007). Stanovlenie i mehanizm rosta innovacionnoj aktivnosti municipal'nyh obrazovanij: dis.... kand. jekon. nauk: 08.00. 05.

this group we shall place I. V. Skopina et al.[119], A.G. Shelomenceva, S.V. Doroshenko[120], offering, for example, the creation of the legislative base in the region, the expansion of public-private partnerships and so on.

To the second we put the work L. A. Malysheva and I. V. Shestakov, who talk about underdevelopment in demand, complicated external environment and globalization, development priorities and so on. The main drawback of the approach - a small number of the factors considered the lack of a holistic approach to the review informed factors. However, special attention is given to the essence of the concept of "innovation activity"[121].

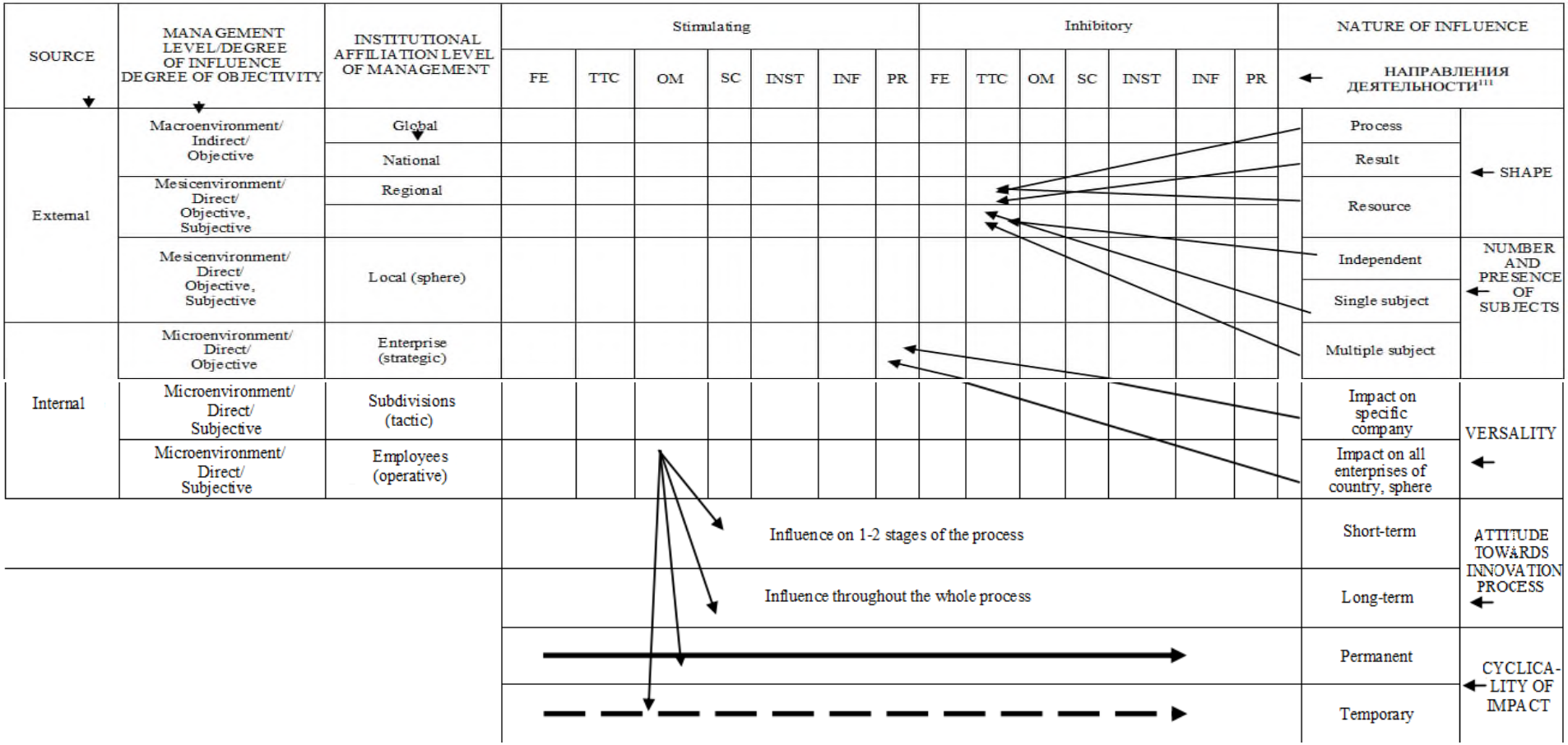
Based on this analysis, we propose the twelve criteria for the classification of factors of innovation activity: the source of the level of management, the degree of influence, degree of objectivity, institutional affiliation, level of management, the nature of influence, activity, organizational and legal form, the number and availability of subjects in relation innovation process (duration of effect), the cyclical influence (frequency). The criteria on the basis of systematically works I. Vasilyeva, S. Makin, Y. Maximova, E. Valeyeva et al. in the Appendix 1 (approaches to the factors of innovation activity) - Table 2.2.

[119] Skopina, I. V., Baklanova, J. O., & Skopin, A. O. (2006). Innovacionnaja aktivnost'kak pokazatel'jekonomicheskogo razvitija regiona. *Regional'naja jekonomika i upravlenie: jelektronnyj nauchnyj zhurnal*, (31).

[120] Shelomencev, A. G., & Doroshenko, S. V. (2012). Innovacionnye formy razvitija slaboosvoennyh territorij Rossii. *Korporativnoe upravlenie i innovacionnoe razvitie Severa: Vestnik Nauchno-issledovatel'skogo centra korporativnogo prava, upravlenija i venchurnogo investirovanija Syktyvkarskogo gosudarstvennogo universiteta*, (2), 12.

[121] Malysheva, L. A., & Shestakov, I. V. (2012). Analiz podhodov k ocenke innovacionnoj aktivnosti rossijskih predprijatij. *Vestnik Permskogo nacional'nogo issledovatel'skogo politehnicheskogo universiteta. Social'no-jekonomicheskie nauki*, (14).

Table 2.2. - systematization of classifications of factors of innovation activity[122].



[122] Direction of activities (functions, subsystems of organisation): FE - financial-economic, TTC- technic-technical, OM - Organizational-management, SC- Social-cultural(staff), INST– Institutional (legal), INF – Informational, PR – Production

This approach differs from those considered in that:

1) maximum number of systematized criteria, the criteria is interrelated. So, from the source of the criteria derived level of management, the degree of influence on innovative activity, the degree of objectivity. Recent consist of institutional affiliation and level of management. Each group of factors of institutional affiliation can be divided, on the one hand, stimulating and inhibiting innovation activity, on the other hand - into seven groups of activities. Thus, a 112 cells (such as an external objective factor indirect influence on the global macro level inhibitory nature in the field of finance and economy - the financial and economic crisis of 2008-2009.) Factors within which, on the one hand, it can be considered from the point of

a) form (for example, the process of establishing, monitoring, planning and so forth., resources - existing and potential, the results - the organizational structure, the size of the enterprise, personnel qualification, etc.);

b) the complexity of the (separate, single and of a multi);

c) universality - are specific to a particular organization or universal. Aspect dynamism and volatility factors illustrate two criteria proposed by V. G. Sidorenko - duration and periodicity. Inside the cells can also be a factor both one-time and recurring.

2) in addition, this classification is proposed to include such criteria as the versatility. A number of factors may depend on innovation activity of a particular company or companies active across the industry as whole, companies across the country. The existing classification, according to the criterion of "institutional belonging" factors apply to different levels - from the global to the micro-level. These factors, depending on the level of different effects on specific companies. We have seen that factors not only have different effects, but also in relation to specific businesses they may vary.

3) the criterion of "institutional identity", in our opinion, it is advisable to allocate not six groups (from global to direct[123]) eight groups, that is, at the enterprise level to allocate three sublevels factors influence the level of the enterprise, at the level of departments and areas, at a level employees. This detail is required, on the one hand, by the fact that the organization is a complex system consisting of various elements from different control levels, which are applied to the study of numerous different approaches (This is confirmed by Appendix 2, "Approaches to the organization"). On the other hand, the latest trends in management beginning 1 century indicate that enterprises are important for the development of integration and self-development[124].

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[123] Sidorenko V.G. Sovershenstvovanie upravlenija innovacionnoj aktivnost'ju organizacij v rossijskoj jekonomike: dis. ... kand. jekon. nauk: 08.00.05. - M., 2008. - S. 17.

[124] Ot samoorganizacii k samorazvitiju: smena paradigmy menedzhmenta: monografija / *pod nauch. red. S.V. Komarova; predisl. akad. A. I. Tatarkina / In-t jekonomiki UrO RAN. – Ekaterinburg, 2013.*

These trends show the importance of the human factor, the factor matching personal and organizational goals, a factor of interaction between different levels in the development process, particularly innovative development (through increased innovation activity) organization.

1) In our opinion, these classification criteria and factors contained in them should be considered in the complex. A set of factors will vary depending on

a) a particular company;

b) a specific point in time in which the company exists. That is, to determine the list of factors is not enough for your organization, you need to have the set dynamics, monitoring changes in the impact of factors periodically repeating the analysis of the factors.

2) we offer the following to use the proposed systematization:

A) In our opinion, for each organization need to develop a similar (Table 2.2.) with the tool filling cells, as factors of innovation activity:

1) have industry-specific (for example, the legislation in the medical field);

2) depend on the organization's position in the market;

3) the number of personnel, etc.;

4) universal factors will be the same for all organizations, and specific - are unique to each organization;

B) depending on what factors and the effect on a particular organization need to install these factors interference between them, as a mechanism for eliminating or enhancing factors to enhance the activity of innovation can be applied to a single factor in the chain and not to all, and thus, the effect of one factor will lead to an effect on the other;

C) Next, you need to build a chain of "factor - the reason - the reduction mechanism, use or incentive - an indicator of innovation activity." After a complete list of the factors influencing the innovative activity of the organization, it is necessary to establish the causes or sources of these factors - this will surely indicate the use of the mechanism of a factor it into account, reducing its influence in order to improve innovative activity. The effectiveness of the resulting set of mechanisms is determined by the indicators of innovation activity, after that you can trace the dynamics and develop, if necessary, corrective action.

Thus, the analysis of the factors of innovative activity allows us to conclude that:

1) the least explored area is the division factor of management levels:

strategic, tactical, operational[125].

[125] E. Valeeva: Valeeva E.O. Upravlenie innovacionnoj aktivnost'ju turistskoj firmy: dis. ... kand. jekon. nauk: 08.00.05. - SPb., 2005. - S. 16 - so ssylkoj na Moiseevu N.K. Strategicheskoe upravlenie turistskoj firmoj. - M.: Finansy i statistika, 2001; Morozova Ju.P. Tehnologicheskie innovacii i ih rol' v sovremennyh jekonomicheskih uslovijah Rossii *// Innovacii. - 2000. - №№ 1, 2. - S. 59-62;*

Other authors consider the levels of macro, meso, micro, i.e. summarize the inner sphere of the organization. In our opinion, a close study of levels of government - namely, their interaction in terms of impact on innovation activity - is an open question for researchers. In addition, we confirmed the need comprehensive consideration of factors of innovation activity in their interaction.

2) most of the authors consider factors of innovation activity in the context of the activities (functional subsystems organization). Given the fact that the organization is a system consisting of different elements, including functional subsystems, interesting to analyze the question is, does liaise levels of management within the functional subsystems of organizations to increase innovation activity. What do functional subsystems influence, considered and justified by many authors, as can be seen from the table in Appendix 1.

3) analysis of the factors of innovation activity in the literature is not uncommon, but quite poorly studied the interaction between levels of government as a factor for increasing innovation activity; not considered factors at various levels of management within the functional subsystems organization.

As discussed above, the concepts of generations of the innovation process (five models), and involves the various subsystems of the enterprise and external environment: the production, marketing, sales, use, needs of society and the market and so forth. The analysis of the literature on this subject has allowed to systematize the basic approach to the theory of organization management: classical, neoclassical, structural-functional, process, system, institutional, behaviorist, resource-based approach; theory of dynamic capabilities, situational, developmental, business, contract, hierarchical, system-integration, system-constructivist approach, the theory of self-organization and self-development, evolutionary system-integration theory. Description of these approaches and theories indicating the founders, the short nature of the issues and allocation of management levels and their interaction is presented in Appendix 2.

Designated approaches are not mutually exclusive, but rather complement and develop. The above approach to the management of the organization allows us to formulate the problem: what levels should be allocated and how they interact with each other. It should be noted that in all of the approaches we are talking about the interaction of the elements and their combinations, changing only the elements themselves: it can be a resource (as in classic or resource-based approach), production and process parameters (neoclassical approach), the organization's objectives and goals of individuals (a process approach), organizational relationships (a system approach), institutions (institutional approach), etc. Also, all approaches can be divided into two groups: static consideration of the enterprise (such as a structural approach) and dynamic (the theory of dynamic capabilities, evolution and system integration theory).

Many recent theories appear at the junction of several approaches (for example, the theory of self-development and self-organization and evolution of system-integration theory). As for the allocation of levels of management, it is usually distinguished strategic, tactical and operational levels. In these approaches, the authors often talk about innovations and innovative development, marked by high productivity of self-development to enhance innovation activity[126].

In our opinion, given the nature of innovation, and innovation - the dynamism, variability, constant development, - when considering the increase of innovative activity of the organization are the most productive systems-integration evolutionary theory and the theory of self-development of socio-economic systems, since, according to this approach, the organization there are hierarchical levels, the various subsystems, which, on one hand, cooperate with each other, on the other hand, are themselves complex systems. In addition, these approaches considered time factor, i.e., the fact that the organization and the external environment is constantly changing. Finally, these concepts laid that elements of the organization as a system able to develop under the influence of not only external factors but internal features (i.e., capable of self-development).

Based on the different approaches to the nature of the organization (enterprise), we can formulate a number of issues relating to co-existence and functioning of management levels:

1) The imbalance between the strategic and operational levels in matters of prioritization and allocation of resources, as a result - the emergence of conflicts, competition between levels of disharmony in carrying out the tasks and goals. These trends have led to a decrease in the effectiveness and efficiency of the enterprise as a whole, the functioning of individual organizational units.

2) Inability to build adequate forecasts of low surface detail and elaboration.

3) The differences in the interests of the different levels of government.

4) Non-regulated processes of interaction and mutual influence of strategic, tactical and operational levels of management.

5) Failure of managers to measure and evaluate customers as assets and show a real connection of these assets with a total value of the company[127].

6) The complexity of accounting and cost allocation in either direction of the organization[128].

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[126] Romanova O. A., Grebenkin A. V., Akberdina V. V. Nelinejnye modeli innovacionnogo rosta i uslovija samorazvitija otkrytyh sistem // Jekonomicheskaja nauka sovremennoj Rossii. 2011. №1. S. 7-19

[127] Gupta S., Lemann D. «Zolotye» pokupateli. Stojat li klienty teh deneg, chto vy na nih tratite?: per. s angl. - SPb.: Piter, 2007. - S. 11.

[128] Makdonal'd M. Izmerenie jeffektivnosti marketinga. Sovershenstvovanie otchetnosti o rashodah // Marketing i marketingovye issledovanija. - 2012. - №3. - S. 182-201.

7) The reluctance of managers to spend money on development without preliminary calculations and studies related to the increase in the budget.

8) The emergence of opportunistic behavior, fraud and so on. Human factors in the implementation of the strategy, implementation, feedback, resulting in slowing or stopping the coordinated work of management levels of the organization.

9) The problem of integration of functional subsystems in the overall management of the organization and its efficiency (indicated by many authors as the weakest link in management of the organization)[129].

10) The complexity, the complexity of existing systems management efficiency and effectiveness of the organization as whole and functional subsystems. The need to process large amounts of information and expect a large number of parameters resulting in slower performance of the basic functions, lower productivity.

11) Difficulties with the formation of long-term sustainable competitive advantage[130].

12) In our opinion, to resolve these problems, according to evolutionary system-integration theory and the theory of self-development, a more detailed and systematic description of the interaction of management levels with each other, as well as their influence on the change of innovation activity of the organization.

13) issues of interaction between levels of government are dedicated to a very small number of jobs. The main research issues of strategic management and implementation of the strategic guidelines in practice can be reduced to five groups.

14) Firstly, there is a research program, "Strategy as Practice" in the study of strategic management", published in the" Journal of the Russian management"[131]. In the works of the authors participating in this program examines the strategy at the micro level, their implementation in practice. We consider the works of L. R. Whittington, L. Melin, J. Johnson, H. Garfinkel, B. Splitter, D. Saydla, P. Dzhazabkovski and others. However, under this approach, first of all, it is a management strategy as a whole. Secondly, greater emphasis on the gap between theory and practice, rather than between strategic and operational level.

Secondly, a number of authors talking about the importance of practical implementation of the strategy. The main representatives of this approach are R. Kaplan and D. Norton[132] these authors give a general scheme and a detailed description

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[129] Dan'ko T.P., Kitova O.V. Sistema upravlenija jeffektivnost'ju marketinga // Marketing i marketingovye issledovanija. - 2008. - № 5 (77). - S. 364.

[130] Hamel G., Prahalad K.K. Konkuriruja za budushhee. Sozdanie rynkov zavtrashnego dnja. — M.: ZAO «Olimp-Biznes», 2002

[131] Tambovcev V. L. Issledovatel'skaja programma «strategija kak praktika» v izuchenii strategicheskogo menedzhmenta // Rossijskij zhurnal menedzhmenta. 2011. № 4. S. 51 -62

[132] Kaplan R., Norton D. Nagrada za blestjashhuju realizaciju strategii. Svjaz' strategii i operacionnoj dejatel'nosti – garantija konkurentnogo preimushhestva. – M.: Olimp-Biznes, 2010. – 368 s.

of the stages of such a management system, calling it "a comprehensive integrated management system." Strategic planning and operational activities in the control system are not seen as two distinct activities of the company, as well as stages in one system, which are connected by common aims, indicators, resources, data and information flow. Such a comprehensive integrated management system has become one of the most important competitive advantages. The system of indicators built on the basis of six main stages: strategy development, planning, strategy, and the company's compliance with the chosen strategy, operational planning, monitoring and identification of problems, testing and adjustment of the strategy. These six management processes form the basis of an integrated and comprehensive system of closed cycle that links strategic planning with business planning, execution of plans, feedback and identification of problems. The system consists of many parts of the flexible and changing relationship and requires the synchronization of all activities and divisions of the company. In a similar vein thinks I. Ansoff: it offers a dual management system, linking the strategic and operational steps enterprises[133].

These approaches are often applied to the functional subsystems organization. For example, the Kaplan-Norton approach adapted to the marketing and distribution services in the work of A. Preisner "Balanced Scorecard in marketing and sales." The author speaks of 81 records in the field of marketing and sales. It is in this work indicated the need to introduce a system of indicators of service of marketing as a management tool that links strategic and operational levels[134]. However, in this case, first of all, it is about performance, formalizing strategy. Themselves figures are not divided into strategic and operational, but it is a transformation of the company's goals in operating performance. A. Preisner speaks constructed in a hierarchical pyramid of indicators, which is on the main index depends on all the others. Thus, the key indicators of the company are detailed to the specific operational values.

Similarly, within the framework of the transfer of marketing strategy into measurable indicators and the construction of Balanced Scorecard in marketing talk and T. P. Danko and O. V. Kitov[135] However, their work also indicated the need to align the goals and objectives of different departments for the implementation of market strategy. You can also note the work of N. G. Avramenko, in which the author, based on a balanced scorecard, said that the greatest difficulty lies in the cascading of

[133] Ansoff I. Strategicheskoe upravlenie. – M.: Jekonomika; 1989. – 358 s.
[134] Prajsner A. Sbalansirovannaja sistema pokazatelej v marketinge i sbyte. – M.: «Izdatel'skij dom «Grebennikov», 2009. – S. 42.
[135] Dan'ko T.P., Kitova O.V. Sistema upravlenija jeffektivnost'ju marketinga // Marketing i marketingovye issledovanija. – 2008. – № 5 (77). – S. 364.

strategic goals to the operational level[136]. In this paper, the author points to the problem of adaptation of the Balanced Scorecard for Russian companies[137].

One of the works, which systematically describes several approaches to indicators of market activity and their role in the overall performance of the enterprise, including the balanced scorecard, quality management, etc. Is work of O. K. Oyner[138]. In that paper also raises the issue of the need to evaluate the strategic activities, the complexity of large-scale transfer of activities in specific indicators.

Third, the article by J. Cotter proposed introduction of a dual control system: a combination of a rigid hierarchy (for everyday tasks) and the flexible structure (to adapt and adjust policies according to changes in the environment and the company itself)[139]. On such a "dual management system" I. Ansoff[140] also mentioned.

Fourth, we are talking about the hierarchical analysis of socio-economic systems (the issue discussed in detail in the works of Ju. K. Perskogo, D. N. Shul'ca**[141],** G. B. Klejnera, E. V. Popova)**[142].** In this vein, the company is considered as a whole, the region, the process of innovation management[143].

Thus, the organization has a system consisting of various subsystems. In turn, each sub-system (and the whole system) hierarchical, i.e. consists of certain levels. Each of these subsystems can be a factor in increasing the innovative activity of the organization, as shown by analysis of the factors. An analysis of theoretical issues of innovative activity carried out in the first section of the paper showed that the increase in innovation activity is an actual problem for today's organizations, and analysis of the factors revealed factors influencing the most innovative activity, and organize them. Increasing innovative activity is necessary to ensure the long-term competitiveness of the organization today.

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[136] Avramenko N.G. Mesto i rol' sbalansirovannoj sistemy pokazatelej v sisteme upravlenija strategiej // Marketing v Rossi i za rubezhom. – 2008. – №6

[137] Pytkin A.N., Ponosova E.V. Kljuchevye napravlenija primenenija teorii upravlenija v menedzhmente promyshlennyh predprijatij // Vestnik Cheljabinskogo gosudarstvennogo universiteta. 2012. № 24 (278). S. 79-82.

[138] Ojner O.K. Upravlenie rezul'tativnost'ju marketinga: ucheb. dlja magistrov / O.K. Ojner. - M.: Jurajt, 2013. - 343 s.

[139] Kotter Dzh. Otlichnaja ideja. Uskorjajtes'! // Harvard Business Review. - 2012. - Dekabr'. - S. 40-54

[140] Ansoff I. Novaja korporativnaja strategija. - SPb: Piter, 1999. - S. 348.

[141] Shul'c D. N. Ierarhicheskaja jekonomika: analiz urovnej i mezhurovnevyh svjazej // Izvestija Rossijskogo gosudarstvennogo pedagogicheskogo universiteta im. A.I. Gercena. – 2011. №130.

[142] Popov E.V. Instituty minijekonomiki. – M.: Jekonomika, 2005. – 638 s.

[143] Ierahicheskij analiz social'no-jekonomicheskih sistem: podhody, modeli, prilozhenija: monogr.: v 2 ch. / pod obshh. red. d-ra jekon. nauk, prof. Ju.K. Perskogo. - Perm': Izd-vo Perm. nac. issled. politehn. un-ta, 2011. - Ch. 1. - S. 35-36.

2.2. Increase of innovation activity of organization on the basis of the interaction of management levels

It should be noted that the above approach to the structure of the innovation process suggests that the role of the marketing subsystem in the innovative development increases due to the fact that his place in the innovation process is all the more far-reaching - from marketing to strategic functions of integrated systems based on client-approach and extensive market analysis**. Given the description of the five generations of the innovation process can predict the growing role of marketing in the innovative development of the enterprise.** Therefore, it is advisable to treat it as a key activity that promotes innovative development of the enterprise through increased innovation. Thus the proposed boost the quality of marketing activities in the enterprise (i.e. - the interaction of strategic and operational marketing) for enhancing its innovation activity. Achieving efficiency in marketing performance can achieve good results in terms of innovation. **Due to the high relevance of market-oriented organization in modern conditions, take the example of one of the subsystems is a factor for innovation activity of the enterprise subsystem marketing organization.**

It should be noted that the analysis of the impact of marketing in general, the dynamics of innovative activity of the organization is dedicated to a relatively small number of studies. The impact of strategic and operational marketing in their relationship on the innovative development of the company is almost out of sight of specialists. The role of marketing in innovation is largely discounted. Use it as a tool to influence consumers and other market participants, the company focuses on the unilateral decision of the problems that the strategic aspect is fraught with negative consequences. At the same time, the system of marketing can and should be viewed as a tool for creating value that in innovation involves the formation of chains that provide the whole process of product innovation. A review of scientific literature on the analysis of the role of marketing in innovation leads to the conclusion that the role of marketing in the complex framework of innovation is not well understood, the issues of increasing innovation activity in the framework of its impact on the interaction between levels of government marketing subsystem is not considered fully - System and at all stages of the innovation process.

To develop mechanisms to increase innovation activity through the interaction of management levels of marketing should not only consider the factors of innovation activity, but also the role of marketing at every stage of the innovation process. As already mentioned, marketing activities is equally important at all stages of the innovation process. If the innovation process - the process of converting ideas into a consistent product, technology or service, the innovation cycle suggests an inverse relationship between the consumer and the scientific field. As part of his master's thesis

Nechaeva T. S. was proposed to modify the innovation process, taking into account the role of marketing in it[144] - figure 2.1.

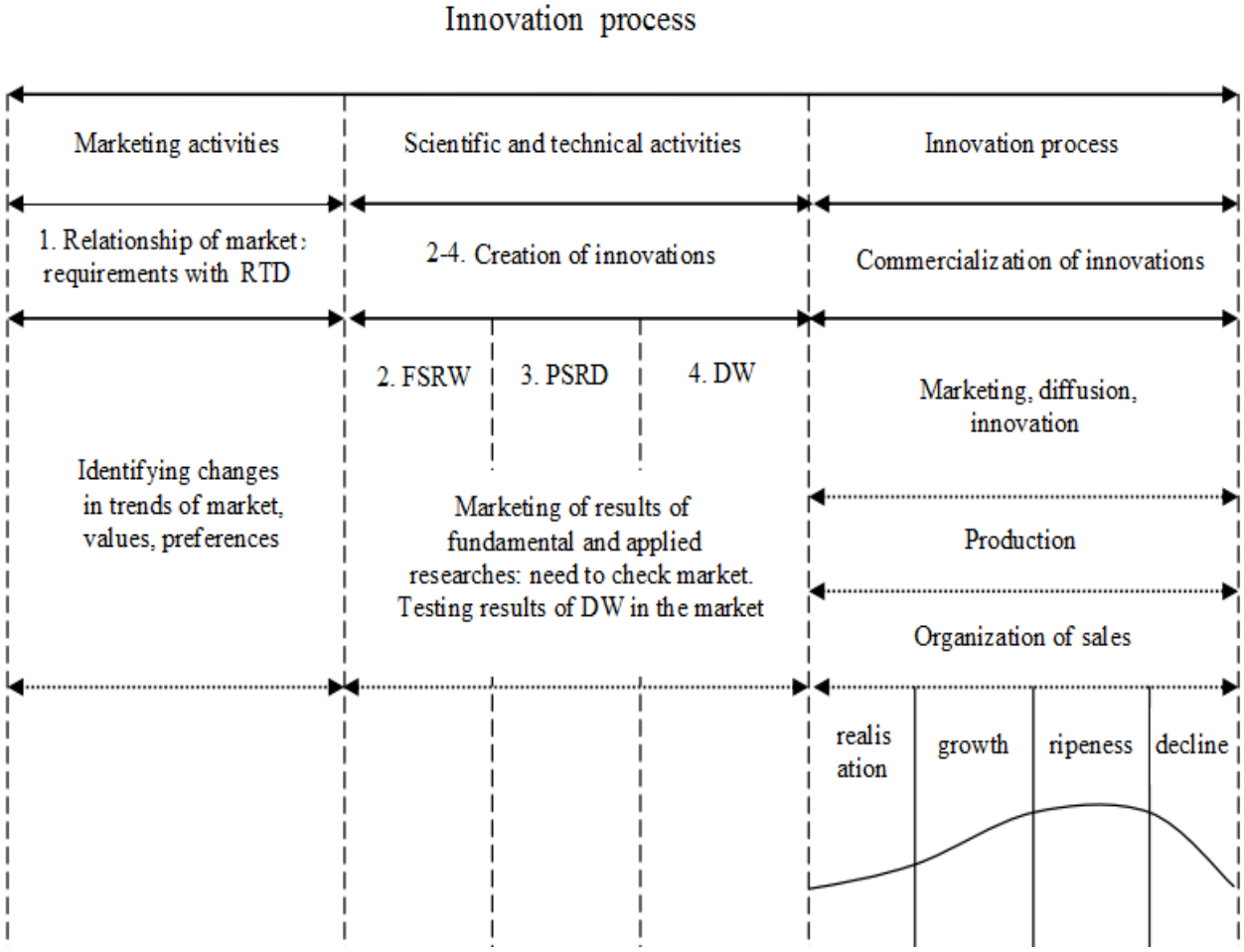

Figure 2.1. - The main stages of the innovation process, taking into account the role of the functional subsystem of marketing

Marketing as an activity through all stages of the innovation process and is its integral part.

For example, during the planning phase of innovation a key challenge is to determine the possibility of orientation on customer needs. This raises the question: what comes first - the existing or future demand? However, at this stage, are priority issues of strategic marketing: defining product strategy and the strategy of market coverage, as well as - personnel issues.

The second problem at this stage is to have an innovative leader and its impact on the staff in the development of innovations.

In the second stage of the innovation process key challenge will be to develop methods of study successful innovations. Here, at the level of operational marketing,

[144] Nechaeva T.S. Razrabotka sistemy marketingovogo obespechenija innovacionnyh proektov v ramkah nauchno-issledovatel'skogo universiteta (na primere GOU VPO «PNIPU»): magisterskaja dissertacija. – Perm', 2011.

which has direct contact with customers and the market, should develop a range of indicators of the success of innovation, which subsequently - at the stage of strategic marketing - will be possible to predict the demand for goods, novelty from consumers and competitor's moves.

As the next stage of the innovation process should be invited to develop the prototype and sample new products. There operational marketing experts should work closely and effectively with one hand with the designers, on the other - with consumers. Their role - relate the specifications and needs of consumers. After all technical requirements in precise and measurable terms define what the product is capable of. Strategic marketing at this stage, in turn, is intended to build a very accurate map of risks test marketing and planning process of product testing. Feedback from the operational marketing here should be to amend the product strategy in the event of rejection of market innovation. Suffice significant omission is the lack of modern marketing systems and marketing methods innovation study - the expediency of their introduction, the return on them, etc.

For the promotion and distribution of products at the stage of a full withdrawal of innovations on the market plays a key role operational marketing. It is very important to apply the relevant market highly effective methods of promotion. It should be noted that if the first stage the main role for strategic marketing, then in the second stage - the integration problems of strategic and operational marketing through feedback, the third stage of the innovation process a major role performs operational marketing - namely, to share information about the new product to the market and it provides its commercialization.

The last stage of the innovation process in terms of marketing should be considered based on the lifecycle of a product or service as the life cycle - the key concept of marketing in the delivery of new products to the market. From the stage of the life cycle depends on what strategies and marketing tools necessary to the enterprise.

Based on the characteristics of marketing at different stages of the life cycle of a product or service, the last - fifth - the stage of the innovation process should be divided into stages:

- Commercialization. Realization;
- Commercialization. Growth;
- Commercialization. Ripeness;
- Commercialization. Decline.

Each of these sub-stages has its own characteristics. At the initial stage it does not need a strategy of aggressive mass promotion to increase the likelihood of capturing the market. On the market you need to go steadily gaining momentum. There are three main functions relevant marketing: search and customer acquisition, to achieve a

certain level of satisfaction with the first customers' satisfaction scale first customers. "Scaling means that the first customer satisfaction generates job of marketing tools such as "word of mouth", "viral marketing" that will promote positive feedback and attract new customers. Thus, the main objective of Phase 5.1 - Attracting and satisfaction at the highest level for the first customers. Therefore, the essence of Phase 5.2. Commercialization. Height - control the dissemination of information to a wider range of customers - that is, "scale advantages". At this point, we can talk about the mass promotion of quality (not the desire to launch a project with a very high speed, and a desire for greater efforts to attract customers). On the other hand, you must consider and plan for the possibility to address the needs of the enterprise. That is another function of marketing - analysis and forecasting of demand on the basis of implementation - is coming to the fore. In this case the question of indicators of market activity and their relationship with indicators of innovation activity as a possible activation of innovative activity based marketing tools.

Within the hierarchical analysis of the interaction of management levels it is necessary to consider the interaction between these levels within the different functional subsystems organization. The main objectives of the analysis in this case can be summarized as follows:

1) Identification of approaches to the analysis of the nature of hierarchical levels of management;

2) description of processes matching levels of government;

3) consideration of all types of interaction between the elements of the system;

4) identification and description of principles of interaction of management levels.

The main approaches to the analysis of the essence of strategic and operational marketing can be divided into three groups according to the criterion of "the number of levels of marketing management." Analysis of existing approaches for dealing with hierarchical levels allowed the marketing groups them (Appendix 3) in three groups: subject-task approach (two levels), subject-functional approach (three-level marketing), and procedural approaches (more than three levels of marketing, coherent approach).

Comparative analysis of these reveals the following approaches

1) **In the first group of three-pronged approach** is considered the nature of the interaction and mutual influence of the two levels of marketing within the company (hierarchical, procedural, object-subject). This indicates the formation of an expanded understanding of the functional role of marketing researchers. Marketing more qualified, not only as a marketing tool, but also as a complete "institution" of the

enterprise in the conditions of modern innovative economy.

However, in the group approach, only a few authors say exactly how and in what form should an interaction of strategic and operational marketing, in practice, the actual companies.

As an innovative aspect, there is no consensus: some connection with innovative is not even mentioned, others are saying about serial communication innovations to the levels of marketing, and others - about innovations only on one level - either at the strategic or operational.

2) The second group of approaches based on the study of three-level model of the relationship of strategic and operational marketing. Unlike the first group of "two-tier" approach, herein referred to the process of transition from one level of marketing to another and the analysis is close to the practice. Within this group approaches the question of the interaction between strategic and operational marketing in the innovative development of the company (mostly - as the task of creating a new product, which is a function of the third level). In addition, in contrast to the first group of approaches that could be provisionally qualified as "object-task approach", the second group of approaches rather be called "object-functional."

3) One of the distinguishing characteristics of the third group of approaches (procedural) in the context of a hierarchical distinction between the functions of marketing between hierarchical levels. The authors attribute the marketing function with certain elements: the officers (London J., London K.), information (Shkardun V. D.), consistent selection stages (Mazur I. I., Shapiro V. D., Olderogge N. G.; Mkhitaryan S .V.), the parallel existence of levels (London J., London K.). These elements are the backbone of marketing in the formation of the company. However, there have not received the active development of the specific issues of cooperation with the assessment of the levels of one or other of its consequences, and issues of innovative development of the enterprise is also linked with the individual, "centering", the elements of the marketing system: personnel, information management levels, but not further are specified.Based on this study, we formulate the main conclusions of the analysis regarding the hierarchical system of marketing in modern management concepts:

A) All analyzed the difference between the concepts of strategic, tactical and operational marketing is defined by functions or tasks. However, the relationship between them does not stand out or treated fairly limited.

B) In terms of the procedural approach, the strategy determines the potential growth strategy defines how to achieve the strategy. From the point of view of a parallel approach, strategic and operational marketing, there are parallel and interact through information.

C) In principle, there is no interdependence of the strategic, tactical and

operational levels of the marketing subsystem: at different levels to solve various problems.

D) The role of the hierarchical analysis of marketing for the functioning of the entire organization to improve performance, increase innovation activity is not considered.

In general, all the approaches to the allocation of management levels can be reduced to three:

1) the division of management levels,

2) solves the problem (function), and

3) the stages of a single process. *We will indicate them as "level", "functional", "procedural" separation methods of strategic, tactical and operational levels of management subsystem Marketing:*

- subject task (distinction of objects of strategic and operational marketing and solved tasks in each level);

- subject-function (the difference between functions of strategic and operational marketing management system);

- procedure (the difference of strategic and operational marketing processes or steps in a single process control).

Despite this separation, the relationship between the levels of strategic and operational marketing detected insufficient.

Based on the above analysis, we can conclude about the need to "harmonization" [145] of process of exactly strategic and operational levels of management, in which there will be contradictions between the objectives level functional subsystems organization (in our case - the marketing subsystem). Creating such a system may lead to an increase in innovative activity and effectiveness of the organization as a whole. The solution to this problem is to construct a model of coordination of strategic and operational levels of management in order to increase innovation activity of the organization. An illustration of the hypothesis that improving the interaction between strategic and operational levels of management is to improve the quality of the functional subsystems of the organization by improving cooperation, such as strategic and operational levels in the subsystem marketing can improve innovative activity organization can be represented as the figure 2.2.

[145] The harmonization of management processes - a set of measures of organizational, economic, motivational, businesses implemented in coordination processes (tasks, functions, goals) through established methods and techniques in order to bring them into organic coherence, static-dynamic equilibrium state allows us to consider the whole process of management as functionally effective, efficient mechanism for achieving the goals and the formation of long-term competitive advantage (the approach of the authors)

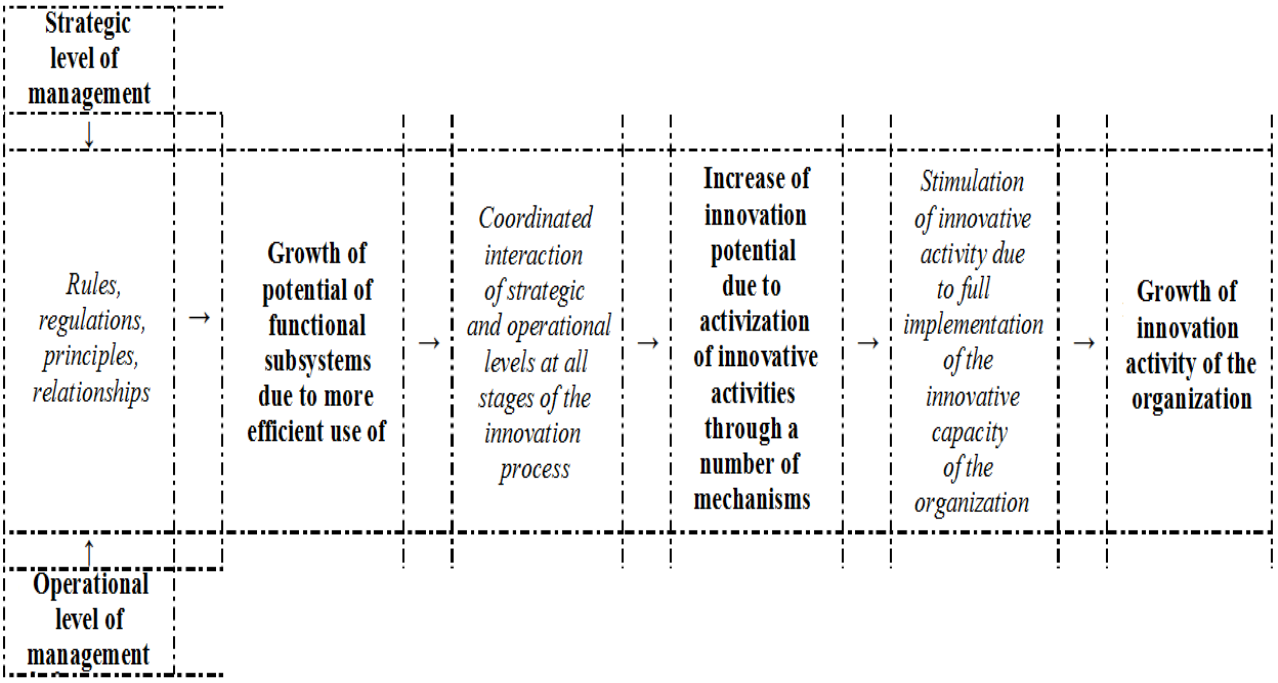

Figure 2.2. - The Role of an effective system of interaction between levels of government in improving the organization of innovative activity

Analysis of the theory showed that the relationship and consistency of strategic and operational marketing, operational marketing under the chosen strategy, many scientists say, but in practice these trends poorly implemented. Therefore, the development of norms, rules, principles, strategic and operational relationship marketing will contribute to more efficient implementation of their functions (strategic and operational marketing). Thus, the available marketing resources (information, product, price, distribution, promotion, and staff) will be used fully and effectively. **The main problems of organizations through innovation**, its low intensity usually called the complexity of forecasting market trends, volatility of consumer demand, lack of funding, lack of qualified personnel, lack of knowledge in the field of promotion, lack of marketing information, etc.[146]. We have seen that the optimal coordinated work of strategic and operational marketing and increase marketing potential can enhance the innovative capacity through specific mechanisms of modern marketing (for example, constant monitoring of information, marketing personnel, the collection of feedback, etc.). The growth potential of innovative means maximizing opportunities for the generation of new products in the enterprise[147], that is, due to the high degree of mobilization of the innovation potential (through marketing opportunities: information, strategic and operational marketing) may increase the innovative activity of the enterprise. Thus, the coordinated interaction of strategic and operational

[146] This issue will be thoroughly considered further in the work
[147] Trifilova A.A. Analiz innovacionnogo potenciala predprijatija // Innovacii. - 2003. - №6. - S 6772.

marketing will boost the performance of marketing activities, which in turn will lead to an increase in indicators of innovation activity.

As a rule, the agreed cooperation should be based on rules, norms and principles. Innovative activity is not an exception[148]. **What are the principles of interaction between strategic and operational levels of management?** As part of a systematic approach is usually divided into the following basic principles of the functioning of the systems[149]:

1) the principle of the hierarchy (selection sublevels operation);

2) the principle of self-development (priority of internal relationships and factors with respect to the factors and processes of the environment);

3) the principle of feedback (a priority of the future over the past)[150].

The meaning and content of the principle of activity in relation to the level of strategic and operational marketing system predetermined by the fact that the sub-levels of strategic and operational marketing are relatively independent. This opinion is shared by virtually all researchers. Thus, within the subject-task approach this means. Despite the relative independence of the tasks of each level, the task of strategic marketing act as general conditions for the formulation of targets tasks of operational marketing. Addressing the strategic development of the company - the choice of promising markets and the development of technology platforms - is a prerequisite for solving the problems of generating innovative ideas, customer segmentation, identifying customer preferences for the subsequent implementation of the new technical product sample-news[151], or definition of the marketing mix to promote the company's products to specific target segments. The solution of these problems in the operational and marketing relatively independently correlated with the tasks of strategic marketing only in general terms of formulating their own problems.

As part of the subject-functional approach is reflected in the activity of the principle that the functions of strategic marketing (as a strategic market analysis, the choice of strategic priorities of the company) and the operational marketing, as has been shown, is relatively independent of each other. This means that for the operation of the strategic marketing function is a priority in relation to the functions of strategic marketing. The award is the relative priority and the independence of the functioning of marketing at every level. Description Theses on particularly well represented in the concepts of I. Ansoffa (three-tiered approach to marketing decisions), F. Vebstera

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[148] Druker P. Biznes i innovacii. - M.: Izdatel'skij dom «Vil'jams». - 2008. - 432 s.

[149] Blauberg I.I., Judin Je.G. Stanovlenie i sushhnost' sistemnogo podhoda. - M., 1973.

[150] Also, these principles can be considered in the opposite sense - the lack of hierarchy, feedback and self-development

[151] Ul'rih L. Promyshlennyj dizajn : sozdanie i proizvodstvo produkta / L. Ul'rih, K. Ul'rih, S. Jeppinger; per. s angl. M. Lebedeva, pod obshh. red. A. Matveeva. - M.: Vershina, 2007. - 448 s.

(levels and dimensions of marketing), Zh. Landrevi and Zh. Levi (delineation of functions and marketing technologies).

Finally, in the framework of the procedural approach to the hierarchy, "Strategic Marketing - online marketing" principle of activity is as follows. Firstly, the process of "strategic marketing - online marketing" relatively independent of other management processes. Second, the series "lining" in the number of stages of the marketing activities in relation to each other as they are relatively independent in terms of functions and tasks of marketing. On the one hand, the operational marketing processes are continuing the process of strategic marketing; On the other hand, in the solutions tasks and functions as an extension of the operational marketing processes strategic marketing strategy at present challenges and function. Thus, the development of a new innovative product on the level of operational marketing is a step (process), following the step (process), analysis of the prospects of the market and the competitiveness of companies at the level of strategic marketing. At the same time, at the level of strategy it has solved the new, relatively independent from the productive activity level operations task.

Unlike the two considered principles feedback principle expressed in the above concepts to a much lesser extent. As already mentioned, in all three approaches researchers have mainly only declare the presence of feedback. We believe that this reflects the completeness of the principle of interaction levels of strategic and operational marketing in the enterprise management subsystem, by observing this principle increases the efficiency of this interaction. Concretize this position.

In the first group of approaches to the analysis of hierarchical levels in the subsystem "strategic marketing - online marketing" activity is expressed not only in the relative independence of the strategic objectives (choice of promising markets, the definition of the company's competitiveness, solving problems balancing the product portfolio of the company, etc.) and operational (segmentation of specific markets, the development of a set of measures for the existing range of products, product development, new products, etc.), marketing, feedback (the relationship) are expressed primarily in the following:

- the success or failure of the implementation of a complex "4Rs" for existing products - depends on the setting (correction) of the strategic task of finding new market segments;

- in the dissemination and diffusion of the product novelties - it depends on the company's competitive market position, as well as the emergence of the need to review the strategic objectives;

- the possible failure in the implementation of the marketing mix that can lead not only to losses and negative economic indicators, but also affect the availability of strategic resources for further long-term development of the company.

Effective implementation of an operational-level tasks allows marketing (through positive economic performance, increasing customer loyalty and satisfaction) to provide the new company's competitive position in the markets, to increase the financial capacity of the company to further development and growth of business capitalization based on the growth in the value of intangible capital, that is, to new levels of strategic marketing problems associated with the choice of a new direction of strategic development, a choice of new markets (search for new niches), business diversification, the possibility of the emergence of new strategic alliances.

In other words, in the first group approaches (object-task) reacting the sublevels of strategic and operational marketing is the relative independence of formulating and solving problems of each level (the principle of activity, direct effects) and changes in tasks at the level of strategic marketing, depending on the success or failure of decision operative marketing tasks (principle of the feedback inverse effect).

In the second group of approaches to the analysis of hierarchical levels in the subsystem "strategic marketing - online marketing" - subject-functional-principle activity is expressed not only in contrast to the strategic functions (strategic market analysis, to determine the direction of development, the choice of the key success factors) and operational marketing (implementation and management of complex marketing, interaction with contact audiences), but also in the fact that the implementation of the operational functions of marketing is carried out as the implementation of strategic marketing functions (for example, at the level of operations management is implemented complex marketing strategy which is selected at the level of strategic marketing, at the level of strategy - selected and detected values at the level of operations of these values to communicate to consumers). Despite the relative independence of the functioning of each level, as shown above, the functioning of operational marketing is a prerequisite for the successful achievement of strategic objectives, which means that changes in strategic marketing objectives, i.e. the nature of its operation. As part of the subject-functional interaction approaches the level of strategic and operational marketing is expressed not only in the relative independence of the functioning of each level (the principle of activity), but also in the fact that the implementation of the operational functions of marketing is a prerequisite for the implementation of strategic marketing functions.

As part of the third group approach (process) to the hierarchical levels in the analysis subsystem "strategic marketing - online marketing" principle of activity reflected in the fact that the processes (stages) of strategic marketing management define and determine the content of the processes (stages) of operational marketing. For example, management at grocery assortment of strategic planning involves not only the choice of product platform, but also the definition of the specific content of the stages of product development, its pricing and promotion elements of the plan at

the level of operational marketing, reflecting the direct interaction of the levels in the "Strategic Marketing – Operative Marketing - operative ". Methodologically, this interaction of strategic and operational marketing is well described by a scheme of categories "process mechanism." Here the process of strategic marketing has its own mechanism for the implementation of processes (stages) of operational marketing. The process of strategic marketing management is carried out through the mechanism of operational management, where it is used as a management tool.

Feedback (reverse interaction) expressed within this group approach is that the implementation of the operational processes of marketing as a mechanism for the implementation of strategic marketing change process, its content (for example, withdrawal of goods, new items on the market may be some difficulties associated with its implementation; then the operational challenge of marketing strategy may be to ensure the information to adjust the concept of a new product). In fact, the feedback here, just expressed in the fact that the implementation of the tasks and functions of marketing as an operational management processes leads to a change of tasks and functions of strategic marketing in their implementation. In other words, in the third group approaches (procedural) interaction of strategic and operational stages of marketing is not only in the relative independence of their operation (the principle of activity), but also in the fact that the implementation of the operational functions of marketing is a prerequisite for the implementation of strategic marketing functions.

The implementation of these three principles in evolutionary systems-integration theory and the theory of self-development is the need to harmonize the processes of strategic and operational levels of management. Driving such consistency is shown in Figure 2.3., And the problem-solving process of their interaction and ensure this consistency - the figure 2.4.

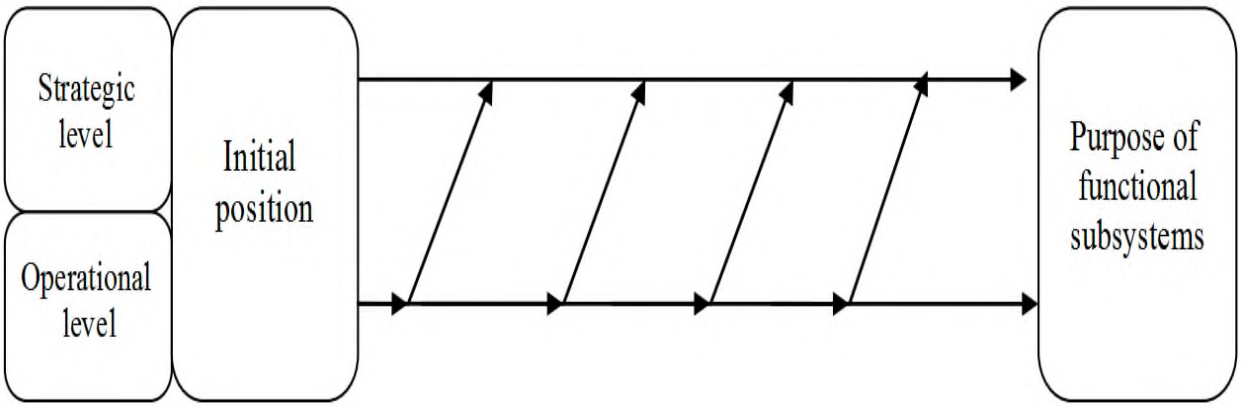


Figure 2.3. - The relationship processes of strategic and operational management levels

Dealing with the problem is to find its solutions. Elements of the problem within the framework of marketing activities can be depicted as a figure 2.4.

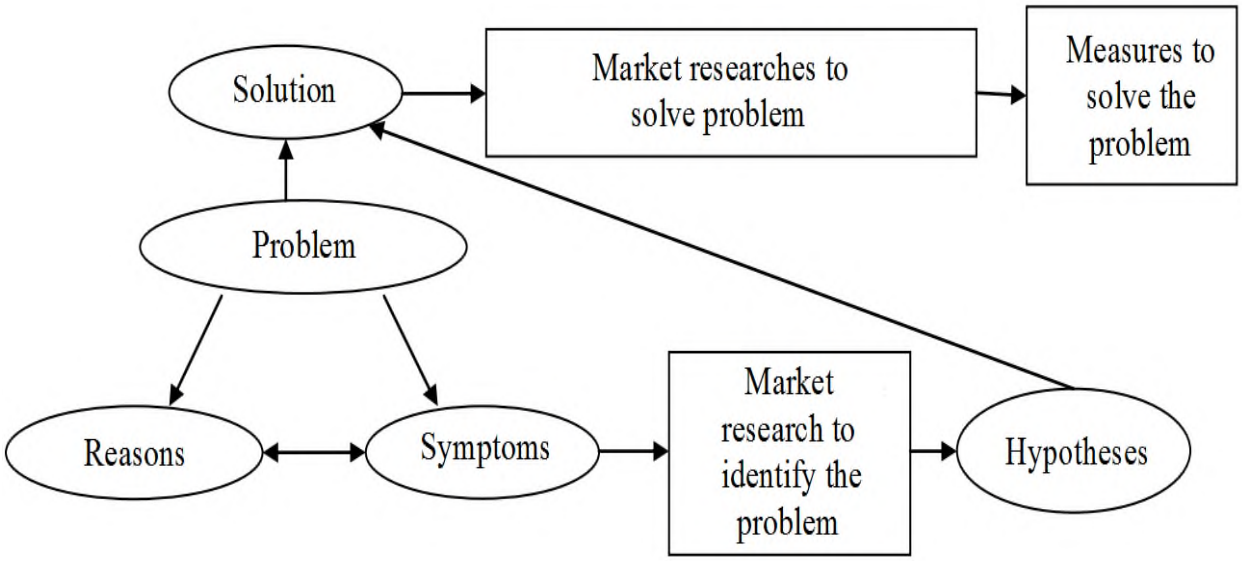


Figure 2.4. - The process of dealing with problems of management levels interaction

It should be noted that the strategic and operational functions must be performed by the organization subsystems and series and parallel. The sequence is expressed in a particular cycle of operational tasks. That is, in order to achieve specific strategic objectives, such as the development of any segment or achieving promotion strategy, you must perform a number of operational objectives - to create a plan for advertising to find places where the target audience and so on. Thus, the element of the strategy is developed, the corresponding element operational level, then there is a correction and approval of the strategy (in the figure, this process is shown by the arrows up, each hand - a separate operational objective). Parallelism is that at the time the decision operational objectives of the strategic direction of the level performs its functions in full, rather than "waiting" for performing an operation to confirm the way forward. Thus the processes of strategy and operations should not only influence each other as perfectly correlated in time and space. In general, the processes of strategic and operational management, according to this model, are considered as part of the management cycle, that is, they should always be considered in combination rather than in isolation from each other. As practice shows, the second option (isolation levels) is quite common in modern enterprises.

The analysis showed that the optimal management of innovative activity it is possible to increase to ensure long-term competitiveness of the organization. To implement this provision in practice must be to develop a model of management of innovative activity, taking into account the optimal factors of its incentives.

2.3. Analysis of existing management models of innovative activity of the organization and evaluation of their performance

To regulate the activities of objects, enhance or reduce the impact of certain factors, they need to manage. The exception is not, and innovation activity: to improve it, it is necessary to control incentives. Management is carried out by various methods, instruments; it has different objectives and results. Therefore, there are different models of governance. Consider the model of management of innovative activity of organizations (Table 2.2.).

Table 2.2. - Overview of innovation management models of different activities objects

№	**Author, name of model**	**Object of managment – main tool**	**Main stages and elements**	**Idiosyncrasy**
1	Golushko A. algorithm of constructing a system of innovative activity in the region	Innovative activity in the region - to coordinate science and industry, financial and organizational resources, legal framework	1) Goal-setting 2) Estimation of innovative potential of the region 3) Assessment of the conditions of innovation Activities (exogenous and endogenous) 4) Prioritize development 5) The definition of the strategy of innovative development of the region 6) Develop a system of measures to ensure the implementation of the strategy innovative development of the region 7) Establishment of a system of support of innovative activity in	Consideration of exogenous and endogenous factors. The emphasis on the financial and organizational resources.

			the region 8) The implementation of the strategy of innovative development of the region (the coordination of science and production, legislative activities, promotion innovative activity, the formation of the resource base) 9) Monitoring of the implementation of the strategy 10) Clarification of priorities of innovation development in the future, and the formation of a new strategy	
2	Valeeva E. O.	Innovation by the tourism company - institutions, resources, organizational element, the socio-psychological element	The institutional element: public relations, cooperation with the authorities of resource elements: innovation activity personnel, the quality of new products, investing in new product development. Organizational elements: logistics, marketing Socio-psychological element: management communications system	A large number of diverse elements. The difference algorithms for the invasion of a new segment, the development of new tourist regions, the search for new approaches to marketing, innovation breakthrough in the field of staff
3	Kapreeva E. G. management model innovation activity in the region	Innovative activity in the region - legislation, programs of regional development	The authorities at various levels Formation of the regulatory framework Working group Assessment of current and final level of innovation activity. Forms, principles, types of support innovators. Building organizational-	Consideration innovative activity at the mesolevel. Development scenarios innovation.

			economic and functional mechanisms of the innovation sphere territory. Development of the concept of innovation development areas development program, methodology for assessing the effectiveness of interventions, scenarios and forecasts.	
4	Kolosov A. E. complex model of stimulation of innovative activity of the enterprise	The innovative activity of the enterprise - the human capital	1) The presence of enterprise innovation potential and desire of its application in practice 2) The need to stimulate innovation activity personnel (quantity and quality of innovative ideas and developments, the impact on the scientific division, the transformation of intellectual labor in commercial innovation, impact on the administrative division, reducing staff resistance to innovation, impact on all participants in the innovation process) 3) the need to invest in human capital, innovation-oriented enterprises (set of measures, monitoring of growth parameters) 4) Increasing intelligence, innovation, innovativeness	Isolation of intelligence, innovation, and innovation as components of innovation activity. The emphasis on human capital.
5	Naumov I. V. algorithm actions of local authorities on the formation	Innovation activity of the municipal territory - the mechanisms of social and	1) Creation of the Center for Strategic Planning Innovation 2) assessment of the innovative development of the municipality (the potential, innovative activity, factors) 3) Determining the direction of formation of strategy of	Object - the municipality. Selecting different types of municipalities. Choosing a strategy of innovative

	of innovative activity territory of the municipality	economic development	innovative activity of municipalities of different types 4) Development of a strategic plan and its implementation 5) Monitoring of socio-economic development 6) Adjustment of strategic programs and projects of innovation development results of each stage.	development based on the type of the municipality
6	Nicholas A. mechanism of management of innovative activity of the university	The innovative activity of high school - a collection of resources of the university, the stakeholders of the university	Management principles: compliance with the strategy of innovative development of the Russian Federation, the completeness and accuracy of the indicators of innovation activity, the use of transparent evaluation methods of innovation activity, integration. Function block: control subjects: Vice-Rector, Research Sector, a group of innovative development. Management tools: balanced scorecard, performance monitoring, mathematical modeling, and transfer of scientific and technological activities. Methods, functions, processes, objects, the subject of management, coordination of interests, information security, regulatory, legal, methodological information.	The optimal allocation of resources of the university (external and internal), based on reconciling the interests of the subjects.
7	Sidorenko V. G. Business model for manageme	Innovation activity organization - personal and group	1) Technology Management (branding and rebranding, benchmarking, coaching, outsourcing, etc.). 2) The creative personnel (the	Combining different control technologies, teamwork, focus on corporate

	nt, ensuring the growth of innovation activity of the organizatio n	innovation initiative and cooperation, corporate culture.	generators of new ideas, analysts, developers, bootlegging, etc.). 3) Corporate culture (philosophy, goals and values of the company, the level of education and incentives, the atmosphere of cooperation) Continuous Innovation Manager management process.	culture and procedures of benchmarking.

According to the data of Table 2.2.1., Most of the authors proposed a model of management in the form of steps (such as A. Golushko, I. Naumov, E. Kapreeva), other authors present a model as a set of elements (A. Nicholas, V. Sidorenko, E. Valeyeva). The combination of the description and the stages and elements is rare - it is said in the E. Valeyeva that reviews and elements (resources, institutions, and so forth.), and various algorithms - depending on the organization's strategy: development of a new segment, the conclusion of a new product, and new methods of marketing. In our opinion, such a comprehensive approach is most suitable.

The literature also discusses various control entities of innovative activity: the territory, the region, municipality, organization, and school, travel agency, Energy and so on. That is, the authors can be divided into those who are considering innovative activity as a universal phenomenon - in relation to organizations Overall, those who speak of models applied to specialized industries territories. In our view, the model elements enhance innovative activity should be considered as universal, and the elements will be different because of different factors influence. This is again due to the need to consider as part of the construction of the model and the elements and stages. The vast majority of the authors include a model methodology for assessing innovation activity, whereas step involves assessing the effectiveness, model no. Such a variety of valuation techniques indicates the absence of a single, accepted by all, universal method. In our view, this can be explained by a variety of factors of innovation activity and significant differences in the organizations. However, the lack of methodologies to assess the impact in the models is a significant omission, which is mitigated by the presence of some models stage of monitoring activities.

None of the model as a management mechanism is not used improves interaction levels of the organization and its subsystems. And this, in our opinion, is strong enough amplification mechanism of innovative activity taking into account the limited resources, legislation, training of personnel and so forth.

Evaluation of the effectiveness of management models of innovative activity based on the monitoring indicators of innovation activity of the organization, so it is

necessary to analyze the approaches to indicators of innovation activity of the organization. The main approaches to the indicators of innovation activity have been shown by us in the table in Appendix 4. The analysis shows that the approaches of many authors are not just different, but contradictory.

Based on this analysis, we propose to stay on the list of indicators of innovation activity for the development of system-integrated model of management of innovative activity by improving the interaction levels of management subsystems organization, presented in Table 2.3.

Table 2.3. a list of the fifteen indicators characterizing the level of innovation activity, corresponding to the above-formulated concept of innovation activity of enterprises. The indicators are grouped into three categories: resource-expensive unit (the availability of resources, the cost of innovation), an ideological bloc (the attitude of management and staff to innovate, the organization's policy in this respect, openness to change), Scoring a block (the main results of innovation as factors reflecting the level of innovation activity). In our opinion, the growth of innovative activity is possible in the presence of three components: resources, openness and flexibility of the company and to obtain permanent results.

If we compare the list of indicators with factors of innovation activity (Table 2.3.), We can understand that there followed the same principles of classification: external and internal indicators, resource indicators, outcome and process, stimulating and braking performance, organizational management, the objective and subjective, strategic and operational.

Table 2.3. - Justification of the choice of indicators for the assessment of innovative activity

Group	**Attitude to the environment of enterprises**	**Evaluation indicator of innovative enterprises**	Description indicator rationale for the choice, its dynamics in relation to innovation activities
1. Resource - expense unit (including frames as a resource)	1.1. Internal	1) Availability of R & D department (strategic level indicator)	The presence of the department of research and development at the enterprise is a priori commitment to the development of enterprise innovation, innovative nature of the activities, the availability of innovation costs (in this case - the cost of the maintenance department). **The presence of R & D department indicates the presence of innovation, promotes the growth of innovative activity**
		2) The share of the costs of innovation (measure strategic level)	For the growth of innovative companies should bear certain costs, but investments must be optimal and carry the result. **The higher the proportion of the cost of innovation, the greater the innovation activity.**
		3) The presence of patents and licenses (a measure of the strategic level)	Patents and licenses in the field of innovation - a significant competitive advantage as they provide protection against competitors in the market. **The more patents and licenses, the greater the innovation activity.**
		4) The level of qualification and competence of personnel engaged in the development of innovation (measure operational level)	The staff is a key factor in the development and implementation of innovations. High qualification affects the availability of the ideas, the pursuit of development, openness to innovation, speed to market launch. However, it is necessary to promote and develop the personnel, ie indicator is linked to the cost of innovation. **The higher the level of qualifications and competence of personnel engaged in the development of innovation, the higher the innovation activity.**
		5) The resource potential of innovative activity (a measure of strategic level)	The main problem of innovative development of many companies called the lack of resources, so we turned on the block as the availability of resources at all stages of innovation. **The more resources (the higher resource potential), the higher the activity of innovation.**
		6) The presence of obstacles to innovation activity (generated by the peculiarities of the enterprise) (an indicator of the operational level)	Barriers to conducting innovation lead to the fact that many companies abandon it due to the specifics of the enterprise, the lack of internal capacity. Evaluation is needed to eliminate the obstacles of their influence. **The fewer obstacles associated with the peculiarities of the enterprise, the greater the innovation activity.**
	1.2 External	7) It has partnerships for conducting innovative activity (a measure of operational level)	Innovation activity requires a lot of resources. In our view, the partners play a key role in many stages of the innovation process, such as the saving of resources, joint efforts, exchange of experience and so forth. **The more quality partnerships within the innovation, the greater the innovation activity.**

		8) Obstacles to innovation activity (generated by the external environment) (indicator strategic level)	Barriers to conducting innovation lead to the fact that many companies abandon it due to a significant negative impact of environmental factors. Evaluation of obstacles needs to account for their impact. **The fewer obstacles associated with the peculiarities of the enterprise, the greater the innovation activity.**
2. Ideological unit (attitude of its products)	**2.1 Internal**	9) Susceptibility to innovation by management (strategic level indicator)	A major role in the innovation process is the spirit of leadership as the leading force in the enterprise. With the support of new ideas, awareness of the need for innovation and the development of employees across the enterprise easier to take the path of innovation. **The more receptive to innovation management, the greater the innovation activity.**
		10) The speed of implementation of new ideas, new products introduction ratio (an indicator of the operational level)	In the ever-changing markets and develop small to innovate, observe a high rate of excretion of the market and the timeliness of the release of new products to the market, as a competitor can get ahead of the company is at a stage to market, even if the stage of research and development carried out at a high level. **The higher the speed of implementation of new ideas, the greater the innovation activity.**
		11) Coefficient of innovative ideas (a measure of the operational level)	Even if the process within the company for generating ideas and developing innovation adjusted, for various reasons, not all ideas can be implemented. This can help to ensure that many of the features will not be realized. **The higher the sales (the proportion of the realized ideas), the greater the innovation activity.**
		12) The effectiveness of the use of growth opportunities of innovative activity (the level of mobilization of innovative potential) (indicator strategic level)	The presence of all available resources is a positive factor of innovative development, however, the resources must be used optimally: to be able to use their time and fully, correctly distribute. Innovation has the potential to increase the resource innovation. **The higher the level of mobilization of innovative potential, the higher the level of innovation activity.**
3. Scoring unit	**3.1 Internal**	13) The relative level of innovation activity (a measure of strategic level)	The company operates in the open market, along with competitors. Therefore it is important, along with the absolute performance, relative use. This will help to assess the position of the enterprise in the market against competitors. The index is similar to the indicator "relative market share", which is estimated along with the absolute market share. **The higher the level of innovation activity relative (relative to competitors), the higher the innovation activity.**
		14) Have completed innovation (measure operational level)	This is the most commonly used statistical measure of the result is all the innovation process; it should be evaluated over time. **The more innovation completed, the higher the innovation activity.**
	3.2 External	15) Timeliness of innovation (measure strategic level)	The company shall strive not only for the high speed of innovation, but also to take into account characteristics of the market and the level of development of the market: innovation can stay ahead of the level of market development and demand; so many new items can not be understood by consumers.

			In our view, the index reflects the timeliness of the company's ability to predict market development and competition steps. The main difficulty is that the assessment is only possible after the fact, based on my own experience. **The more timely innovations introduced, the greater the innovation activity.**

It should be noted that the figures should be seen in the complex: the growth of one of the indicators may not affect the increase of innovative activity of the enterprise due to the low level of the remaining indicators. You also need to take into account the fact that the company, through its ability to live not in isolation, but function in a particular environment, so figures is divided into external and internal. Due to the fact that the theme of innovation is relevant in the present conditions, research in this area, both theoretical and empirical, quite a lot. The objective of this work is not an analysis of approaches to innovation activity and its assessment as such. For our study pressing question: what is the place of improving the interaction of management levels in the organization of functional subsystems of existing approaches? How appropriate interaction between the use of the strategic and operational levels of government to improve the innovative activity of organizations.

2.4. Management of innovative activity of the organization on the basis of system-integration model

Taking into account the role of the analysis of management levels interaction (for example, marketing subsystem) to increase innovative activity, and based on an analysis of existing models of management of innovative activity, develop a system-integrated model of management of innovative activity of the organization, based on the process of harmonizing the strategic and operational levels of management, improve the mechanisms innovative activity by improving the interaction between levels of management subsystems organization - Figure 2.5.

The main purpose of the proposed algorithm interoperability strategic and operational levels of management is to increase the innovative activity of the organization; the algorithm is based on the pattern matching process of strategic and operational levels, taking into account the principles of hierarchy, feedback and self-analysis subsystem marketing, classification of factors of innovation activity. Consistency means the overall integrity of the proposed governance model, and integration implies a calculation of the total index, which characterizes the level of innovative activity of the organization. It should be noted that the model is based on existing theories of organization: system-integration and the theory of self-development proposed by G. B. Kleiner, R. Kachalov, V. Tambovtseva, I. Prigogine, G. Etzkowitz, A. V. Molodchik. However, current approaches are used to a greater extent on the level of the theoretical analysis. We suggest these approaches to project the level of the practice of modern organizations in their innovation.

The process of integration of levels of management subsystems to enhance the organization of innovative activity is invited to portray as the seven stages.

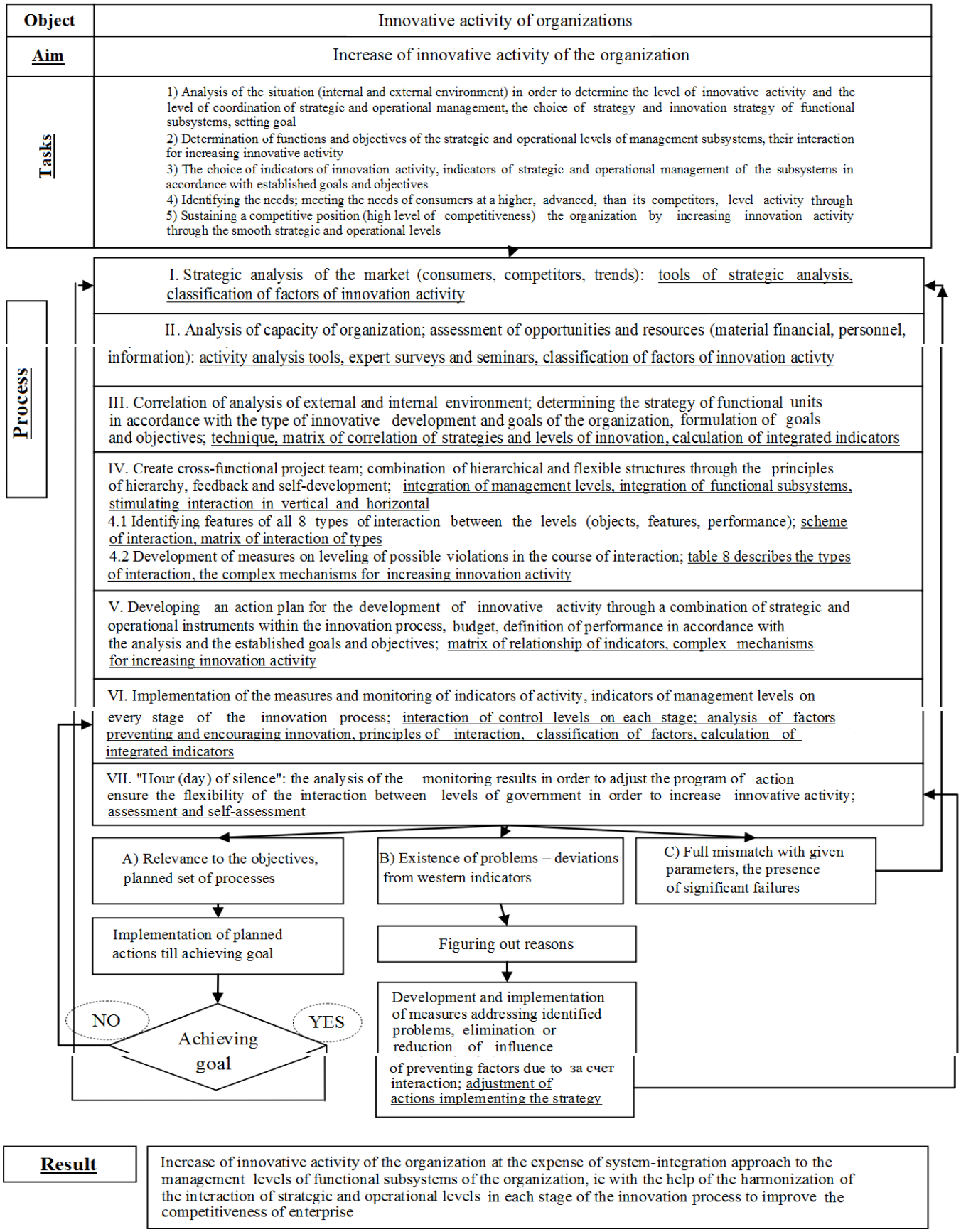


Figure 2.5. - System-integration model of management of innovative activity based on the interaction of management levels

In the first stage of a strategic analysis of the market (the prerogative of the strategic management level). The purpose of the analysis - to determine the presence (absence) of the market niches, unmet needs.

Further, in the second stage, using the tools of operational marketing examines the potential of the enterprise - the state of internal capabilities and resources. The purpose of the analysis - to identify options for innovative development of the organization.

The third phase is realized the process of harmonization of the results of the strategic analysis and the analysis of the organization's resources, strategies functional subsystems are defined in accordance with the level of innovation activity, formulate goals and objectives of the enterprise.

On the fourth stage, after the review is completed, it starts the actual process innovation activity through the harmonization of the strategic and operational levels of management: we propose to establish a cross-functional project team with a view to a combination of flexible and hierarchical structure of the organization, thus implementing system-integration approach. At this stage it is necessary to identify all eight types of interaction between the levels of governance, strategic and operational, which were considered in the first chapter of the example of the functional subsystem Marketing - for this particular organization to identify interoperability issues . Under the same stage events designed to address identified problems and harmonization of the interaction between strategic and operational levels of management. Potential implementation options have been formulated in Table 2.4.

Taking into account the activities developed on the harmonization of the strategic and operational management and the chosen strategy of innovative development, on the fifth stage of developing an action plan for the development of innovative activity through a combination of tools and functions of strategic and operational levels of management within the innovation process. In addition, taking into account the objectives and the capacity of the developed budget measures. To assess the effectiveness and control of process performance indicators defined strategic and operational levels of management, as well as indicators of innovation activity. Table 2.3.2. shows the functions and tools of strategic and operational levels of management, necessary for the implementation of tasks within the innovation process on the example of the functional subsystems of the marketing organization. The sixth stage includes implementation of measures and monitoring indicators of innovation activity, indicators of strategic and operational levels of management at every stage of the innovation process, taking into account the role of the interaction between strategic and operational levels of management at every stage through the implementation of the principle of hierarchy, self-development, and feedback (disclosed in Table 2.4.). Thus, the implementation stages of innovative activity can

monitor the results of the strategic marketing and operational marketing, and as a consequence - the results of innovation activity. The synergistic effect of the coordinated interaction of strategic and operational levels of management is manifested in the transparency, the attainability of plans and targets, accelerating the decision-making process and implementation of measures, establishing the process of collecting feedback. This is the result of the implementation of the sixth phase of our proposed scheme. Productivity measures monitored by performance indicators.

Table 2.4

The functions of different levels of management subsystem marketing phases of the innovation process

	Stage of the innovation process	**The main issue, result**	**The functions of different levels of the marketing subsystem**	**Tools of level of subsystem marketing**	**Performance and results of marketing activities**	**Performance and results of innovative activity**
	Communication of market demands with the scientific and technological achievements	How to meet existing or new needs	Strategic level: - Strategic analysis of the market; - The study of the latest scientific and technological achievements; - Search for and identification of niches, the unmet needs of value Operational Level - Analysis of the opportunities of the enterprise (range, power, personnel and so on.); - Making available the information received to the services of the enterprise; - Monitoring competitors; - Accumulation of feedback from the market for strategic analysis.	Tools and methods of qualitative and quantitative marketing research; Tools for Strategic Analysis (BCG matrix, Ansoff, Porter, SWOT, PESTEL); Tools of economic analysis (financial analysis) Radar competitiveness. Key market indicators: capacity, dynamics, environment, potential.	Reliability of information; The timely receipt of data; Objective data; The extent and completeness of the information received; Cost-effectiveness studies; Effectiveness studies; Revealed a niche, an unmet need; Timely and complete feedback	Specific R & D costs; Availability of funds for the implementation of Innovation and improvement of innovative activity; The composition and structure of the research units; The number of applications for patents; The number of licenses; The share of new products for the market; Generation of new items
	Creating innovation: fundamental and	What are the main trends in this field of	Strategic level: - Encouraging employees to show initiative in the	Tools and methods of qualitative and quantitative research;	The maximum correlation developed new products to market requirements;	Have FNIR, RDP, OCD; The number of partners

	applied research development work	research? What is the concept of innovation? What are the final versions of the innovation?	innovation process - In the identification of ideas for innovation; - The process of selecting and organizing ideas - ideas with the possibilities of correlation; Operational Level - Evaluation of ideas, results FNIR, RDP, OCD in terms of demand from the market;	SWOT, PESTEL-analysis; Tools of economic analysis (financial analysis); test marketing	Ahead of the competition; Speed-to-market innovations; Expanding the range of services and goods; The introduction of goods, works and services in new markets, geographic markets, new customer groups	in innovation; Reduces the time, material and financial costs; Market launch of new products; Improving motivation for innovation activity
	Commercialization of innovation	How to bring innovation to the potential customers and make a profit?	Strategic level: - Analysis of the market situation; - Portfolio analysis - Market segmentation; - The choice of positioning strategy and market coverage; - Selection and justification strategies and marketing plans for the elements of the marketing mix (product range, price, promotion, distribution); - Shaping a positive perception, recognition software; Operational Level - Monitoring competitors; - Development programs accordingly established plans;	Tools and methods of marketing research; Tools and methods of promotion and marketing communications; Marketing Plan; Map positioning; Marketing budget	The rate of output to market Trends; Recognition; Perception; Advance competition; The Adequacy of the targets; Return on investment; Reliability of information; Feedback; Growth of competitiveness; Market share; Reducing time to make marketing decisions	Increased production flexibility; The level of innovation building; Improving the energy efficiency of production; Improving information links within the company; The number of technologies transferred; Diffusion of innovations

			- Monitoring the implementation of programs; - Dissemination of information about a new product; - Encouraging consumers to purchase, the belief in a better than its competitors offer; - Monitoring of the process of conveying information, persuasion, consumers need to purchase;			

Therefore, according to our proposed system-integration management model, it is necessary to identify a number of indicators of strategic and operational management levels and establish the relationship between them. It is necessary to identify indicators of the strategic and operational levels of government that affect the indicators of innovation activity for the development of mechanisms that increase the level of operating performance, as a result - increase the level of strategic indicators. A rate increase levels of management and to strengthen their cooperation, in our opinion, to mean higher should lead to an increase in indicators of innovation activity. For example, subsystem marketing organization we analyzed the main approaches to the definition of performance indicators functional subsystem of marketing and its effectiveness (given in Appendix 4).

In all of these sources, it is a system of indicators, reflecting the integrated nature of market activity. This Scorecard is a set of assessments that measure the trend in quantitative terms, the dynamics of market activity or characteristic. In most sources, the authors suggest the use of a system of indicators to different objects within the organization, such as personnel processes.

At the moment, there is no single approach to determining the list of indicators of marketing. Moreover, in the literature there are conflicting opinions. The main authors, systematized approach to performance marketing, are R. Best ("Marketing on the consumer"), S. Gupta and D. Lehmann ("Gold" customers "), Paul W. Farris, Neil T. Bendl et al. ("Market indicators"), O. K. Oyner ("Performance Management Marketing"), M. Jeffrey ("Marketing, based on the data"), but the distribution of the levels of marketing indicators, none of the authors conducted. Within the hierarchical analysis of marketing activities, we propose consideration of the relationship indicators at different levels of marketing - operational and strategic. When classifying indicators management levels we use the following criteria: compliance indicator target functional subsystem (objectives tree) and the scale of the consequences of a decision on the value of the index.

Strategic Marketing - The activity in the market as a whole with respect to the external environment - competitors and consumers, profitability and increase the value of the business as a whole. We offer the following list of indicators of strategic marketing: sales in value terms, net income from marketing, marketing ROI, marketing return on sales, marketing potential, market share, profitability lifelong consumers of consumer loyalty index, the index of competitiveness of the company. We describe the relationship indicators strategic level.

Performance Indicators Strategic Marketing: description and relationship.

1) The volume of sales in value terms.

As part of the development model of the relationship are invited to stay on the volume of sales in value terms, as the volume of sales in value and volume terms are interrelated and derived from one another.

The formula for calculating - V = s*Q, where V - volume of sales of the company in terms of value, sum.; s - the unit price (services) sum./unit.; Q - volume of sales in kind, units.

2) Net income from marketing.

Given the fact that marketing activities are of investment character, the process of obtaining net income from marketing is strategic. Formula - *NMC = (V*D_r*(Vi - VCC)) - C_M, where NMC - Net income from marketing, sum .; V - volume of sales of the company in terms of value, sum .; D_r - market share, %; Vi - revenue per customer in the period sum .; VCC- variable costs per customer, sum .; C_M - marketing costs for the period, sum.*

3) Return on investments in marketing;

4) Marketing sales profitability.

The return on marketing, also by virtue of the nature of the investment activities of marketing, refers to a strategic level and is the target of all marketing services as a whole; it ensures the optimal functioning of all areas of marketing. Formula - ROMI = NMC / C_{Mt} where ROMI - return on marketing investment,%; NMC - Net income from marketing, sum .; CM marketing costs for the period sum .; MROS = NMC / V, where MROS - marketing return on sales,%; NMC - Net income from marketing, sum.; $C_м$ - marketing costs for the period sum.

5) Potential marketing.

Potential marketing is an integral indicator that consists of both strategic and operational performance of the.,

*Formula - MP =$\sum^{n}_{i=1}$ **ki*Pij** = / (P_a, P_n, P_c, P_{minstr}, P_{mpers}, P_{matrs}, P_{minf}) where MP - marketing potential, point; n - number of the components of the marketing potential; k-weight element of the marketing potential; P_{ij}- the value of a marketing capacity; P_a - potential analytical activities, P_P - production potential, P_C - potential of communications, P_{minstr}- potential marketing instruments, P_{mpers} - potential marketing personnel, P_{matrs} - potential material marketing resources P_{minf}- potential marketing information resources.*

7) Market share.

The market share is an indicator of how well the company is working in the market[152]. There are absolute and relative market share. The vast majority of companies establish market share as a target in the long run. *Formula - D_r =*

[152] Marketingovye pokazateli. Bolee 50 pokazatelej, kotorye vazhno znat' kazhdomu rukovoditelju / Pol' U. Fjerris, Nejl T. Bendl, Filipp I. Pfajfer, Djevid Dzh. Rejbshtejn. - Dnepropetrovsk: Balans Biznes Buks, 2009. - S. 19.

V/V_r, where D_r - market share, %; V - volume of sales of the company in terms of value, sum .; V_r - the sales volume of the whole market, sum.

7) Lifetime yield consumers.

Lifetime customer profitability - is the current value of all current and future revenues from the buyer for the period of his cooperation with the company[153]. *Formula - $CLV = V_i (r / (1 + i-r))$, where the CLV - Lifetime yield consumer sum.; V_i - revenue per user over time, sum.; r - consumer retention rate, %.*

8) The index of consumer loyalty.

The high level of customer loyalty ensures long-term stability of the company by forming long-term relationships[154]. This figure is a reflection of how consumers are committed to the company. It should be noted that this is not about loyalty to the maximum, and the optimal level of it; companies cannot strive for absolute loyalty[155]. *Formula – $ICL = CSI * r * C_{rr}$, where ICL - index of consumer loyalty,%; CSI - customer satisfaction index,%; r – coefficient of keeping consumers%, C_{rr} coefficient of recommendation rate of clients, %.*

9) The index of competitiveness of the company.

The competitiveness of companies is a reflection of its position in relation to competitors. Competitiveness is integral and consists of a number of indicators that differ depending on the industry, sphere of activity, type of company. *Formula - $C_c=\sum_i^q a_i * Q_i$, where C_c - Competitiveness Index of company, point; a_i - weight of the i-th parameter of competitiveness; Q_i - the competitiveness index of the i-th parameter, q - the number of parameters of competitiveness.*

Thus, the list of performance indicators of strategic marketing is limited to nine positions, which include indicators of external and internal, financial, organizational and market. The indicators are calculated according to the formulas proposed by different authors. According to R. Best, P. Farris, S. Gupta et al.[156] It is proposed to adhere to the above formulas.

Based on a qualitative description, the meaning of the indicator and the formula through which the calculation is performed for each indicator, the relationship between

[153]Gupta S., Lemann D. «Zolotye» pokupateli. Stojat li klienty teh deneg, chto vy na nih tratite?: per. s angl. – SPb.: Piter, 2007. – S. 87.

[154] Best R. Marketing ot potrebitelja. - M.: Mann, Ivanov i Ferber, 2008

[155] Gupta S., Lemann D. «Zolotye» pokupateli. Stojat li klienty teh deneg, chto vy na nih tratite?: per. s angl. – SPb.: Piter, 2007. – S. 86.

[156] Marketingovye pokazateli. Bolee 50 pokazatelej, kotorye vazhno znat' kazhdomu rukovoditelju / Pol' U. Fjerris, Nejl T. Bendl, Filipp I. Pfajfer, Djevid Dzh. Rejbshtejn. – Dnepropetrovsk: Balans Biznes Buks, 2009; Gupta S., Lemann D. «Zolotye» pokupateli. Stojat li klienty teh deneg, chto vy na nih tratite?: per. s angl. – SPb.: Piter, 2007; Best R. Marketing ot potrebitelja. – M.: Mann, Ivanov i Ferber, 2008.

indicators at the strategic level can be summarized as follows (Figure2.5):

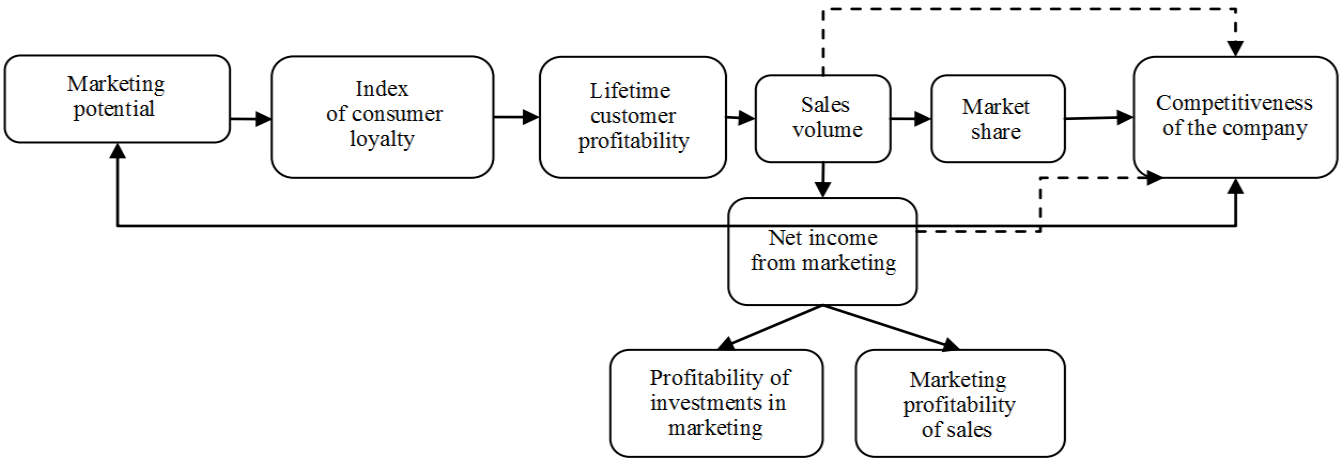


Figure 2.5. - Correlation of the strategic management level (for example, marketing subsystem)

The direct effect of the figure shown by the solid line, an indirect effect shown by the dotted line.

Operational Level Indicators - indicators for implementation of concrete measures on the instrumental level of marketing as well as the time of receipt of return.

The list of indicators of operational marketing, we propose to include the index of competitiveness of the goods, the share of new products, the impact of labor marketing personnel, the rate of turnover, logistics service quality, brand recognition, the level of achievement of advertising, the best price from the standpoint of the market, the best price in terms of rates of return The average cost of attracting new customers, share marketing costs in turnover, cost-effective marketing research, marketing research performance, customer profitability, customer satisfaction index, consumer attitudes, relative perceived quality.

The performance indicators of operational marketing: the nature and relationships.

1. The index of competitiveness of the goods.

The consequences of the supply of goods of high quality on the part of the company are reflected in many indicators of its activity. For example, due to the high quality of the goods companies are able to raise the price, the demand is less elastic, increases customer loyalty. *Formula* – $C_c=\sum_i^a a_i*Q_i$, *where* C_c *- Competitiveness Index Commodity, point;* a_i *- weight of the i-th parameter of competitiveness;* Q_i *- the competitiveness index of the i-th parameter, q - the number of parameters of competitiveness.*

2. The share of new products.

This reflects the company's ability to introduce new products, the demand from the market, the competitiveness of companies, innovative activity of market players.

The latter, in turn, determines the long-term benefits of the enterprise. *Formula - $D_{np} = V_{np} / V$, where D_{np} - the share of new products in turnover,% V_{np}-sales of new goods sum .; V - volume of sales of the company, sum.*

3. Efficiency/productivity of work.

The effectiveness of the personnel helps managers to forecast sales volumes (increase the number of clients)[157]. Also, comparing the effectiveness of management, it is advisable to use a figure in the development of motivation systems and the introduction of elements of "healthy competition."

Formula: C_{ess} = V/number of contacts with clients = Y/Number of potential customers = V/number of active buyers = V/purchasing power of customers = $C_i V_i$, where C_{ess}- coefficient of effectiveness of sales staff; V is the volume of sales of the company, sums .; Ci - the costs per customer, sum.; - Revenue per customer, sum.

4. The rate of turnover.

When you select a parameter for the calculation model took into account only those that have direct impact marketers. So, with the help of high quality proposals and demanded goods, provision of information, promotion of effective marketing directly contribute to the acceleration of turnover by increasing the frequency and volume of purchases. *Formula - $R_t = V/I_a$ where R_r - the rate of turnover, sum./sum.; V - volume of sales of the company for the period sum.; I_a - average inventory for the period sum.*

5. The quality of logistics services.

In a competitive environment is the determining factor in the competitiveness of the service, the quality of logistics services, that is, the marketing function, which provides customers not only purchase goods and receive a whole range of works, which carries the benefit of the client. Particularly important is the figure for the B2B (business to business) market. *Formula - $C_{ls} = f$ (reality, reliability, responsiveness, competence, courtesy, trust, security, communication, mutual understanding) = f_{perc}- f_{expect} where Cls - quality logistics service, points; f_{perc} - perceived level of service; f_{expect} - the expected level of service.*

6. Brand awareness (awareness).

Recognition reflects the position of the brand in the minds of consumers compared to competitors.

Formula - $O_{cv} = n_{awa}/N * 100\%$, where O_{cv}- the proportion of consumers informed about the brand, %; n_{awa} - number of potential buyers, recognizing the brand/company, people .; N - the number of potential customers, people.

[157] Marketingovye pokazateli. Bolee 50 pokazatelej, kotorye vazhno znat' kazhdomu rukovoditelju / Pol' U. Fjerris, Nejl T. Bendl, Filipp I. Pfajfer, Djevid Dzh. Rejbshtejn. – Dnepropetrovsk: Balans Biznes Buks, 2009. – S. 215.

7. The level of achievement of advertising (the belief, motivation for action, buying).

There are three levels of achievement of the objectives of advertising: inform, persuade, urge consumers to take action. The higher the level, the longer and more expensive for the company to achieve it. The formula depends on the type of channel of communication and advertisement.

8. The optimal price from the viewpoint of the market.

Indicator optimal from the point of view of the market price reflects the value offers in accordance with the needs and capabilities of consumers. *Formula: the optimal price based on perceived value to the consumer; the ratio of the company's costs, profits, and customer win.*

9. The optimal price in terms of rate of return.

Outside the optimum in terms of rates of return rates adequately reflect the correlation and analysis of financial performance and marketing costs, as well as the situation in the external environment of marketing. *Formula - $P_{onmr} = Cj (1+ R /100)$, where R_{onmr} - optimal price in terms of rates of return, sum.; C_j - the full costs per unit of output, sum.; R - the expected (standard) profitability, %.*

10. The average cost of attracting new customers.

The ratio of the total cost by the number of clients involved shows how reasonable resources are allocated in attracting customers, to evaluate customer profitability and cost-effectiveness of a particular information carrier. *Formula – $S_{pksr} = S_{ec}/n_{new}$ where S_{pksr} - the average cost of customer acquisition, sum .; S_{ec} - customer acquisition costs, sum.; n_{new}- number of new customers during the period, people.*

11. Marketing costs (share of turnover).

The share of marketing expenses in the budget of the enterprise depends on many factors[158].

When the rational allocation of costs the company achieves the optimal level of prices in terms of rates of return (taking into account the financial performance). *Formula - $D_{cm}=C_m/V*100\%$, where D_{cm} - the share of marketing expenses in turnover,% C_m - Marketing Expenses for the period, sum., V - the volume of sales in terms of value, sum*

12. Cost-effectiveness of marketing research.

The economic efficiency of marketing research indicates that the costs of the research covered by the decisions taken as a result[159]. *Formula - $E_{mr}=(P/C_{mr})*100\%$,*

[158] Mosjazh O. Marketing i korporativnye kommunikacii. Materialy. [Electronic resource]. – Rezhim dostupa: URL: www.onconference.ru

[159] Malkov M.I. Ocenka jeffektivnosti marketingovyh issledovanij // Marketing i marketingovye issledovanija. – 2008. – №32. – S. 144–154.

where E_{mr} - economic efficiency of marketing researches,%; P - external effect of conducting marketing research, sem.; C_{mr} - the cost of marketing research, sum.

13. The effectiveness of marketing research.

Effectiveness is determined by the value of information for the enterprise. Effectiveness is determined by four factors: data accuracy, timeliness, reliability, compliance objectives. *Formula - $R_p=\sum k_i*w_i$, where R_p - effectiveness of the process of marketing research, point; k_i - expert evaluation of each of the performance criteria of studies point; w_i - weight test performance marketing research, point.*

14. Customer profitability.

Customer profitability is the difference between the income obtained as a result of the relationship with the customer within a certain time, and costs associated with these relationships[160]. *The formula - CP=Vi-Ci., Where the CP - customer profitability, sum.; Vi- revenue per user for the period sum.; Ci - the total cost of a single client, sum.*

15. Index of consumer satisfaction.

The indicator can be defined as the proportion of satisfied customers, as the number of customers whose declared experience with the company, its products and services exceeds a predetermined degree of satisfaction. The index of consumer satisfaction is the main, a key indicator of marketing activities in the enterprise. *Formula - ICS = ƒ (completely dissatisfied… completely satisfied) = n_{cs}/n, where the ICS - the index of consumer satisfaction,%; n_{sc} - the number of satisfied customers, people; n - the number of real clients, people.*

16. Consumer attitudes (brand image).

Consumer attitudes have a qualitative rather than a quantitative measure of the brand image. *Formula - R_{el} = ƒ (factors relations), where R_{el} - the level of consumer attitudes,%.*

17. The relative perceived quality.

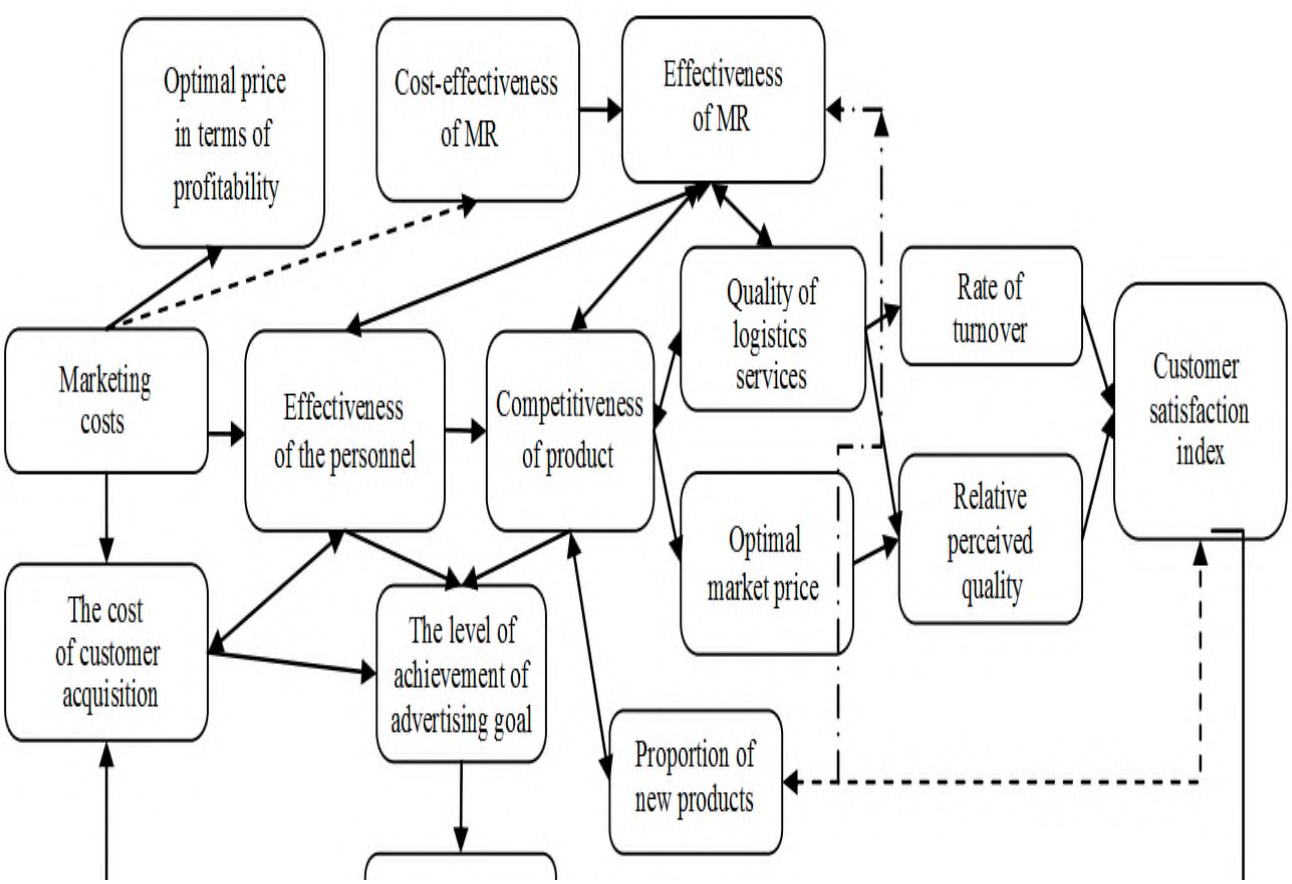
The index of relative perceived quality of the goods to determine the position of the company in the eyes of consumers in relation to similar goods of competitors. Determined through a series of interviews, or by experts (for B2B market). *Formula - R_{elqual} = $n_{satqual}$/n*100%, where R_{elqual} - relative perceived quality, %; $n_{satqual}$ - the number of consumers satisfied with the quality of goods, people.; n - total number of customers, people.*

The relationship between the indicators should be set through a formula reflecting each indicator. Diagram showing the relationship indicators at the operational level will be as follows (Figure 2.6).

[160] Marketingovye pokazateli. Bolee 50 pokazatelej, kotorye vazhno znat' kazhdomu rukovoditelju / Pol' U. Fjerris, Nejl T. Bendl, Filipp I. Pfajfer, Djevid Dzh. Rejbshtejn. – Dnepropetrovsk: Balans Biznes Buks, 2009. – S. 177.

Thus, by virtue of the equivalence of performance to the operational level, between them there are many different connections.

Based on the above descriptions of indicators and charts their relationship, taking into account the current at this time the concept of a balanced scorecard, we established the relationship chains indicators "strategic level - operational level - the innovative activity". It is proposed to build a chain based on the matrix where the vertical indicators are operational level, across - the strategic level indicators. All figures are divided into external and internal. Operational performance is proposed to divide the principle of the marketing mix, that is, the directions of marketing activity: internal (range, personnel, marketing, promotion, pricing, marketing costs, market research) and external (customers and competitors). Strategic indicators also divided into two groups: internal, which aim to achieve the objectives of the whole enterprise and marketing (sales, profit, and profitability, potential), and external, which aim to customer satisfaction at a higher than its competitors, the level of (market (consumers) and competitors).



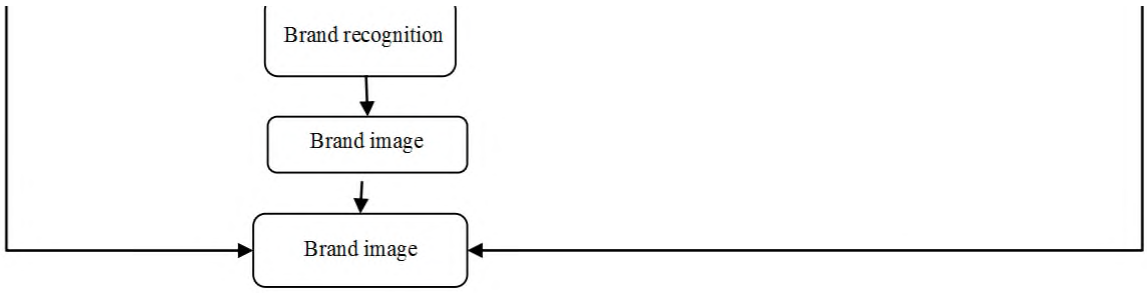


Figure 2.6. - Correlation of the operational management level (for example, marketing subsystem)

Each cell of the matrix is a characteristic interference of i-index operational level and the j-th indicator of the level of marketing strategy. Thus, the matrix, the size of 99 * 17 gives the position in 1683, describing the relationship of operational and strategic marketing: positive, negative or no interference.

The augmented matrix of indicators includes indicators that reflect the specifics of the market activity[161].

Due to the fact that the number of indicators in this consideration is large enough (99 operational and 17 strategic indicators), on the basis of the survey results during the testing methodology was requested to consider integrated indicators for each area of marketing at the operational level. Such a consolidation of indicators it is also necessary for the convenience of using the model in practice enterprises. Thus, the matrix consists of 9 strategic and 17 operational performance marketing. Each of the 9 * 17 = 153 cells reflects the relationship (positive or negative) or not. It should be noted that examined the relationship (interdependence) in the short and long term that is realized evolutionary approach to the theory of organization**.** Thus, there are to be two-matrix model of interaction between hierarchical levels subsystem marketing.

"Enlargement", or the choice of indicators to further develop the model, implemented on the following principles:

- not more than 5 in the group of indicators. This requirement stems from the fact that the practice is necessary simple models for decision-making[162];

- integrated performance: in selected indirect indicators are those that have been

[161] Matrix is universal for all types of businesses. However, the list of indicators can vary downward because of the specific industry business specifics, the size of the enterprise. The proposed exhaustive list, compiled on the basis of an analysis of different approaches to performance marketing.

[162] Managers and specialists are ready to count about 10-15 indicators, but no more. The tool should accelerate the work of staff at different levels, and not "load" additional staff chore. On the other hand, a number of studies indicated a rule - to choose one perspective about five indicators (Preisner A. Balanced Scorecard in marketing and sales. - M .: "The publishing house" Grebennikov ", 2009. - P. 45).

eliminated in the consolidation of the matrix;

- the availability of data to test the model need to collect real data of enterprises; I respect the principle of data availability and reliability.

Based on a comprehensive analysis of performance indicators of marketing within our system-integration analysis, the following conclusions: there is a relationship between the indicators and interference that can occur in various ways in the short and long term. In addition, there is a relationship and interaction between the levels of performance within the functional subsystems. Identify relationships between indicators reveals the mechanisms of influence on them from all sides. These mechanisms are further converted into the goals and objectives of the functional subsystems and the organization as a whole, these goals and objectives imply short-term and long-term actions in the market. Linking indicators of the strategy and operations of the organization subsystems allow a more balanced decision-making in situations of choice.

Given the matrix reflecting the relationship between indicators of strategic and operational levels of management and analysis of approaches to innovation activity indicators, **denote the relationship indicators of innovation activity and performance marketing to identify mechanisms for increasing innovation activity** (Table 2.5).

Table 2.5

The role of indicators of the strategic and operational levels of management in the formation of indicators of innovation activity.

Performance evaluation of innovative activity	The relationship between indicators of innovative activity and indicators of strategic level[163]		Indicators strategic level and determine their level of operational performance[164]	
	Indicators strategic level, forming rate of innovation activity	*Impact indicators of innovation activity on the performance of the strategic level*		
1) Availability of R & D department	1. The volume of sales in value terms	9	1. The volume of sales in value terms	1. 2. 3. 4. 5. 7. 8. 10. 11. 12. 14. 15. 16. 17.
2) The share of expenses on innovation	1. The volume of sales in value terms 2. Net income from marketing; 7. Lifetime profitability of the consumer; Loyalty	6	1. The volume of sales in value terms	1. 2. 3. 4. 5. 7. 9. 10. 11. 14. 15.
3) The presence of patents licenses	5. Market potential	1, 6, 8, 9	3. The profitability investments in marketing	1. 2. 3. 4. 5. 7. 9. 10. 11. 14. 15.

[163] Numbering strategic level indicators: 1. The volume of sales in value terms; 2. Profit from marketing; 3. Return on investment in marketing; 4. Marketing profitability of sales; 5.Potentsial marketing; 6. Marketing share; 7. Lifetime profitability of the consumer; 8.Indeks customer loyalty; 9.Indeks competitiveness.

[164] According to the matrix model of interaction indicators of strategic and operational levels. Numbering indicators retained: 1. Competitiveness Index of the goods; 2. The share of new products; 3. Efficiency, productivity of staff; 4. The rate of turnover; 5. The quality of logistics services; 6. Brand awareness; 7. The level of achievement of advertising; 8. The optimal price from the viewpoint of the market; 9. The optimal price in terms of rates of return; 10. The average cost of attracting new customers; 11. The share of marketing expenses in the turnover; 12. Cost-effectiveness of marketing research; 13. The effectiveness of marketing research; 14. The profitability of the client; 15. The index of consumer satisfaction; 16. The attitude of consumers; 17. The relative perceived quality of the goods. In this relationship tree made those indicators operational level, which was established relationship with respect to strategic level performance at a theoretical level.

4) The level of qualification and competence of personnel engaged in the development of innovation	1. The volume of sales in value terms; 5.Potentsial marketing;	2, 3, 4	4. The marketing return on sales	1. 2. 3. 4. 5. 7. 9. 14.
3) The resource potential of innovative activity	1. The volume of sales in value terms; 2. Net income from marketing; 3. Return on investments in marketing; 4. The marketing return on sales; 5. The potential of marketing; 6. Market share; 7. Lifetime profitability of the consumer; loyalty; 9. The index of competitiveness	-	5. Potential Marketing 1. The volume of sales in value terms; 2. Net income from marketing; 3. Return on investments in marketing; 4. Marketing return on sales; 5. Potential of marketing; 6. Market share; 7. Lifetime profitability of the consumer; 8. The index of consumer loyalty; 9. The index of competitiveness	1. 2. 3. 4. 5. 6. 7. 11. 12. 13.
6) The presence of obstacles to innovation (generated by the peculiarities of the enterprise)	5. Potential Marketing 9. The index of competitiveness	-	6. Market share	1. 2. 3. 4. 5. 6. 7. 8. 11. 12. 15. 16. 17.
7) Presence of partnerships for conducting innovative activity	5. Potential Marketing 6. Market share 9. The index of competitiveness	1,2,3,4,9	7. Lifetime customer profitability	1. 5. 7. 8. 11. 14. 15. 17.

8) Obstacles to innovation activity (generated by the external environment)	6. Market share 8. The index of consumer loyalty 9. The index of competitiveness	-	8. The index of consumer loyalty	1. 2. 3. 5. 7. 8. 11. 12. 14. 15. 16. 17.
9) Susceptibility to Innovations by management	1. Sales in value terms; 2. Net income from marketing; 3. Return on investments in marketing; 4. The marketing return on sales; 6. Market share; 8. The index of consumer loyalty; 9. The index of competitiveness;	-	9. The index of competitiveness	
10) The speed of implementation of new ideas, the ratio of introduction of new products	1. Sales in value terms; 2. Net income from marketing; 4. The marketing return on sales; 5. The potential of marketing; 8. The index of consumer loyalty; 9. The index of competitiveness	6		
11) Coefficient of innovative ideas (implemented share ideas)	1. Sales in value terms; 2. Net income from marketing; 3. Return on investments in marketing; 4. The marketing return on sales; 5. The potential of marketing; 7. Lifetime profitability of the consumer; 9. The index of competitiveness	6		
12) The effectiveness of the use of growth opportunities of innovative activity (the level of mobilization of innovative potential)	1. Sales in value terms; 2. Net income from marketing; 5. The potential of marketing; 7. Lifetime profitability of the consumer; 9. The index of competitiveness	3, 4		

13) The relative level of innovation activity	3. Return on investments in marketing; 4. The marketing return on sales; 5. The potential of marketing; 6. Market share; 9. The index of competitiveness	-		
14) Have completed innovation	1. Sales in value terms; 2. Net income from marketing; 3. Return on investments in marketing; 4. The marketing return on sales; 5. Potential Marketing	-		
15) Timeliness of innovation	1. Sales in value terms; 5. The potential of marketing; 9. The index of competitiveness	3, 4, 6		

Thus, based on the matrix developed held strategic-level indicators of decomposition, i.e., specified indicators of operational level, defining each of the nine indicators selected strategic level. In turn, the activity of innovation parameters depends on the performance of functional subsystems: given hierarchy are primarily dependent on the performance level strategic further dependent on these indicators operational level. The table shows the dependency chain "indicator of innovation activity - an indicator of the level of the refractive strategic operational level". We consider these in more detail.

On the creation of the new division (including R & D department), resources are needed; free financial resources allow to organize a new direction.

The higher sales volume, the more opportunities for the company to allocate funds for innovation. Sales volume increased by analysis of each client and improves the profitability of them, so a lifetime yield of consumers also contributes to providing funding for innovation. Those provisions relate to the level of mobilization of the innovation potential.

In our view, the potential for marketing as a set of resources, the nature of the marketing (information, personnel, communications and so on.) Is a factor contributing to obtaining patents and licenses, primarily due to the informational component, staff, and prediction markets.

The sales and marketing potential make it possible to invest in the development of personnel involved in the innovation process.

Performance of financial resources (sales, profitability, net income, lifetime customer profitability) form the resources for innovation; potential forms of marketing informational resources; As a rule, companies with a larger share of the market and highly competitive, have more opportunities for innovative development, more open to change and innovation.

Barriers to innovation is easier to overcome the competitiveness of companies with a high potential of marketing contributes to the identification and removal of internal barriers.

Partners are given more opportunities to conduct innovative activities, partnerships can be formed due to the potential marketing, market share and competitiveness (the more they are developed, the more motivated partners for cooperation).

External obstacles need to study, predict and take them into account in the activities. The sources of information are, first and foremost, consumers and competitors, so a large number of loyal customers, high competitiveness and market share allow the company to respond to the less painful barriers to innovation.

Susceptibility to innovation by the management has the openness and the desire

for change, for development. The main problem here - the creation of a culture of innovation development, leadership - this contributes to the internal stability of the company, which is achieved due to the growth of financial indicators and is reflected in the stability of the external environment - in market share, competitiveness and loyalty.

The market is a little innovation, and strives to be open to innovation, it is necessary to respond quickly to market demands. The increase in speed contributes to the growth indicators such as profitability, potential for marketing, loyalty and competitiveness. Financial resources and the stability of the market allow you to have the resources to provide flexibility.

Most innovative ideas do not pass the first stage because of the lack of financial resources, so increase the rate of implementation of ideas will enable profitable growth, sales, net income from marketing, lifetime profitability consumers. Potential marketing - a market share of realization of innovation and launch it on the market; competitive company is perceived by consumers as a reliable, innovation, a company perceived by the market better.

The relative level of innovation activity is increasing due to growth in the company's competitiveness and market share as the indicators characterizing the company's position in the market. Return on marketing and marketing potential - it is a means of strengthening the position relative to its competitors, so they also contribute to the growth of the relative innovation.

Finished innovation - indicators derived from the coefficient of new ideas - generated primarily by availability of funds as evidenced by the high level of sales, profitability, profit. Brings to the market contributes to a competent marketing mix, then there is a high potential for marketing.

Given the dynamic environment, high importance is the measure of timeliness of innovation. Very often, the market is not ready to accept new items. It contributes to maintaining the balance of competitiveness, potential marketing, and sales - through the formation of reserves and advances the needs of the market.

Taking into account the established relationships and chaining can be designated a key principle of increasing indicators of innovation activity within the proposed systematic integration model: a) improvement of marketing through certain operational activities; b) as a consequence - growth rates of strategic marketing with interdependence with those of the operational marketing; c) The growth rates of innovation activity as a result of improvements in strategic marketing (through improved interaction with certain indicators of operational marketing).

The final, seventh stage includes the analysis of the results of monitoring and the selection of possible corrective measures. It is proposed to call this stage "the hour / day of silence". His goal - self-control, evaluation of the chosen path of development

towards improving the innovation activity, analysis of feedback, self-esteem. At this stage three possible scenarios. First option: the event and the current situation fully comply with the objectives - in this case the planned activities are implemented according to plan. In case you need to achieve the goals of the newly conduct strategic analysis, that is, to return to the first step - to identify new ways of further development. The second option: the problem can be identified, the discrepancy specified parameters. It is necessary to find out the reasons - it is a function of the operating management level, then loop back to step six, which identified problems will be mitigated through the activities of corrective nature. The third option: a complete mismatch develop plans and goals, there are significant failures in the implementation of innovation. This option also requires a return to the stage of strategic analysis with the difference that its aim will be to identify the causes, followed by setting new goals and so forth.

Thus, at each stage of the innovation process have different functions subsystems organization - strategic and operational. Control and monitoring is done through tracking indicators of innovation activity and indicators of strategic and operational marketing. The process is cyclical, continuous system.

In implementing the above seven steps planned to achieve the final result in the form of increased innovation activity through the integration of innovative process and processes within functional subsystems organization through the harmonization of the interaction functions and tools of strategic and operational levels of management at every stage of the innovation process to improve the competitiveness of the organization. It should be noted that for each particular enterprise process will remain the same, the difference will be the ongoing activities, the indicators of strategic and operational management levels (indicators of innovation activity as universal, in our opinion). It should be noted that we have disclosed the relationship performance levels of management on the example of one of the functional subsystems of the organization - marketing subsystem. Similarly, this analysis can be performed for other functional subsystems of the organization[165].

[165] Many authors such issues as subsystems of the organization in enhancing the innovation activities are considered - for example, the work of AE Kolosov devoted to the analysis of human capital as a factor of innovation activity - Kolosov AE Stimulation of innovative activity of the enterprise through the development of its human capital: dis. ... kand. jekon. nauk: 08.00.05. -N.Novgorod, 2012. - 126 s.

CHAPTER 3. ORGANIZATIONAL, ECONOMIC AND FINANCIAL CONDITIONS FOR THE IMPLEMENTATION OF INNOVATIONS BY BUSINESS ENTITIES IN INDUSTRY

3.1 Implementation of innovation and investment decisions in today's transnational corporations

Problems of financing of innovation in the global economy are solved by three main actors: the state, venture capital firms and modern corporation. Since the topic of the dissertation research is due to the study of mechanisms of realization of innovations by large companies, the aspects of public and venture participation, we consider only the part that overlaps with corporate innovation processes.

The financial power of the modern corporation allow them to successfully implement innovation. Financial risks for innovation-driven corporation is lower than for venture capital investors, as a result of a careful selection of innovative projects, "routinization" of the innovation process in the framework of corporate planning, having its own R & D base and innovation potential.

The quest for innovation can be explained as follows: innovative products are the basis of long-term competitiveness and overall production a significant share, in addition, the Corporation acquired the patents, the effect of which is substantially higher than the cost of their purchase. You should also take into account the effect of the dynamic capabilities of these companies, when a new product is obtained as a result of combining several seemingly unrelated ideas[166].

With the general trend of modern corporations to strengthen the role of innovation in the long-term development strategies, there is a national specificity.

European corporations, realizing the concept of open innovation[167], integrate their research and development department with universities, research centers at the locations of highly qualified personnel, which is followed and American companies. Integration is not only in terms of collaboration on promising innovative projects of scientists, researchers and engineers, but also in terms of co-financing R & D.

The last 50 years developing to developed countries and is gaining popularity in countries with economies in transition, the creation of venture enterprises.

Create ventures enables corporations to locate innovation risks, do not spray resources and encourage innovation, which has an indirect relationship to the corporate strategies[168].

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[166] Shimai M. Gosudarstvo i transnacional'nye kompanii. "Problemy teorii i praktiki upravlenija", №4, 2005 g.

[167] Chesbro G. Otkrytye innovacii / Per. s angl. V.N. Egorova – M.: Pokolenie, 2007. – 336 s.

[168] Zos-Kior, M., Hnatenko, I., Isai, O., Shtuler, I., Samborskyi, O., & Rubezhanska, V. (2020). Management of efficiency of the energy and resource saving innovative projects at the processing

Venture financing innovation in large corporations it is expedient at the location of the parent company, with the exception of this phenomenon as the "Silicon Valley", which attracts many foreign corporation level infrastructure favorable "cloud" the conditions for the creation and dissemination of new ideas, knowledge and technology that allows you to create competitive products and solutions.

In developed European countries have long been innovation, manufacturing of high-tech products is a priority. At the same time at different stages of the development life cycle, development and manufacture of new products or technologies developed strategic manufacturing and / or marketing alliances[169].

The European countries with the 1990s to develop and implement tools to support and stimulate innovative entrepreneurship. The system of measures and tools stand out, both direct and indirect forms - tax breaks, preferential government loans, depreciation policy).

Specificity of innovative business in Japan is that the government finances socially significant, as basic research, allocations for science comes to universities and public research centers. This Japanese investment largely directed to the development of the economy as a whole, while Western corporations increasingly restricted the effectiveness of innovative solutions within the firm[170].

It is worth noting that the countries of South-East Asia used a wide range of incentives to attract investment in innovative companies, increasing funding for research and development, increasing the share of private investment in R & D, the development of their own research centers[171].

The global crisis of 2008 was the fundamental test of the intentions of the market leaders in innovation to invest in research and development, which are the basis of their strategic plans.

Top management of advanced western corporations for years argued that investments in innovation - competitive necessity, not a form of temporary investments, which can be stopped as soon as the hard times will come. On the other hand, some analysts have speculated that the company still cut their budgets for

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enterprises. *Management theory and studies for rural business and infrastructure development= Vadybos mokslas ir studijos-kaimo verslų ir jų infrastruktūros plėtrai: mokslo darbai, 2020, vol. 42, no. 4, p. 504-515*.

[169] Stejskal, J., Hájek, P., & Prokop, V. (2018). Collaboration and innovation models in information and communication creative industries–the case of Germany. *Journal of Information and Communication Technology, volume 17, issue: 2*.

[170] Kotter Dzh. P. Liderstvo Macusity. M.: Al'pina biznes buks, 2004.

[171] Bovkun, A., & Korodyuk, I. (2019, November). Analysis of the development of small innovative enterprises in the construction industry. In *IOP Conference Series: Materials Science and Engineering* (Vol. 667, No. 1, p. 012016). IOP Publishing.

research and development under the pressure of the crisis. However, this did not happen.

As the post-crisis studies have Western corporations do not reduce investment in innovation, even in a tough recession (Table 3.1.)[172].

Table 3.1. Expenditures on innovation and development (R & D)

	Cut spending on R & D, %	Increased spending on R & D, %
The company's net profit	17,2	52
The company had loss	14,3	16,5
Net income increased	8,4	26,7
Net income decreased	22,2	42,7

The reasons are as follows:

1. Innovation became a central element of corporate strategy. Reduction of innovative investments in the fierce competition in the business of high technology is akin to unilateral disarmament in the war. Corporations can not afford to stop the continuous process of development and adoption of new products.

2. Companies in most sectors of the economy, as a rule, guided by the development of product cycles that extend for many years. If they are suppliers, they are often already signed a contract for the supply of customers following a new model; if they sell directly to consumers, the lack of innovation cycle can mean to be derived from the game completely.

3. Many corporations view the economic downturn as an opportunity to create a competitive advantage over their competitors - especially in the case of lack of funding R & D weak players. If stronger companies will be able to maintain the pace of innovation, they are able to quickly increase its market share and get the proper innnovation rent, counting on the future pace of economic revival.

Table 3.1.2. Top 20 Innovative Companies list Global Innovation 1000

Years		Company	Spendings on R&D		Head-quarters	Sphere
2018	2017		2018 bilion. USD	Change from 2017, %		

[172] Lin, X., Liu, B., Han, J., & Chen, X. (2018). Industrial upgrading based on global innovation chains: A case study of Huawei technologies Co., Ltd. Shenzhen. *International Journal of Innovation Studies, 2*(3), 81-90.

1	1	Amazon.com, Inc.	22.6	40.3	United States	Retailing
2	2	Alphabet Inc.	16.2	16.5	United States	Software and Services
3	4	Volkswagen	15.8	14.5	Germany	Automobiles and Components
4	5	Samsung Electronics Co.	15.3	6.9	South Korea	Technology Hardware
5	3	Intel Corporation	13.1	3.14	United States	Semiconductors
6	7	Microsoft Corporation	12.3	-5.4	United States	Software and Services
7	6	Apple Inc.	11.6	16	United States	Technology Hardware
8	10	Roche Holding AG	10.8	-8.5	Switzerland	Pharmaceuticals
9	12	Johnson & Joghson	10.6	16.4	United States	Pharmaceuticals
10	8	Merck & Co., Inc.	10.2	0.9	United States	Pharmaceuticals
11	11	Toyota Motor Corporation	10.0	2	Japan	Automobiles and Components
12	14	Novartis AG	8.5	-11.4	Switzerland	Pharmaceuticals
13	9	Ford Motor Company	8.0	9.5	United States	United States
14	-	Facebook Inc.	7.8	32.2	United States	Software and Services
15	-	Pfizer Inc.	7.7	-2.5	United States	Pharmaceuticals
16	15	General Motors Company	7.3	-9.8	United States	Automobiles and Components
17	13	Daimler AG	7.1	-8.9	Germany	Automobiles and Components
18	16	Honda Motor Co., Ltd.	7.1	9.2	Japan	Automobiles and Components
19	17	Sanofi	6.6	6.4	France	Pharmaceuticals
20	-	Siemens	6.1	5.1	Germany	Capital Goods
		Total	214.7	132.54		

It can be concluded that the corporation continues to expand investment innovation, have a decent margin of safety and financial stability. This means that their corporate economics and management possess specific qualities of effective combination of production and innovation processes.

More than two-thirds of the companies included in the list of Global Innovation 1000, maintain or increase the level of investment in research and development. It

found no correlation between the financial losses and a reduction in spending on R & D.

The study showed that almost% of the companies are expanding or retain innovative portfolio, and about 2/3 to focus on increasing production capacity and products for new markets (Fig. 3.1.1)[173].

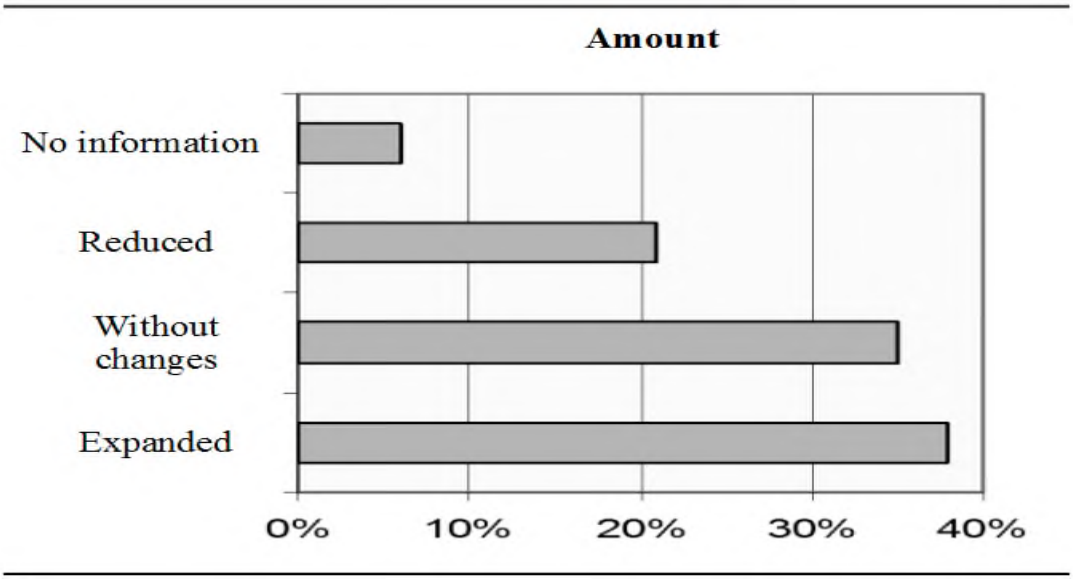
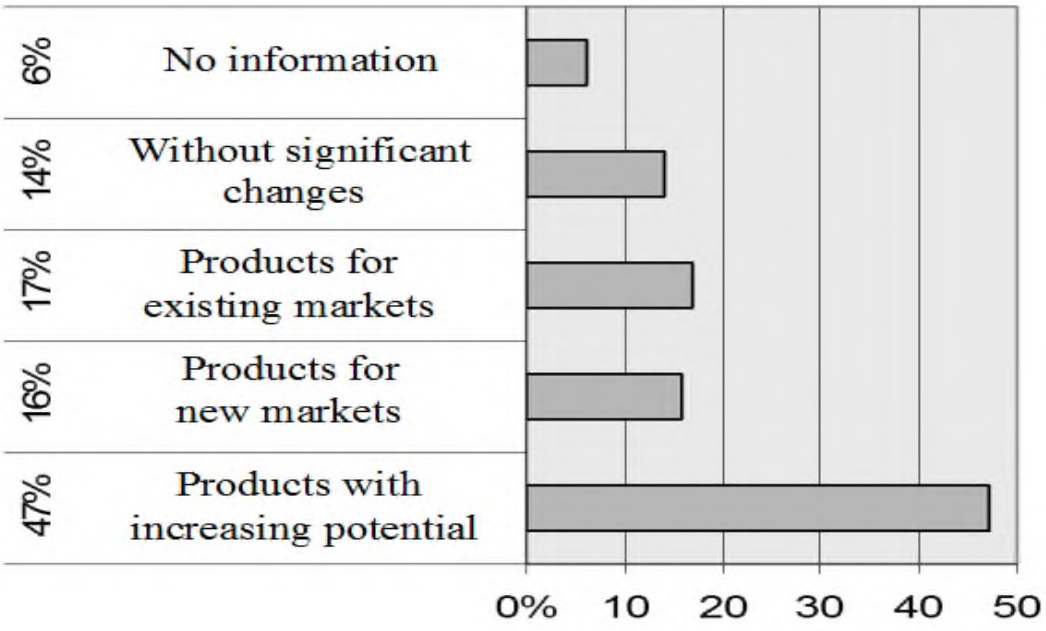


Figure 3.1.1. Resizing an innovative portfolio



[173] THE GLOBAL INNOVATION 1000 Navigating the Digital Future

Changes in the innovation portfolio

Amazon is the largest spender on R&D in the Global Innovation 1000 study, the first time the top spender is a high-tech firm. All top four spenders are high tech companies.

Overall, Software & Internet industry companies continue to increase their year-on-year R&D spending, and the analysis shows that by 2018, Healthcare companies will surpass Computing & Electronics to become the largest industry in terms of R&D spending - the first time in 12 years of analysis.

Overall, Computing & Electronics, Healthcare, and Automotive are the top three industry sectors and represented 61.3% of global R&D spending in 2017.

Alphabet, Amazon, GE, IBM and Microsoft all increased their ranking in the 10 Most Innovative Companies list, according to a global survey of R&D executives[174].

Key areas of strategy [175]:

- customer focus - the development of next-generation products based on the needs and expectations of customers. In turn, these products make it possible to design and develop new form factors and models.
- Architecture and platforms - creating energy-efficient solutions for high-performance computers and other devices. Development of multi-core microprocessors.
- Industrial and technological leadership - a strategy of microprocessors with improved performance to synchronize the introduction of new microarchitecture improvements in production technology with microprocessors. Entering a new microarchitecture approximately every two years and create the next generation of manufacturing technology of microprocessors in the interim. This schedule allows us to develop and market new products to present quickly, without waiting for the next generation of manufacturing technology. Such a rate of technological development Intel calls "Tick-Tock"[176].
- Strategic investments - investments in companies that will contribute to the achievement of strategic objectives and mainly aimed at companies and initiatives to stimulate growth in the technological ("digital") economy, creating new business opportunities for Intel, so expanding world markets for the products. Current

[174] Claudia, O. (2019). Some insights on the world's most innovative companies and their defining characteristics. *Studies in Business & Economics*, *14*(2).

[175] Intel corporation form 10-k for the fiscal year ended december 26, 2009 [Electronic resource]. – URL: http://www.intc.com/intelAR2009/common/pdfs/Intel_2009_Form_10-K.pdf

[176] Wang, G., Wang, K., Jiang, K., Li, X., & Stoica, I. (2021). Wavelet: Efficient DNN Training with Tick-Tock Scheduling. *Proceedings of Machine Learning and Systems*, *3*, 696-710.

investments, primarily focused in the following areas: promotion of flash memory, the introduction of mobile wireless devices, the promotion of the concepts of "digital home" and "digital enterprise", creation of high communicational infrastructure, the development of next-generation manufacturing process of microprocessors.

- external business environment to stimulate innovation, promote industrial standards, which will lead to the emergence of innovation and improvement of technology for the benefit of users.

Table 3.1.3. Volume of products

Volume

		FY 2014	FY 2013	% Change Actual	% Change Comparable
Continuing operations					
Orders	in millions of €	**78,350**	79,755	(2)%	1%
Revenue	in millions of €	**71,920**	73,445	(2)%	1%

It can be clearly seen from the table above that orders in the company amount to 79.755 million euros in 2013, in the meantime, supposedly owing to decreased demand, this figure was marginally lower 78.350 million euros. Similarly to orders revenue has alike trend, however, in this case the decrease was slightly more noticeable.

Also interesting is the fact that comparable change in both indicators, excluding currency translation and portfolio effects, was 1 %.

Table 3.1.4. Profitability and capital efficiency

Profitability and Capital efficiency

		FY 2014	FY 2013	% Change
Total Sectors				
Total Sectors profit	in millions of €	**7,335**	5,842	26%
in % of revenue (Total Sectors)	in %	**10.0**	7.9	
Continuing operations				
Income from continuing operations	in millions of €	**5,400**	4,179	29%
Basic earnings per share	in €	**6.24**	4.81	30%
Return on capital employed (ROCE)	in %	**17.2**	13.7	
Continuing and discontinued operations				
Net income	in millions of €	**5,507**	4,409	25%
Basic earnings per share	in €	**6.37**	5.08	25%
Return on capital employed (ROCE)	in %	**17.3**	13.5	

Overall, it is evident from the table provided that all the indicators in 2014 had at least 25 % increase as opposed to the year before. Profit in total sectors increased from 5.842 to 7.335 million euros, from 2013 to 2014 (26 %). This increase was almost proportional to the rise in percents of revenue 7.9 and 10 percent, in 2013 and 2014 respectively.

Table 3.1.5. Customers and innovation

Customers and Innovation

		FY 2014	FY 2013
Revenue generated by the Environmental Portfolio	in billions of €	**33.0**	31.9
in % of revenue from continuing operations	in %	**46**	43
Research and development expenses	in billions of €	**4.1**	4.0
in % of revenue from continuing operations	in %	**5.7**	5.5
Research and development employees	in thousands	**28.8**	28.1
Inventions	in thousands	**8.6**	8.3
Patent first filings	in thousands	**4.3**	4.0

The table supplied gives information related to the customers and innovation. Evident is the fact that research and development is becoming increasingly important in the company as the time passes. Namely, in 2014 4.1 billion euros were spent on research development, while, a year earlier slightly lower 4.0 billions. Also, the statement mentioned above is perfectly solidified by the employees working in R&D, approximately 29 thousand people were employed for working in this. Unsurprisingly, patents and patent first filing had almost identical trend.

Siemens - a global leader in electronics and electrical engineering. Concern operates in the areas of industry and energy, as well as in health care. More than 160 years Siemens stands for technical progress, innovation, quality, reliability and international cooperation. Highly qualified personnel - that's the basis of success Siemens, whose skills, abilities, knowledge is one of the elements of core competencies of the corporation. To date, the development and introduction of innovative products, the development corporation has been around 400 000 employees. In Russia, Belarus and Central Asia, there are more than 3,500 people[177].

[177] Siemens Annual report 2013

Over 160 years of research and development activities are closely linked to the Siemens business strategy. The purpose of the corporation to become leaders in all areas of business from existing and new technologies.

Siemens has registered about 58,000 patents worldwide, compared with 56,000 in 2009.

R & D intensity is estimated as the ratio of R & D expenditures and revenues it is for period of 2008-2010 about 5%, which is evident from the Table. 3.1.6.

Table 3.1.6. Indicators of internal research and development

	2010	**2009**	**2008**
Inventions, pieces	8800	7700	8200
Patent applications, pieces	4300	4200	5000

Also it is interesting to note that as the time passes the number of inventions are not increasing in a stable trend, likewise is the trend of patnet applications.

Cooperation with universities and other research institutions have made important contributions to strengthening the innovation Siemens. The main objective of such projects is the use of the potential for joint research and development, as well as the development and expansion of the network of universities and institutes with which Siemens engages in order to attract highly qualified young professionals.

Table 3.1.7. R & D Siemens (compiled from corporate report [178])

	2014	**2013**	**2012**	**2010**	**2009**	**2008**
The number of employees engaged in the research department	28800	29000	29600	30100	31800	32200
R & D costs, mln. Euro	55500	5400	5100	3846	3900	3784
The percentage of total revenue invested in R & D	5,7%	5,5%	5,3 %	5,1%	5,1%	4,9%

Source: Corporate of Report Siemens Corporation http://www.siemens.com/investor/en/index.htm

Table 3.1.8. Aggregated analytical balance of Siemens, mln. euros.

	At the beginning of the year	At the end of the year
Assets		
1. Cash and short-term investments	14108	10159

[178] Siemens Annual report 2013 [Electronic resource]. – URL: http://www.siemens.com/investor/en/index.htm

2. Accounts receivable (switches on other current assets)	16229	15640
3. Reserves and costs	15740	14741
Total current assets (working capital)	49648	43634
4. Non-current assets	53178	51292
Total assets (property)	102827	94926
Liabilities		
1. Accounts payable and other short-term liabilities	38175	35788
2. Short-term borrowings	2416	698
Total short-term debt capital (short-term liabilities)	40591	36486
3. Long-term debt capital (long-term liabilities)	26538	25654
4. Equity capital	29096	27287
Total liabilities (assets)	102827	94926

Source: Corporate Report corporation Siemens http://www.siemens.com/investor/en/index.htm additional calculations author

Data analysis is proof that innovation is the main element of the modern corporation.

Thus, the analysis of world practice has shown that the most important role in the implementation of innovation (share of R & D funding over 60%) belongs to business and big business.

Corporations are more attractive place to work for researchers and wages and working conditions, which naturally led to an increase in the number of employees in research and development. At the moment, the number of such employees of corporations is more than 50% of the total number of personnel engaged in R & D in Western countries.

As the analysis (from companies such as Intel, Siemens, Samsung, Japanese corporations - corporate reports[179]) modern corporations are investing in research and development of not less than 5% of annual sales.

3.2 Corporate and industry analysis of efficiency of enterprises in the conditions of innovative activity

[179] R&D Scoreboard: Despite crisis, top EU firms continue to invest in innovation [Electronic resource]. – URL: http://europa.eu/rapid/press-release_IP-12-1324_en.htm (data obrashhenija: 15.01.2014).

As a long-term plan, confirmed in particular and the concept in 2020, the state largely relies on public corporations, specializing in solar energy, aviation and machine building, software, and nanotechnology. They will are supposed to carry out much-needed breakthrough innovation[180].

According to the international classification based on technological intensity of production (industries with excess fixed volume R & D expenditures relative to the volume of output, value added) industries are classified into high-tech (aerospace, medicine and medical equipment, information communications); with respect to high-tech (automotive, electrical, chemical and mechanical engineering); relatively low-tech (oil refining, metallurgy and metal processing); low-tech (wood processing, food, light and textile).

Analysis of long-term strategies of leading companies shows that the share of investment in research and development, the development of innovative products is extremely low - 9.7% of the total investment, particularly in the engineering industries. This corporation sectors of energy, oil and gas account for over 70% of all investments. And this trend, according to the investment programs of corporations could continue until 2020. That can not affect the prospects of visiting the near future the new high-tech companies.

It is doubtful that the current domestic corporations that make up the backbone of industry, such as NHC "Uzbekneftegaz», «GM Uzbekistan", etc. will be able to direct the economy on the path of innovation. In our view, the lack of a concentrated core of high-tech corporations producing for the broad market is a very serious obstacle to the creation of an innovative economy.

In contrast to the industrial giants to fast-growing companies -high rate of revenue growth over a number of years (the so-called "gazelles"[181]) crucial role of innovation. With the rapid growth of such firms eventually ends the possibility of extensive growth. And many of the "gazelle" choose the path of innovative development, as opposed to the possibility of horizontal integration and mergers with competitors and others. Innovations give birth in the case of successful core competencies and sustainable competitive advantage, which improves profitability and financial stability.

"Gazelle" by virtue of its size and growth rate rapidly innovate in your business, showing high innovation.

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[180] Barysheva G.A. Gosudarstvennaja korporacija kak novyj institut realizacii gosudarstvennoj sobstvennosti / G.A. Barysheva, T.V. Bondar' // Sovremennye naukoemkie tehnologii, 2010. №2. - S. 135-138.

[181] Vin'kov A.A., Gurova T.I., Ruban O.L., i dr. Sozdateli budushhego – gazeli s mozgom obez'jany // Jekspert № 10 (744), 14 – 20 marta 2011. S. 17–31.

Over the past several years, "Gazelle" is also more invested in fixed capital, lack of investment in which is a serious problem in the domestic economy. This did not stop them, and in the crisis of 2008[182], investment growth was about 60% in the post-crisis year.

Hard to say if it will have to change the structure of such firms of Russian industry by making bias towards innovation, they can serve as the core of the different clusters, according to the table 1[183] (Appendix 6) in most cases company - "gazelles" does not belong to the high-tech industry. But they can be a "pull" factor for the creation of an innovative model of economic development, creating demand for innovative products.

But to solve this problem is crucial state support the transition of the company - "gazelles" to the world markets, to the status of an international corporation. To implement this support offered special programs the establishment of regional innovation systems, integration of universities and industrial enterprises[184].

For the success of the innovative way of development is not enough just to provide state support for high-tech corporations. It should be a system interaction firms innovators and corporations can start innovation in mass production. Without this condition, most of the ideas, inventions, innovative products simply can not be implemented.

Modernization, a gradual transition to innovative development can only happen as the development of more advanced technologies developed by leading countries.

As we have said, to allocate as a priority sector, according to the government's most competitive and innovative) - aircraft, space technology, etc. It does not seem appropriate, since modernization, innovation is needed in all sectors where there is still production. It is important to develop tools to implement it. In the context of globalization and the undeniable role of transnational corporations in the economy, we need to implement a large-scale rearmament program sectors[185].

As is also the case with the state of these industries and their main representatives in practice? Part of this question is answered in the magazine Expert analytical review of "Rating" Expert-400 "2020 annual ranking of the largest companies." The main theme of the study was the problem of the lack of interest in domestic industrial corporations to modernization and innovation.

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[182] Vin'kov A.A., Polunin Ju. Ermaki i Jedisony // Jekspert № 20 (754), 23 – 29 maja 2011. S. 19–26.
[183] Vin'kov A.A., Gurova T.I., Ruban O.L., i dr. Sozdateli budushhego – gazeli s mozgom obez'jany // Jekspert № 10 (744), 14 – 20 marta 2011. S. 17–31.
[184] Vin'kov A.A., Polunin Ju. Ermaki i Jedisony // Jekspert № 20 (754), 23 – 29 maja 2011. S. 19–26.
[185] Polterovich V.M. Problemy formirovanija nacional'noj innovacionnoj sistemy // Jekonomika i matematicheskie metody, №2, tom 45, 2009. S. 3-18.

According to the rating, based on a long-term study, begun long before the crisis of 2008, about a quarter of sales of big business is invested in the purchase of assets, on mergers and acquisitions. The share of innovation (including R & D) in total investments is very low - about 0.5-1% of revenue. This is confirmed by official statistics - on investments are about 20% of GDP, only 1.1% - in research and development.

According to the authors of the rating study no signs that this situation is changing. And it's not a crisis, in which a quarter of total investments decreased big business, and the proportion of R & D increased to 0.2%. The point is the strategic vision and conceptual models of business organization.

Another important issue, in addition to the reluctance of big business to invest in innovation, is that many studies show - Uzbekistan has very low competitiveness of production, which undoubtedly affects the overall competitiveness of the country.

Practice shows that the high macroeconomic stability is not the main condition for business efficiency and high competitiveness of the economy of the state. The competitiveness of a country is determined, as a rule, the presence of large, often multinational corporations. Our leading companies, despite significant sustained growth, is still significantly behind the Western corporations in terms of sales and market capitalization.

Summarizing, we can note the following important points:

1. The competitiveness of the country is determined, as a rule, the presence of large, often multinational corporations. In Uzbekistan, in the long term the emergence of new high-tech companies is not expected. Corporate strategies and investment portfolios of leading corporations do not include significant investments in high-tech industries.

2. The absence of a concentrated core of high-tech corporations producing for the broad market is a very serious obstacle to the creation of an innovative economy

3. In Uzbekistan already begin to form a chain companies gazelles, which makes the demand for innovative products with each other, which allows us to say that the country develops, more spontaneous, innovative model of development.

4. Wanted adjusted and focused government programs to support the fast-growing innovative companies, such as the creation of integrated science education, related industries, an appropriate infrastructure on the basis of existing businesses.

3.3. Some problems and solutions for the formation of a national innovation system

At present, one of the tasks of sustainable socio-economic development of the Republic of Uzbekistan is to increase the competitiveness of the country's economy. One of the indispensable conditions for increasing the competitiveness of the economy is the development of the economy in an innovative way. At the stage of modern development, the solution of such tasks cannot be achieved without creating favorable conditions for the revival of innovative activities. Industrial enterprises play an important role in building an innovative economy, they create the main economic results that will shape the future economy. In the modern conditions of economic development, one of the important factors for industrial enterprises to ensure their competitiveness is to increase their innovative activity. Therefore, one of the most pressing issues in the management of industrial enterprises in Uzbekistan is to achieve the required level of quality and quantity, which is an important feature of innovative activity.

At the same time, ensuring economic stability, revitalizing the economy and creating conditions for further development will be achieved through the revitalization of innovative activities. Hence, why the creation of conditions for the revival of innovative activities of industrial enterprises is one of the important factors in the implementation of effective structural changes in the economy. In addition, the assessment of the level of innovation activity of industrial enterprises and the formation of a modern national innovation system based on this innovation is aimed at achieving long-term strategic development goals and ensuring their sustainable income in the future.

The emergence of a new Uzbekistan is taking place in the context of growing interdependence of national economy. Such trends reveal the problems of countries that are taking advantage of their competitiveness in a changing world order.

In our opinion, the most important competitive advantage in modern conditions is the degree of change of new knowledge and its effective application in socio-economic development. It is this factor that firmly determines the role and place of the country in the world community, ensuring the living standards and national security of the people.

At present, innovative development is becoming the most important element of socio-economic development of countries and regions. The economic growth of the United States, the European Union, Japan, South Korea, China, India is largely related to the development of science-intensive industries, the development and implementation of innovations. From 1920 to 1957, per capita national income growth in the United States due to innovation was 40%, and in the last twenty years, U.S. GDP has grown by almost 90% due to innovations. Western Europe, Japan and South Korea

have achieved significant economic growth in many ways due to attractive innovation portfolios and technology investments.

Expenditures on global research and development rose to a record $ 1.7 trillion, according to the UNESCO Institute for Statistics. The United States, China, Japan, Germany, South Korea, France, India, the United Kingdom, Brazil and Russia are among the top 10 countries in the world in terms of investment in research and development, accounting for 80 percent of expenditures.

Within the framework of the "Sustainable Development Goals" set by Resolution 70/1 of the United Nations General Assembly, countries have committed to significantly increase public and private spending on research and development by 2030.

According to Robert Merton Solow, an American economist, author of the Solow model, and 1987 Nobel Laureate, between 1908 and 1949, unparalleled innovative products led to a 1.5 percent increase in the growth rate of the U.S. economy. This was half of the country's GDP at that time. Another American scientist, Edward Denison, identified 23 factors that stimulate economic growth in a particular country, 14 of which were related to the innovation, and 9 were related to the capital, land, and labor. According to the scientist, the invention of a new product and its subsequent introduction into the market will lead to an increase in GDP of developed countries by about 60 percent.

Today, Uzbekistan is a large research center with a developed research base in Central Asia and a wide scientific history recognized in the world. However, the pace of innovative development in Uzbekistan, as well as in Central Asia in general, is not as expected. Uzbekistan is not included in the latest Global Innovation Index, although a few years ago we had a place of 127 out of 144 countries included in this index.

However, in the ranking of the Global Innovation Index, published on September 2, 2020, after a long break, Uzbekistan was evaluated on 43 entry indicators and 22 exit indicators, jumping 29 places with 80 indicators among 131 countries and ranked 93rd. That is, 81st place in the entry sub-index, ranking pillars of institutional development (Institutions, 95th place), human capital and research (Human capital & research, 77th place), infrastructure (Infrastructure, 72nd place), knowledge and achieved positive results in indicators such as technology efficiency (Knowledge & technology outputs, 90th place). It is among the top ten countries in the following sub-indicators: Ease of starting a business - 8th place, Graduates in science & engineering - 7th place and Gross capital formation) - 8th place. At the same time, it ranked 12-45 on 8 important indicators.

However, the following indicators are still unsatisfying: Regulatory quality - 127th place, Rule of law - 124th place, ICT services exports (129th place), foreign-

funded research and development gross expenditure (GERD financed by abroad) - 96th place.

Our country ranks 12th among 29 countries with a middle income group, 4th among 10 countries in Central and South Asia, with India-48 in the first place, Iran-67 in the second place and Kazakhstan-77 in the third place.

According to the UNESCO Institute for Statistics, in 2015, while spending on research and development in the world averaged 1.7 percent of GDP, then for Central Asia the figure was 0.2 percent.

According to the World Bank, the cost of research and development in Uzbekistan and Kazakhstan is about the same - 0.5% of GDP, which is very low. For comparison: Egypt spends about 0.7%, Brazil and the Russian Federation - 1.3% and 1.1%, the United States and Germany - 2.7% and 2.9%, Sweden and Japan - about 3.2% of GDP. South Korea is a leader in this area, spending on research and development accounts for 4.2% of GDP, as evidenced by the presence of global corporations such as Samsung, LG, SK Holdings, POSCO, Hyundai and others.

In countries that spend considerable amount of money on research, most of the investment in research and development is in the private sector. In Japan, about 80% of investment is spent by the private sector. In China and South Korea, the private sector shares more than ¾ of all investment on research. In Uzbekistan, by contrast, the state finances more than 60 percent of the total cost of research. This indicates that the private sector in Uzbekistan still does not have enough incentives to move in this direction and to develop innovative solutions independently.

In the countries of the Organization for Economic Cooperation and Development, 80-90% of GDP growth is due to innovations.

Our research shows that the transition of these countries to the path of national innovative development has taken place as a result of the creation of a national innovation system. From the importation of innovative technologies by emerging countries, they are shaping their own innovation systems. The innovation model they use shows that the judicious use of imported scientific and technological advances has not only ensured significant GDP growth, but they can help the economies of the world’s economically developed countries to rise to a higher level of quality.

Therefore, based on the above, we can define the term " National Innovation System " as a set of organizational, legislative, structural and functional components that ensure the smooth functioning of the national innovation system of a particular country, ensuring innovative development.

These structures are the components that provide access to various resources and provide a certain kind of support to the participants in innovative activities. This system includes the set of enterprises (organizations), the interaction of knowledge and technology in all spheres of economic and social life.

In our opinion, the innovation system is a system that combines the principles of science, technology, economics, entrepreneurship and management at a certain point, which accelerates the transformation of scientific ideas and projects into innovative products. Therefore, in world practice, the development of innovation systems is one of the most important priority strategies for developed and developing countries.

In view of the above, the purpose of the proposed model of the national innovation system of the Republic of Uzbekistan (shown in Figure 1), sources of funding, economic and organizational institutions, information support of innovative activities, staffing, legal framework, state scientific and technical programs and monitoring the implementation of projects and coordination of the system infrastructure, scientific research institutions, innovative business users and knowledge of the relationship between the President of the Republic of Uzbekistan, the Cabinet of Ministers of the Republic of Uzbekistan, public institutions, innovation and commercialization of innovative developments in the subjects of the state structures and institutional climate for creation of an innovative system and assistance in the development of a set of strategic directions, fundamental knowledge for innovative activities.

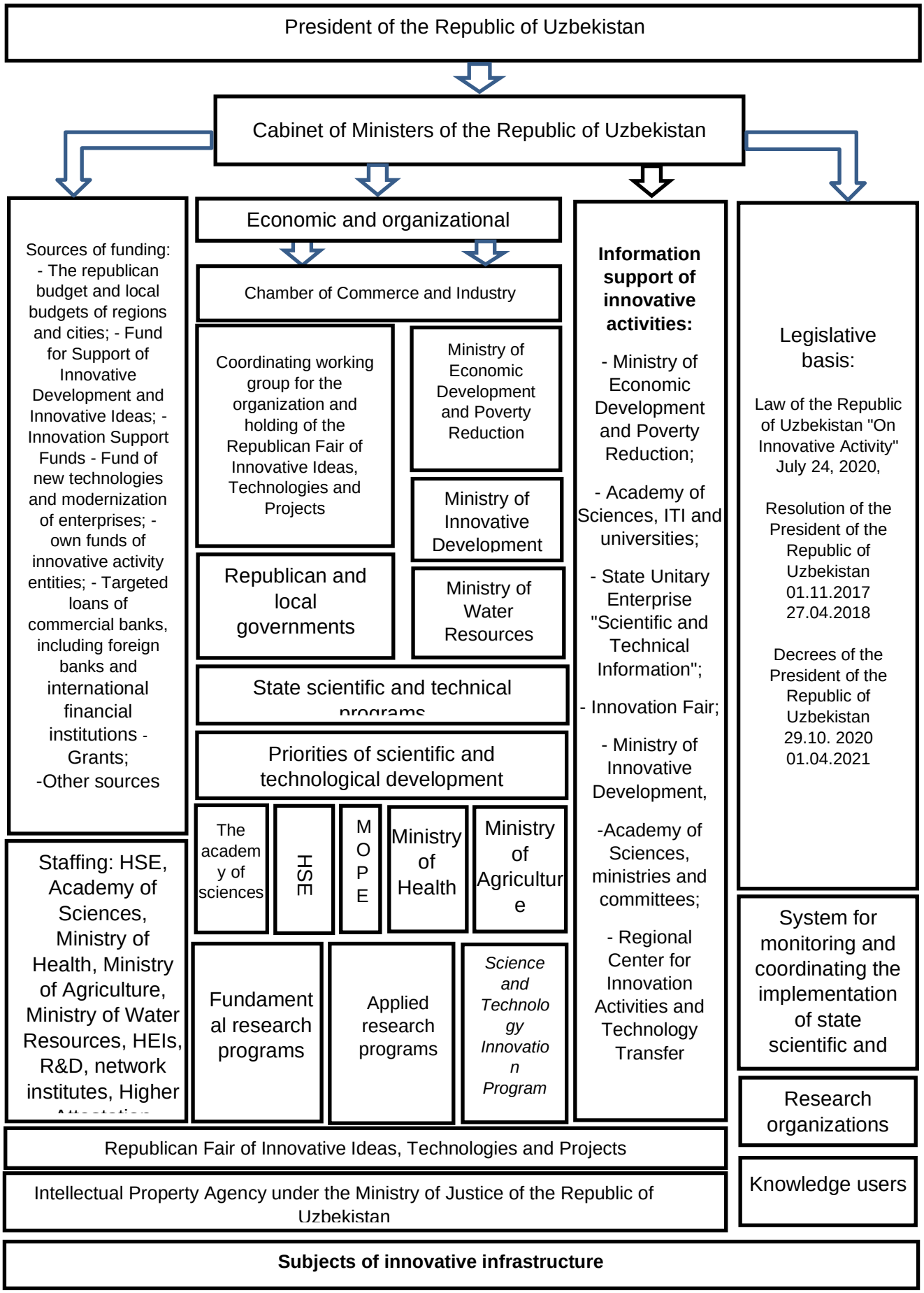

Figure 3.3.1. Model of innovation system of the Republic of Uzbekistan

The development of the interaction model mechanism of the national innovation system is a large-scale and difficult task, which can be achieved only through well-thought-out, mutually agreed effective actions at the level of commercialization of innovative developments at the level of the President, the Cabinet of Ministers, government agencies. The priority policy of the state, aimed at the development of the national innovation system, is one of the most important areas for Uzbekistan today. It is recommended to use the proposed model of the national innovation system in the development of legislation of the Republic of Uzbekistan on innovation and innovation development strategies for the medium and long term, effective solution of important innovation problems in promising areas, development of regional innovation and investment programs.

According to the proposed model of the national innovation system, innovation policy in the Republic of Uzbekistan is determined by the President and the Cabinet of Ministers and implemented by the republican and local government bodies within their competence.

The legislative basis for the formation of the national innovation system and the creation of mechanisms for sustainable development are the laws, decrees and resolutions adopted in Uzbekistan.

In particular, the Decrees of the President of the Republic of Uzbekistan of July 8, 1992 "On state support of science and the development of innovation", February 20, 2002 "On improving the organization of research activities", August 7, 2006 "On measures to improve the coordination and management of the development of science and technology", July 15, 2008 "On additional measures to encourage the introduction of innovative projects and technologies in production", May 24, 2011 "the establishment of the Intellectual Property Agency of the Republic of Uzbekistan" " The decision of the Cabinet of Ministers of the Republic of Uzbekistan on July 21, 1992," the development of science and innovation through government support measures, "On January 19, 1998," international scientific-technical cooperation, the development of international and foreign organizations and throughout the grants of the funds “State support of scientific programs and projects”, September 7, 2004 “Measures to strengthen the scientific and material base of the Academy of Sciences of the Republic of Uzbekistan”, October 15, 2008 “Improvement of the State Unitary Enterprise“ Technology Transfer Agency ” Preliminary directives on the development of national science and innovation, such as the Resolution of November 10, 2008 "Measures to strengthen the material and technical base of scientific, research institutions and organizations" a set of measures to expand the range of innovative products and services in the future.

At present time, the innovative activities of regulatory, scientific and technical activities to support the development and competitiveness of the country's scientific

potential to improve the system of the President of the Republic of Uzbekistan dated 21 September 2018 "2019 - 2021" On approval of the strategy of innovative development of the Republic of Uzbekistan, October 29, 2020 "On approval of the Concept of development of science until 2030", April 1, 2021 "On improving the system of public administration for the development of scientific and innovative activities", At the same time, the President of the Republic of Uzbekistan dated November 1, 2017 "On measures to further strengthen the infrastructure of research institutions and develop innovative activities", the President of the Republic of Uzbekistan on November 29, 2017 "On the establishment of the Ministry of Innovation Development Resolution, April 27, 2018 "On measures to further improve the system of practical implementation of innovative ideas, technologies and projects", and July 24, 2020 "On innovative activities" based on posed laws.

The above laws, decrees and decisions further improve the activities of research institutes, strengthen the logistical and laboratory-experimental base, create conditions for the development of innovative activities, revitalize and develop the activities of the Academy of Sciences , restore the activities of 9 research institutes, reestablishment of research facilities, and scientific fields, including the 3 branches of the Academy of Sciences, a branch of the Navoiy, in the new history of public administration, science and technology agency, scientific and technical activities in support and development activities through the creation of the country's scientific potential In order to increase competitiveness and strengthen the material and technical, laboratory and experimental bases of scientific infrastructure in the near future, it will serve to further strengthen the basis of comprehensive systemic changes in the development of scientific and technical activities in the country.

Following the adoption of the Resolution of the President of the Republic of Uzbekistan dated November 29, 2017 "On the establishment of the Ministry of Innovation Development of the Republic of Uzbekistan" the attention to innovative activities in our country is growing. Now all the processes in science and innovation are carried out and coordinated by this ministry. The Ministry has become a public administration body implementing a single state policy aimed at the comprehensive development of society and state life, increasing the intellectual and technological potential of the country in the field of innovation and scientific and technical development of the Republic of Uzbekistan.

However, the mechanism for managing research and innovation activities implemented by the Ministry still does not meet the challenges of innovative development:

- There is a lack of consistency in creating motivations and mechanisms for innovation in Uzbekistan;
- Coordination of innovative development in the country is comparatively weak.

- Currently, limited to the coordination of research activities with the economic and social spheres, the assessment of the adequacy of research activities to the most broadly formed priorities;
- Priorities are formed in such a way that they can include any research in this area, regardless of their practical application, and do not contribute to the development of clear strategies and programs.

The created regulatory environment also has the following shortcomings:

- The existence of legal gaps in the attraction of rights to economic turnover at the expense of the budget or the results of intellectual activity created by government agencies;
- Lack of norms, inability of institutions to secure and dispose of exclusive rights to the results of intellectual activity created by them, including those created at the expense of budget funds, as well as income from the use of these results;
- Lack of a regulatory framework for the development of economic cooperation between individual elements of innovation infrastructure (innovation funds, technology implementation centers, engineering laboratories, technology parks, etc.);
- The lack of a regulatory framework that provides a strong integration of education, science and industry, and the fact that the existing ones do not work in practice;
- The absence of a formal procedure for the exercise of intellectual property rights.

At the same time, the main economic factors limiting the innovative activity of enterprises operating in the economy are:

- Low innovation potential, weak links between scientific organizations and higher education institutions, lack of strong integration of education, science and industry, lack of own funds to expand this type of activity, high cost of innovations, economic risks and long payback periods;
- Low level of information transparency in the field of innovation, primarily the lack of markets where new technologies and fundamentally new products can be sold, as well as the lack of information on investment facilities that bring large returns to private investors and credit institutions;
- The need to improve the management system in the field of science;
- Imperfection of the system of financing of science and scientific activity and the need to diversify sources of funding;
- Lack of a modern information environment conducive to the development of science;

- Very low level of development of small innovative entrepreneurship;
- Low level of innovation culture of the population and entrepreneurs.

Conclusion

Therefore, innovative development should be systematically and purposefully directed to the institutions of public, private business and civil society to ensure the rapid development of Uzbekistan in the field of science, innovation and the digital economy.

At the same time, the experience of leading innovative countries and successful ways to build an effective innovative economy, including the commercialization of scientific developments, are important for Uzbekistan.

We offer the following priorities for the rapid innovative development of our country, investment attraction, economic growth and development of other spheres of state and public life:

- Improving the management system in the field of science;
- Improving the system of financing science and research activities and diversifying sources of funding;
- Training of highly qualified scientific and engineering personnel and their orientation to scientific activity;
- Formation of a modern information environment that promotes the development of science;
- Improving the application of knowledge and new technologies in domestic and global markets;
- Organization of scientific activity of scientific organizations taking into account the prospects of socio-economic development of the country;
- Formation of a competitive market and efficient use of resources, ensuring the transition of the economy to an innovative path of development;
- It is necessary to develop competition in all areas and reduce administrative barriers.

At the same time, it is necessary to address the systemic problem and use the mechanism of public-private partnership, based on the principle of concentration of budgetary resources to finance research in the main areas - medium and long-term priorities.

At the same time, the first direction of the state's focus is to increase the processing of fundamental knowledge, to improve the quality of "human capital" - this is one of the main competitive advantages of Uzbekistan. In addition, to ensure their competitiveness, state participation is required in the implementation of limited research in a limited number of priorities, including increasing the share of capitalized results, creating an innovative infrastructure that turns knowledge into a market product.

The second direction shows that part of the creation of practical development and innovation infrastructure is with the participation of the state, and technological modernization is carried out mainly by the business itself.

Based on the above, the main goal of innovative development in the long run is to create an open innovation system aimed at implementing the priorities of modernization of the country's economy, ensuring the creation of competitive products and services based on the use of foreign scientific potential and technology through selective support of local developments.

As a result of the implementation of the author's concept of the innovation system, the Republic of Uzbekistan will create an effective national innovation system, including mechanisms of interaction between government, business, science and education, which will increase the share of science-based products in GDP.

Thus, the development of the national innovation system in our country will create opportunities for the formation and development of innovative potential, as well as further increase the competitiveness of the economy. It also has a positive impact on the development of the national economy. In short, the formation, development and effective management of the national innovation system will lead to the formation of a new economy based on innovative knowledge in our country. This, of course, will be the basis for increasing the competitiveness of the national economy.

CONCLUSION

In recent years, the country carried out purposeful work on preservation and development of scientific, technological and innovation capabilities. The management system of science improves, the basis for the modern legislative and regulatory framework of scientific and innovative activities expanded and strengthened, the system of academic and university research was reorganized, measures were taken to increase the level of innovation of production, development of the information and innovation infrastructure, small high-tech companies, high-tech complex etc. The conditions for the formation of an independent scientific and technical programs ministries and agencies responsible for the development of relevant industries through a wide open discussion, professional deep and comprehensive examination of the projects by scientists and specialists. Thus, the four ministries - higher and secondary special education, agriculture and water, health care, public education, and the Academy of Sciences of the Republic of Uzbekistan to develop and implement their scientific and technical programs, based on their own needs, to conduct their own scientific and technical expertise to projects.

The analysis of the current state of industrial enterprises of the Republic of Uzbekistan as a whole led to the interest of enterprises to strengthen the focus on innovation. However, the state of innovation does not allow them to make a breakthrough and bring the domestic industry leading position. One reason for this state of affairs is a lack of appropriate organizational and economic instruments that allow to regulate the creation, production and sales innovation. The consequence of this reason appears to look at innovation as something separate and having an independent value for the enterprise. It is unlikely that such a view is acceptable. As shown by these studies, innovation has to absolutely all areas of the company, affecting its organizational structure and management of the industrial structure. Study the impact of technology innovation to change the organizational structure of management and production structure of the enterprise was the main intrigue of the work.

Recognizing the complexity and originality exposed to the study of the problem, worked out in the first chapter the author's point of view on the essence of innovation, which is a set of interrelated steps of bringing innovations to innovation apply to all stages of social production and all areas of the company, based on the timely implementation of the relevant functions, providing bringing innovation to the consumer and to obtain profits.

The study highlighted that the most important elements of the production structure are the totality of the production units, production processes, process, personnel structure. Each set, and combinations thereof, reflect the impact of the

processes of innovation management, and should be regulated at the named context to ensure the effectiveness of this type of control.

The practical implementation of the integration of the components of the organizational structure of management and control elements of the production structure required the development of special tools that enable its implementation. The paper as such special funds presented tools, which include: management and production subsystems of the enterprise; principles of the mechanism relationship management and production enterprise subsystems; methods of implementing the said mechanism; management investigated the mechanism; Controlling; logisation; temporal aspect of the functioning of the designated mechanism. It justified the appointment and role of each selected item in solving of the problem, highlighted the logic of their relationship.

The results of this study clearly demonstrated the validity of the basic methodological guidelines of our hypothesis. Firstly, to implement innovative strategies any corporation must comply with certain basic characteristics that define the principles on systemic organizational and economic mechanism of its functioning. Second, the program and the policy of modernization and transformation of the Russian economy should begin with the creation of such corporations, which would correspond to an advanced Western corporations. Such corporations are constantly evolving, and the quality of these changes affect the fundamental structural elements. So, for example, most companies human capital in times exceeds tangible assets. In the process of evolution in the corporation achieved a balance between all the elements of the backbone: Technology, R & D base, routines, core competencies, human capital management subsystem, etc.

Not every company, even if it wanted to, is capable of constant innovation. This is especially true in our Uzbek conditions: outdated technology and production capacity, limited capital and financial sources of investment, lack of own R & D base, the loss of human resources. In this study, innovation-oriented corporation shall call a corporation that has a high potential for innovation, core competencies, the ability to rapidly generate ideas, bring them to mass production, and implementing, collect rent, and industry average profit on a long period of time. In this understanding of corporations, theoretical and procedural problems of instrumental studies of innovative processes should be addressed in modern corporations. The proposed model for analyzing the above problems of the economy innovative corporations shows that industrial innovation, economic and financial aspects must be considered complex and multidimensional system compared to traditional enterprise economy.

Formulated the theoretical and methodological principles of operational innovation program and highlights the main challenges that need to be addressed in its planning:

• Implementation of a reliable forecast of demand and sales.

• Predicting the dynamics of prices for finished products and production factors.

• Analysis of possible sources of raising capital and financial risk assessment. • The model of development of the industry: technology trends, products, general industrial organization, raw material prices.

• Formation of the regulatory framework as a basis for planning optimization and control of corporate expenses and costs.

• Formation of system life cycles of products and technologies.

• Linking into a single set of methods of production, financial and investment planning based on the project approach.

• Development of criteria for optimization of standards and levels of criteria balancing plan options in a dynamic setting.

• Formation of a formal program strategy implementation of innovative solutions: the duration of the stages of R & D funding tactics stages run tactics products, marketing tactics, including methods of promotion and pricing.

• Determination of the total investment and the proportions between pro¬izvodstvennoy and innovative parts.

• Calculation of the optimal rate of growth of the corporation as part of a sound financial condition.

Staged the task of forming a model of operational and innovative program, in which: develop a framework, basic formal relations, information technology, general and detailed algorithm for its use in the planning procedures the optimal release of products based on supply and demand, the replacement of one product by another. Also determine the optimum amounts of investment innovation, evaluated the most preferred strategy for the implementation of R & D, taking into account the complexity of the product and the innovation potential. Checking the optimum ratio of the rate of production operations and release of the new product on the market, ie, Bearing in mind that the acceleration of the innovation process requires large amounts of financing, which naturally reduces the current efficiency of the corporation, but an earlier start of sales of new products ensures additional income in the form of Schumpeterian rents. Additionally, the calculated rate of increase of capital, are estimated basic indicators of financial stability and other characteristics.

Designed fairly original approach to the estimation of parameters of the innovation process, on the basis of which the adjustment of the basic concept of discounting the cash flows using the expert-analytical procedures and a special questionnaire.

The study clearly shows the validity of theoretical propositions that the world's largest corporations are among the leaders of the cost and the results obtained in the research. At the end of the 20th century. the most ambitious and innovative research

projects carried automotive and information and computer companies. Currently this group joined by a number of pharmaceutical companies. Concentration of resources in this area is very high, and in spite of the rapid development of small and medium high-tech, innovation-oriented enterprises, most national research projects carried out large corporations. Most of the new high-tech industries the size of the company, which is especially important for Russian companies, still remains the most important factor in competitiveness, the leader of the modern technological revolution.

Comparative analysis of domestic and foreign corporations shows that Uzbekistan is not only a lack of effective world-class large companies, but even more - from a lack of growing and promising companies in the new high-tech industries, according to the international classification, such as space and aeronautics, pharmaceuticals, computers appliances, communications, automotive, mechanical engineering. Most of the domestic industrial companies account for a relatively low-tech enterprise sectors of the industry, especially metallurgy and metalworking.

Our findings confirm and develop the idea that spontaneity realization of innovations, weak accounting efficiency, operational and innovation potential, financial stability, does not give the desired effect, on the contrary, cause additional costs of faulty planning and mismanagement. This is largely explained by the economic theory behind the company from the current practice of their development, erroneous representation of decision makers and inadequate models of internal and external environment, which is based on management decision-making. D. Tees, rightly argues that modern corporations provide physical and social infrastructure necessary to clearly understand the nature and content of the modern concept of "resource". There is no objection to the statement that it is the corporate sector provides an increasing part of the public wealth. Hence the way in which structured and distributed competencies and knowledge, acting as assets largely determines the success of the enterprise.

According to the analysis of the object of research it found that in the pre-competitive stage of joint development of new products or technologies are usually dominated by strategic alliances (the organizational form of open innovation), aimed at carrying out R & D. In the later stages of the competition are also possible production and marketing alliances. Total in the world after the 2000s there were more than 10 thousand. International strategic technology alliances. More than a quarter of them are related to the implementation of joint projects in the field of microelectronics, computer technology, industrial automation technology and telecommunications, as well as biotechnology and new materials. In the context of the country is dominated by alliances between partners from the US and Western Europe, it increases the value of high-tech industries and high-tech products in the European countries that actively stimulate innovative entrepreneurship. The system of public funding of R & D

combined as direct form and indirect - (tax breaks, preferential government credit, amortization).

The results of the study showed that the global crisis was the fundamental test of abilities and preferences of market leaders invest in research and development, which are the basis of their strategic plans. In the practice of Western management corporations firmly established the idea that investments in innovation - is a competitive necessity, not a form of temporary investments, which can be stopped as soon as the hard times will come. Budget cuts in research and development during the crisis did not happen. Leading Western companies do not reduce investment in innovation, even in a tough recession.

The reasons are as follows:

1. Innovation became a central element of corporate strategy. Reduced innovation efforts constitute a waiver of competition.

2. Companies in most sectors of the economy oriented to the development of the product cycle, which stretched on for many years and are fixed in the contracts.

3. The downturn in the economy is seen as the ability to create an advantage over their competitors - especially those isolated little on research and development for financial reasons. If stronger companies will be able to maintain the pace of innovation, they can very quickly get new market share and corresponding rents, given the serious pace beginning of economic revival.

It is shown that the Gazelle - for a long time the fast-growing medium-sized companies - the main hope of the Uzbek economy in the absence of a world-class corporations in the high-tech industries. For companies - gazelles rate of innovation is fundamental. They develop quickly and therefore quickly exhaust the potential of extensive growth, and given that in contrast to large companies, they are less resistant, they are not guaranteed long-term prosperity. The choice - to continue to grow in breadth, buying competitors or reach a qualitatively new level of development - many are in favor of the latter. And because it's interesting, because promising. Unique competence and competitive advantages allow make business more profitable and sustainable. However, they may serve as a bonding element of emerging clusters and change the structure of commodity economy. Uzbekistan has already begin to form a chain of companies that makes the demand for innovative products to each other. This means that the country that develops the most innovative model of development, the urgent need which has recently been much discussed. And it develops mainly spontaneously - on the initiative of private entrepreneurs.

It seems that all the tasks have been solved. In addition, each of the tasks has not only theoretical but also practical implementation, and each received a decision preceded the beginning of research in solving new problems.

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281. Trachuk A.V., Linder N.V. (2016). Metodika mnogofaktor- noj ocenki innovacionnoj aktivnosti holdingov v promysh- lennosti [Technique of the Multiple-Factor Assessment of Innovative Activity of Holdings in the Industry]// Nauchnye trudy Vol'nogo ekonomicheskogo obshchestva Rossii [Academic writings of the Free Economic Society of Rus- sia], 198 (2), 298–308.
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283. Trilickaja O.Ju. Innovacionnaja aktivnost' kak faktor povyshenija konkurentosposobnosti predprijatija // Vestn. Volgogr. gos. un-ta. – Ser. 3. Jekon. Jekol. – 2013. – № 1 (22). – p. 155–161.
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286. Trofimova, L.A., Trofimov, V.V. (2012). *Knowledge management: a textbook* (Spbsuef publishing house, SPb, 2012)
287. Tsoy, D., Tirasawasdichai, T., & ets. (2021). Role of Social Media in Shaping Public Risk Perception during COVID-19 Pandemic: A Theoretical Review. International Journal of Management Science and Business Administration, 7(2), 35-41.

288. Turova Je. Znachenie intellektual'nogo kapitala v dostizhenii ustojchivyh konkurentnyh preimushhestv sovremennoj kompanii. – Litres, 2014.
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293. Vin'kov A.A., Gurova T.I., Ruban O.L., i dr. Sozdateli budushhego - gazeli s mozgom obez'jany // Jekspert № 10 (744), 14 - 20 marta 2011. S. 17-31.
294. Vin'kov A.A., Polunin Ju. Ermaki i Jedisony // Jekspert № 20 (754), 23 – 29 maja 2011. p. 19–26.
295. Volkov O. I., Skljarenko V. K. Jekonomika predprijatija. – M. : INFRA-M, 2008.
296. Volkova T. I. Uslovie innovacionnogo obmena // Jekonomist. 2010. № 3. p. 54.
297. Voynarenko, M., Dzhedzhula, V., & Yepifanova, I. (2020). Modeling of the process of personnel motivation for innovation activity. *WSEAS Transactions on Business and Economics, 17: 467-477.*
298. Wolfson, S. V. (2018). To the Question About the History of Formation of Innovative Entrepreneurship. International Experience. *Vestnik Tomskogo gosudarstvennogo universiteta istoriya-Tomsk state university Journal of history*, *53*, 112-115.
299. www.cbu.uz - The official website of the Central Bank of the Republic of Uzbekistan
300. www.e-cis.info - Internet portal of the CIS
301. www.edu.uz -Ofinialny website of the Ministry of Higher and Secondary Special Education of the Republic of Uzbekistan
302. www.eirma.org - European Association for the management of industrial research
303. www.euractiv.com -EurActiv / EU news, policy, trade, industry
304. www.gov.uz - The official portal of the Government of the Republic of Uzbekistan
305. www.innovation.gov.ru - innovation in Russia
306. www.minjust.uz - The official website of the Ministry of Justice of Uzbekistan Respuliki
307. www.parliament.gov.uz - The official website of the Oliy Majlis of Uzbekistan

308. www.press-service.uz - Official site of the press service of the President of the Republic of Uzbekistan
309. www.soliq.uz - The official website of the State Tax Committee of Uzbekistan

APPENDICES

Appendix 1

Approaches to indicators of innovation activity

№	Author, source	Factors of innovative activity
1	Valeeva E. O[186]	**1)** **hanges in factors of innovation activity - internal and external:** External factors: innovation policy in the region, seasonality, the level of development of the infrastructure sector, the demand for goods and services, changes in market trends, product safety, capacity used tourist object. Internal factors of development of the system of staff development, technical and technological level of production, the availability of sources of financing of new products, the rate of return on investment, the efficiency of in-house management mechanism of innovative activity **2)** **ffects on innovative activity:** External: the instability of the environment, innovation climate (the state with the financial, tax, legal, scientific and industrial support from the government), the investment climate, innovative competitive environment. Inside: Opening firms, competence management and specialists of the company, the strategic flexibility of the company, the motivation of experts and company management
2	Kljunja V. L., Fan Juj[187]	Signs of innovative enterprises: - flexibility (the ability to take advantage of favorable timely sources of raw materials and environmental resources) - elasticity of boundaries (the ability to expand its borders in the space-time frame) - pluralism (the ability to form a pluralistic organizational structure) - duration (providing prolonged nature of the changes, a continuous process) - dynamic (changeable software, evolving process of innovation, keeping changing trends) - value of (the ability to create value for society and consumers) - ability to radically change (the ability for rapid change in the functioning of the model) - complexity (the union of all the factors so that they are complementary)
3	S. Agabekov E. Levina[188]	Economic factors: lack of own funds, the lack of financial support from the state, the low demand for new products, works and services, the high cost of innovation, high economic risk Internal factors: the low innovative capacity of the organization, a lack of qualified personnel, lack of information about new technologies, the lack of market information, inadequate cooperation ties

[186] Valeeva E.O. Upravlenie innovacionnoj aktivnost'ju turistskoj firmy: dis. … kand. jekon. nauk: 08.00.05. – SPb., 2005. – s. 21

[187] Kljunja V.L., Fan Juj. Innovacionnoe predprijatie: sushhnost', soderzhanie i otlichitel'nye priznaki // Vesnik BDU. – Ser. 3. – 2011. – № 1. – s. 69

[188] Agabekov S., Levina E. Vozmozhnye modifikacii pokazatelej innovacionnoj aktivnosti // Jekonomicheskaja politika. – 2011. – №2. [Electronic resource]. – Rezhim dostupa: URL: http://ep.ane.ru/pdf/online/EPonline_2-2011_agabekov.pdf

		Other factors: lack of legislative and normative-legal documents regulating and stimulating innovation.
4	Gorban' M., Guriev S., Kostroma L., Fedjukin I., Shapochka I[189]	Internal factors - the characteristics of the companies - the size of the enterprise, ownership (private, public), sales volume, type of company (international company, which is part of the business is in Russia, the Russian company, part of the business which goes to foreign markets, the Russian company operating only in Russia). Exterior: difficulty attracting financing, excessive bureaucratization. Factors influencing the innovative activity of the company: The lack of a "culture of innovation" within the company; insufficient demand for innovative products; shortage of personnel, capable of innovation; excessive bureaucracy (the complexity of the certification of new products, etc.);the complexity of export customs control (high customs tariffs on imported components and technology, complex customs procedures);inadequate protection of intellectual property; lack of managerial personnel able to implement innovative projects; competitive pressure on the company; difficulty attracting funding for innovative products and technologies; lack of risk assessment procedures, and return on investment; commercialization problems Factors of influence on innovative activity across the country: shortage in the country "brains" (ideas and professionals capable of developing them);unavailability of financing for start-ups and innovative projects; excessive bureaucracy; "Raw" structure of the economy; a significant presence of the state in the economy; living and working conditions, unattractive for entrepreneurs and creative people; imperfect legal environment, including inadequate investor protection; lack of support for innovation on the part of the state; macroeconomic instability. Factors influence of the state: tax incentives (tax breaks for research and development, tax breaks for innovative projects, etc.); an increase in public funding of R & D in universities, research institutes and other research organizations; involvement of foreign highly skilled professionals (facilitating immigration legislation); improving the quality of higher education; investment in infrastructure (technology parks, business incubators); investments in venture capital funds; political and organizational support for the promotion of Russian products to the international market; protection of the Russian market by foreign competitors; improvement of legislation (corporate, tax, export import); WTO accession.

[189] Innovacionnaja aktivnost' krupnogo biznesa v Rossii: mehanizmy, bar'ery, perspektivy / Gorban' M., Guriev S., Kostroma L., Fedjukin I., Shapochka E. // Rossijskij zhurnal menedzhmenta. – Tom 8. – 2010. – №4. – S. 81–112

5	Makina S. A., Maksimova E. N[190]	Several of classification of factors: the level of economic (macroeconomic, industry, enterprise), the impact on the innovative activity (stimulating, inhibiting), the connection factors with the individual elements of the production process (economic (high-risk, long-term return on investment, lack of resources, inappropriate credit conditions, changes in consumer demand, increased competition, increased profitability, growth in the value of the company), engineering and technology (difficulty of access to scientific and technological advances, the lack of spare capacity, the dominance of the interests of current production, scientific and technical discoveries, and installment of equipment), organizational and management (well-established organizational structure, centralization, conservative, focus on established markets, inconsistent interests, the lack of qualified personnel, the formation of task forces), social (reduction of creative component, fear of uncertainty, the decline in demand, moral encouragement, public recognition, providing opportunities for self-realization) legal (imperfect legislation, lack of transparency of information, crime situation, government support)), the possibility of control by the company (external, internal). Internal factors: a lack of knowledge in the field of innovation management, inadequate attention to the institutional mechanism innovation, opening of the company, motivation and competence of management, strategic flexibility of the company, depreciation of equipment, high energy costs, lack of capacities, skills, organizational structure of the company. Macroeconomics: globalization, economic conditions, changes in the state industrial policy, a lack of qualified staff and so forth.
6	Medynskiy V. G[191]	Environmental factors: direct (laws and institutions of state regulation, suppliers of raw materials and equipment, energy, consumer products and competitors, mediators) and indirect impacts (economic, scientific and technological progress, politics, demographics, nature, culture). Factors internal environment: the possibility of an economic entity
7	Golushko A. I.[192], Kolosova T. B.[193]	Economic factors: lack of own funds, the lack of financial support from the state, a low effective demand for new products, high cost of innovation, high economic risk, long-term return on innovation. Production Factors: low innovation capacity of the organization, a lack of qualified personnel, lack of information about new technologies, lack of information about markets, immunity organization for innovation, lack of opportunities for co-operation with scientific and other organizations. Other causes: low consumer demand for innovative products, lack of legislative and regulatory documents

[190] Makina S.A., Maksimova E.N. Analiz faktorov, vlijajushhih na innovacionnuju aktivnost' rossijskih predprijatij // Audit i finansovyj analiz. – 2010. – №5. – S. 368–372

[191] Medynskij V.G. Innovacionnyj menedzhment / V.G. Medynskij. - M.: INFRA-M, 2007. - 295 s.

[192] Golushko A.I. Mehanizmy upravlenija innovacionnoj aktivnost'ju v regione (na primere Omskoj oblasti): dis. ... kand. jekon. nauk: 08.00.05. - M., 2003. - s. 71-72

[193] Kolosova T.V. Jekonomicheskoe razvitie predprijatija na osnove realizacii innovacij: prakticheskij opyt ispol'zovanija koncepcij // Strategicheskoe upravlenie predprijatijami, organizacijami i regionami: sb. statej VI Vserossijskoj nauchno-prakticheskoj konferencii (Aprel' 2012 g.). - Penza: RIO PGSHA, 2012. - s. 99

		indefinitely innovation process, underdeveloped innovation infrastructure, inadequate technology market.
8	Kass M. S.[194], Firsov Ju.[195]	External factors: The general state of the market and the position of the company in its market, the trend of development of the economy, inflation, the level of solvency position of the supplier, the value of the interest rates, the state of the stock market and so forth. Internal factors: the level of human resource capacity, the state of technical and technological base, the amount of the debt, the amount of working capital, the level of capacity utilization, the progressiveness of the used materials and production technologies, the pace and extent of renovation intangible assets.
9	Nikolskaya A. A.[196], Vlasova A. E., Il'enkova S. D., Mel'nikova O. N.	External: Countrywide (legislative framework, economic policy, fiscal policy, innovation policy, information policy), regional factors (the image of the university in the academic community, the presence of cooperation, strategic development). Internal factors: staff qualifications, organization of educational process, the organization of scientific processes, financial factors. Resource: Personnel Unit, a research unit, financial unit Scoring factors
10	Vasil'ev I. A.[197]	By source of influence: external, internal (economic potential of the company, internal economic relations); Institutional nature: global, national, regional, local, local, direct; According to the degree of influence: direct, indirect; By the nature of influence: Let stimulating; By cyclical influence: constant exposure, periodic exposure; For the duration of the effect of: long-term, short-term. By depending on the competence of decisions: strategic, tactical; The form of participation of stakeholders in the innovation process: independent, single subject, of a multisubject.
11	Sidorenko V. G.[198]	The objective external factors (not related to the strong-willed decisions of each subject): climatic conditions, the macroeconomic environment and the society, the political situation, the level of scientific and technological progress. Subjective external factors: strategies of competing firms, consumer behavior, communication with customers, partners, investors and so on., Communication with the authorities. The objective internal factors: the system of internal organizational and economic relations,

[194] Kass M.E. Razrabotka metodov ocenki innovacionnoj dejatel'nosti predprijatija // Strategicheskoe upravlenie predprijatijami, organizacijami i regionami: sb. statej VI Vserossijskoj nauchno-prakticheskoj konferencii (Aprel' 2012 g.). - Penza: RIO PGSHA, 2012. - s. 84

[195] Firsov Ju. Faktory i jelementy povyshenija innovacionnoj aktivnosti predprijatija // RISK: resursy, informacija, snabzhenie, konkurencija. - 2012. - №1. - S. 148-153

[196] Nikol'skaja A.A. Innovacionnaja aktivnost' vysshih uchebnyh zavedenij: ocenka i ispol'zovanie pri opredelenii konkurentosposobnosti: dis. … kand. jekon. nauk: 08.00.05. – Ivanovo, 2012. – 170 s.

[197] Vasil'ev I.A. Metodicheskie voprosy jekonomicheskoj ocenki innovacionnoj aktivnosti generirujushhih predprijatij jelektrojenergeticheskoj otrasli // Mikrojekonomika. - 2010. - №1. - S. 47-51.

[198] Sidorenko V.G. Sovershenstvovanie upravlenija innovacionnoj aktivnost'ju organizacij v rossijskoj jekonomike: dis. ... kand. jekon. nauk: 08.00.05. - M., 2008. - s. 17

		ownership, size of the organization, industry affiliation, specialization of the company and so on. Subjective internal factors: intellectual and creative potential of the employees, the use of benchmarking, the ability to self-learning technology, application of new technologies management business structures, flexible organizational structure, investment policy of the organization.
12	Avdonina S. G.[199]	Exterior: supply and demand, the possibility of obtaining additional revenue, the nature of competition, innovation policy of the state, the cyclical development. Internal: the internal resources (financial situation, scientific and technical potential, production capacity, human resources), the system of internal economic relations (forms of ownership, organizational structure, organization size, industry affiliation).
13	Piven' A. V.[200]	Piven A. V. capabilities stage of research and development: improving the use of material resources, the reduction of development time, compliance with performance to attract the best resources; Features commercialization stage: improving the use of material resources, reduce the time of implementation, compliance performance to attract the best resources. Opportunities stage evaluation of the effectiveness: improving forecast accuracy, decrease in losses from an incorrect assessment of alleged innovations. Possibilities for the use of terms: current capacity (unused existing capacities and mobilize at short notice and without significant financial costs), promising opportunities (unused existing capacities and their mobilization, requiring certain financial costs and a longer period of time)
14	Sharamygin N. S.[201], Trilitskaya O. Ju.[202], Petrov R. S.[203]	Macro level: political, natural-geographic, economic and social. Meso level: legal, political, institutional, socio-economic, geographic. Micro level: resource, efficient, process
15	Naumov I.V.[204]	The activities of local authorities. Urban infrastructure, developing through innovation. The presence of the material base of the municipality.

[199] Avdonina S.G. Faktory innovacionnoj aktivnosti predprijatij // Jekonomicheskie nauki. - 2011. - № 12. - S. 33-36.

[200] Sharamygin N.S. Upravlenie innovacionnoj aktivnost'ju promyshlennyh predprijatij na osnove jeffektivnyh metodov ee ocenki i stimulirovanija: avtoref. dis. ... kand. jekon. nauk: 08.00.05. - Orel, 2012. - 24 s.

[201] Sharamygin N.S. Upravlenie innovacionnoj aktivnost'ju promyshlennyh predprijatij na osnove jeffektivnyh metodov ee ocenki i stimulirovanija: avtoref. dis. ... kand. jekon. nauk: 08.00.05. - Orel, 2012. - 24 s.

[202] Trilickaja O.Ju. Innovacionnaja aktivnost' kak faktor povyshenija konkurentosposobnosti predprijatija // Vestn. Volgogr. gos. un-ta. - Ser. 3. Jekon. Jekol. - 2013. - № 1 (22). - S. 155-161

[203] Petrov R.S. Stimulirovanie innovacionnoj aktivnosti v regione v uslovijah krizisa [Electronic resource]. - Rezhim dostupa: URL: http://sun.tsu.ru/mminfo/ 000063105/335/image/335-124.pdf.

[204] Naumov I.V. Stanovlenie i mehanizm rosta innovacionnoj aktivnosti municipal'nyh obrazovanij: dis. ... kand. jekon. nauk: 08.00.05. - Ekaterinburg, 2007. - 220 s.

16	Tovstenko B. P.[205], Ershov V. F.[206]	Global macro nation-wide factors: cyclical factor, demographic factor, natural and ecological, technological, economic, state and legal, socio-cultural, globalization, integration, interaction between civilizations. Meso-environment (collection of objects and conditions): the same factors, but with a different meaning (eg, the economy here - the authorities' actions in the field of the economy). Microenvironment: the relationship between products and technological opportunities of the enterprise, the ability to meet the consumer with the necessary level of quality, development time and time to market, the relationship between fundamental and applied research, market positioning, management motivation and so on.
17	Skopina I. V. et al[207]	Creating a regional legislative and regulatory framework conducive to activate innovative processes; Education financial institutions (investment and venture capital funds) to ensure continuity of financing business projects at all stages of the innovation cycle; The development of industrial and technological innovation infrastructure (special economic zone of technology-innovative type, technology parks, innovation and technology center, a business incubator, a technology transfer center). Consideration of the establishment of the regional (municipal) business incubator at the site of the municipal real estate (signing of the tripartite agreement: Ministry of Economic Development, the subject of the Russian Federation, municipality). The expansion of public-private partnership in this area; Development of information, expert consulting and educational infrastructure of innovation. Formation of the distribution system of best practices to provide effective advice and analytical support to municipalities Kirov region Innovation; Ensuring at the legislative level investment focus on innovation, the concentration of a significant part of both public and private and foreign investment in the implementation of priority innovation and technology programs; Creating the conditions for starting a small business innovation. Easier access to credit growing small businesses, with insufficient collateral base; Interaction with research funds to support innovation
18	Titov V. A., Martynov A. F.[208]	Own structures: the legal status of finance, institutional structure, intellectual potential, the production structure. Management of intellectual resources of territory: the forecast economic transformations, the prognosis of transformations of the

[205] Tovstenko B.P. Faktory, vlijajushhie na innovacionnuju aktivnost' predprijatija // Rossijskij jekonomicheskij internet zhurnal. - 2012. - №2 [Electronic resource]. - Rezhim dostupa: URL: http://www.e-rej .ru/Articles/2012/Tovstenko.pdf

[206] Ershov V.F. Restrukturizacija proizvodstvennyh sistem v mashinostroenii. - SPb.: SPbGIJeU, 2002. - 215 s.

[207] Skopina I.V. Innovacionnaja aktivnost' kak pokazatel' jekonomicheskogo razvitija regiona / Skopina I.V., Baklanova Ju.O., Skopin A.O. // Regional'naja jekonomika i upravlenie: jelektronnyj nauchnyj zhurnal. - 2006. - № 31. [Electronic resource]. - Rezhim dostupa: URL: http://region.mcnip.ru/modules.php?name= News&file=article&sid=89

[208] Titov V.A. Metodologicheskie podhody k upravleniju innovacionnoj aktivnost'ju / V.A. Titov, A.F. Martynov // Transportnoe delo Rossii. - 2006. - №12. - S. 40-42

		intellectual potential, strategic planning branch structure of the intellectual potential. Management of innovative infrastructure: Research Development, Science and Education, Scientific and integration, education and integration. Office of Scientific Research: the forecast areas of research, development of new directions. Activation of promising areas of research. Information Management software: system monitoring information environment, analytical systems, systems modeling.
19	Mil'skaya E.A.[209]	Lack of economic mechanisms of innovation in enterprises, Informed choice of methods of strategic management; Problems associated with the commercialization and transfer of innovation; Lack of experience in conducting major innovation. Not fully developed legal framework Innovation A limited set of privileges for enterprises engaged in innovation Problems of training and retention of qualified personnel The unfavorable business climate Underinvestment The internal problems of the domestic producers, the lack of a developed innovation infrastructure Obsolete equipment, loss of technology, long payback period of innovation
20	Tokarev B. E.[210].	Factors direct and indirect impact of the external market environment: economic, demographic, legal, cultural, environmental, regional and others. - At the level of the microenvironment, meso-environment, macro environment, international environment. Consumer factors: shopping patterns, particularly consumer behavior, individual consumer characteristics - cultural, behavioral, psychographic, economic, educational, gender and so forth. Market factors encouraging consumers.
21	S. Jentoni, M. Dzhonson, Dzh. Sinfild, Je. Oltman [211]	Three factors: Control of existing assets (the need for full control of the core business, getting rid of inefficient areas and so forth.) Creating growth strategy (planning targets innovation, drawing the target portfolio of innovative, creating a "schedule of innovation", the allocation of areas of growth) Establishing resource allocation (financial, on the core business, to new areas, human)

[209] Mil'skaja E.A. Klassifikacija innovacionno-aktivnyh predprijatij / Materialy nauchno-prakt. konferencii «Nauchnye issledovanija i innovacionnaja dejatel'nost'» - SPb.: Izd-vo SPbGPU, 2011, - S.84-89

[210] Tokarev B.E. Opredelenie rynochnogo potenciala innovacionnogo produkta // Marketing i marketingovye issledovanija. – 2014. – № 2. – S. 92–99

[211] Jentoni S. Rukovodstvo innovatora: kak vyjti na novyh potrebitelej za schet uproshhenija i udeshevlenija produkta: per. s angl. / S. Jentoni, M. Dzhonson, Dzh. Sinfild, Je. Oltman. - M.: Al'pina Pablisherz; Jurajt, 2011. - s. 46-67

22	Dzh. Djej[212]: John. Day:	The presence of a culture based on new technical developments; Organizational structure; The continuing pressure on the market of the time factor, due to rapid changes;
23	L. A. Malysheva & I. V. Shestakov	Factors hampering innovation development and reduce innovative activity: the undeveloped demand for innovation, complexity of the external environment and globalization, more development priorities and so forth.[213]
24	Valeeva E. O.	Strategic[214]: - The quality of the innovation strategy of competition; - The level of mobilization of the innovation potential; - The level of borrowed capital - investments; - The level of practices, cultures used in making innovative changes; - The validity of implemented the level of innovation activity. Tactical: - Compliance with the nature of the competitive reaction of the firm's strategic situation; - Speed (tempo) of the strategic actions and innovative changes.

[212] Djej Dzh. S. Organizacija, orientirovannaja na rynok: kak ponjat', privlech' i uderzhat' cennyh klientov / per. s angl. V. I. Kuzina; pod red. i predisl. prof. I.V. Andreevoj. - M.: Jeksmo, 2008. – 304 s. - (Klientomanija). - s. 56

[213] Malysheva L.A., Shestakov I.V. Analiz podhodov k ocenke innovacionnoj aktivnosti rossijskih predprijatij // Vestnik PNIPU. Social'no-jekonomicheskie nauki. - 2012. - № 14 (38). - S. 101

[214] Valeeva E.O. Upravlenie innovacionnoj aktivnost'ju turistskoj firmy: dis. ... kand. jekon. nauk: 08.00.05. - SPb., 2005. - S. 16; Moiseeva N.K. Strategicheskoe upravlenie turistskoj firmoj. - M.: Finansy i statistika, 2007. - 208 s.; Morozov Ju.P. Tehnologicheskie innovacii i ih rol' v sovremennyh jekonomicheskih uslovijah Rossii // Innovacii. - 2000. - № 1-2. - S. 59-62; Novodvorskij V.D. Buhgalterskaja otchetnost': sostavlenie i analiz / V.D. Novodvorskij, L.V. Ponomareva, O.B. Efimov. - M.: Buhgalterskij uchet, 1994. - 390 s.

Appendix 2

Theory of Management (approaches to the content and structure of the organization)

№	Theory of management	Key authors	Brief summary	Questions of allocation of management levels and their interaction
1	Classic	A. Chandler[215], I. Ansoff, A. Sloan, M. Porter, F.V Taylor.[216]	The strategy is a rationally planned, thought-out scheduling resources the company to achieve maximum effect, the ideal type of rational economic actors. The main objective of – maximization of profits.	Strategy and Implementation. not take into account the environment, the human factor and so forth. A system the hierarchy of the organization's objectives is being considered.[217].
2	Neoclassical	A. Marshall[218]	The organization is designed to perform the functions of production, without attention to the social nature of the organization and the human factor. The main objective of - maximization profits by changing production and technological parameters of the company.	The dependence of production results from the conversion of certain resources is under cons. Allocation of levels is not under consideration.
3	Structural functional approach	Djurkgame [219], B. Malinovskiy [220], A. Redcliff Braun[221]	The property consists of a number of elements with some relationship between them; when one element is directly correlated with the other, we say that these elements are connected to each other. [222] Takes into account issues of centralization and decentralization.[223].	The interaction between the structural elements in a given time. The theory assumes a static nature of the organization.

[215] Chandler. A. Strategy and Structure. - Cambridge, Massachusetts: M.I.T. Press, 1962.
[216] Kanigel R. Frederick Winslow Taylor and the Enigma of Efficiency. - New York: Viking, 1997 - 675 pp.
[217] Ansoff I. Novaja korporativnaja strategija. - SPb: Piter, 1999. - 348 s.
[218] Shumpeter J. Desjat' velikih jekonomistov ot Marksa do Kejnsa. - M.: Institut Gajdara, 2011. - S. 138-161.
[219] Djurkgejm Je. O razdelenii obshhestvennogo truda. Metod sociologii. - M.: Nauka, 1991. - 576 s.
[220] Malinovskij B. Funkcional'nyj analiz // Antologija issledovanij kul'tury. T.1. Interpretacija kul'tury. - SPb.: Universitetskaja kniga, 1997. - S. 681-703.
[221] Nikishenkov A.A. Istorija britanskoj social'noj antropologii. - SPb.: Izd-vo Sankt-Peterburgskogo universiteta, 2008. - 496 s.
[222] Frolov S.S. Sociologija organizacij. - M.: Gardariki, 2001. - 384 s.
[223] Oljanich D.B. Teorija organizacii: ucheb. / D. B. Oljanich [i dr.]. - Rostov n/D: Feniks, 2008. - 408 s.: il. - (Vysshee obrazovanie)

4	Process approach	G Simon[224], R. Sairt, Dj. March[225], T. Berns, G. Minsberg[226]	Enterprise development strategies can not be planned, they happen to arise in the general shape of the small amount of time [227]. Strategy should be developed taking into account the current situation. [228]. The introduction of the concept of "micro-politics" in the organization of life takes place in the struggle for power, the presence of the organization's objectives and goals of individuals.	Management - continuously implemented a set of interrelated management functions.
5	Systematic approach	Ja. Kornai[229]; M. Granovetter [230], R. Svedberg[231], R. Vittington, I. V. Blauberg, V. N. Sadovskiy[232], E.G. Judin, Khachaturov S.	The company has a complex structure, the existence of which is determined by the unity of the elements found in the interaction [233]. The system has a set of two components - the material (an object in the environment) and abstract (organizational relations between subjects).)[234]. Signs of the enterprise as a system: structure, behavior,	Organizational structure the relationship object, providing the interaction of its elements and relationships of the system with the external environment. Encouraging him to move from one state to another.[236]. The system - not just a set of units, and a set of relations between these elements.

[224] Shumpeter J. Desjat' velikih jekonomistov ot Marksa do Kejnsa. - M.: Institut Gajdara, 2011. - S. 252-255.

[225] Tambovcev V.L. Strategicheskaja teorija firmy: sostojanie i vozmozhnoe razvitie // Rossijskij zhurnal menedzhmenta. - 2010. - № 1. - S. 5-40.

[226] Mincberg G. Dejstvuj jeffektivno! Luchshaja praktika menedzhmenta: per. s angl. - SPb.: Piter, 2011.- 288 s.

[227] Djatlov A.N. Obshhij menedzhment: koncepcii i kommentarii: ucheb. / A.N. Djatlov. M.V. Plotnikov, I.A. Mutovin. - M.: Al'pina Biznes Buks, 2007. - 400 s.

[228] Plenkina V.V. Strategicheskij menedzhment: ucheb. posobie / V.V. Plenkina, G.A. Chistjakova, O.V. Lenkova. - Tjumen': izd-vo TjumGNGU, 2010. - 195 s.

[229] Kornai Ja. Sistemnaja paradigma // Voprosy jekonomiki. - 2002. - №4. - S. 4-22.

[230] Granovetter M. The strength of weak ties // Economic Sociology. - 2009. - Vol. 10. - № 4. - P. 31-47

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[232] Hachaturov S. Organizacija proizvodstvennyh sistem. - Tula: Shar, 1996. - 230 s.

[233] Sadovskij V.N. Osnovanija obshhej teorii sistem. Logiko-metodologicheskij analiz. - M.: Nauka,1974. - 280 s.

[234] Klejner G.B. Sistemnaja paradigma i teorija predprijatija // Voprosy jekonomiki. - 2002. - №10. - S. 47-69.

[236] Popov E.V., Hmel'kova N.V. Sistemno-integracionnye osnovanija rutinnosti funkcionirovanija predprijatija: jevoljucionnyj aspekt. Preprint. - Ekaterinburg: Institut jekonomiki RAN. 2003. - s. 4

			evolution [235]. Organization as a set of interdependent elements, such as people, structure, tasks and technologies that are focused on achieving various objectives in a changing environment.	
6	The institutional approach	R. Kouz, O. Uil'jamson, D. Nord, T. Veblen, Dzh. Kommons, U. Mitchell, Dzh. Gjelbrejt, G. Mjurdal', E. V. Popov [237]	The company has a set of contracts and agreements stakeholders value creation; developed hierarchical structure, which manages the conclusion and execution of contracts. The main thing - to coordinate activities to achieve the objectives. The object of the control are institutions. The behavior of the organization is determined by internal and external regulations.	It is about the interaction of institutions, their change, evolution (development).
7	Behavioral approach	Simon G.[238] .	The organization has a set of individuals with different motivations, goals, preferences. The main goal - profit and income. Group managers (agents) controls the optimal allocation of resources (object). The main task - coordination of the different purposes of individuals.	There are questions of studying the nature of different objectives, goals, different actors and their coordination with each other.
8	Resource approach	Mincberg G. [239], Dzh. Barni, V. Efremov, I. Hanykin [240]	Resources, skills, competence. Resources - assets, capabilities and so on., Controlled and used by the organization for the development of a successful market strategy. [241] . The organization has a set of tangible and intangible	The main drawback - tactics. The essence of the interaction is not considered.

[235] Rapoport A. Matematicheskie aspekty abstraktnogo analiza sistem // Issledovanija obshhej teorii sistem. - M.: Progress, 1969. - S. 83-105.
[237] Popov E. V. Instituty minijekonomiki. M.: Jekonomika, 2005. 638 s.
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[240] Efremov V., Hanykin I. Kljuchevaja kompetencija organizacii kak ob#ekt strategicheskogo analiza // Menedzhment v Rossii i za rubezhom. - 2002. - №2. - S. 8-34.
[241] Barney J. Firm Resources and Sustained Competitive Advantage // JM. - 1991. - № 17.

			resources, internal and external.	
9	The theory of dynamic capabilities	K. Prahalad, G. Hamel[242], A. Nonack, G. Takeuchi[243], D. Tis[244], K. Christensen [245]	The processes of organizational learning, integration and reconfiguration mechanisms of internal and external competencies and forming routine actions, the process of codification, knowledge transfer within the organization [246] . Factors implementing organizational skills - resources, processes and values.	Answer the question about that. How is the ability of the enterprise, at the same time, there is no answer to the question of what changes in them.
10	Situational approach		The effectiveness and success of an organization is determined by the degree of adaptation of the organizational structure and organizational behavior factors and environmental constraints [247] The essence of the organization is to make the right decisions depending on the situation. How best to manage determined by the situation at a particular time.[248].	We consider the relationship between the different environmental conditions and different types of organizational structures

[242] Prahalad K., Hjemel G. Sterzhnevye kompetencii korporacii // Mincberg G. Strategicheskij process / G. Mincberg, Dzh. Kuinn, S. Goshal. - SPb.: Piter, 2001. - S. 112-123.
[243] Nonaka I., Takeuchi H. Kompanija - sozdatel' znanija. - M.: Olimp-biznes, 2003. - 384 s.
[244] Teece D. Dynamic Capabilities and Strategic Management / D. Teece, G. Pisano, A. Shuen // SMJ. - 1997. - №18
[245] Kristensen K., Overdorf M. Razrushitel'nye peremeny // Iskusstvo upravlenija. - 2001. - №5. - S. 46-60.
[246] Burman K. Nematerial'nye organizacionnye sposobnosti kak komponent stoimosti predprijatija // Problemy teorii i praktiki upravlenija. - 2003. - № 3. - S. 16-24.
[247] Oljanich D.B. Teorija organizacii: ucheb. / D. B. Oljanich [i dr.]. - Rostov n/D: Feniks, 2008. - 408 s.: il. - (Vysshee obrazovanie)
[248] Meskon M. Osnovy menedzhmenta: per. s angl. / M. Meskon, M. Al'bert, F. Hedouri. - M.: Delo, 1997. - 704 s.
[248] Burman K. Nematerial'nye organizacionnye sposobnosti kak komponent stoimosti predprijatija // Problemy teorii i praktiki upravlenija. - 2003. - № 3. - S. 16-24.
[248] Oljanich D.B. Teorija organizacii: ucheb. / D. B. Oljanich [i dr.]. - Rostov n/D: Feniks, 2008. - 408 s.: il. - (Vysshee obrazovanie)
[248] Meskon M. Osnovy menedzhmenta: per. s angl. / M. Meskon, M. Al'bert, F. Hedouri. - M.: Delo, 1997. - 704 s.

11	Theory of evolution	R. Nelson and S. Winter, V.I Majewski	Introduced the concept of "organizational routine" [249] . The organization is one of the objects in the environment of such objects, which can be likened to a biological population [250] . In theory, disclosed features state transition changes.	During operation in continuous interaction with the "population" in each enterprise there are certain traditions and decision-making procedures, algorithms respond to changing internal and external environment.
12	Entrepreneurial approach	R Coase.	Organization of a system of relations that occurs when the direction of resources to depend on the entrepreneur. The main goal - to attract resources through entrepreneurial initiatives.	The behavior of the company influence the specialists of different levels of activity and responsibility. In this regard, all entrepreneurs are divided into macro, meso and micro-entrepreneurs.
13	Contract approach	O. Williamson	The organization is regarded as the contracting process based on a hard allocation of resources. The theory of transaction costs.	It describes the contractual relationships.
14	Hierarchical approach	Mesarovich, Ju. K. Perskij, D. N. Shul'c, G. B. Klejner	The organization consists of levels that vzamoobuslavlivayut each other, forming a kind of integrity. The questions of feedback.[251].	It is a continuation of a systematic and structured approach. Described in detail the process of interaction and mutual influence of hierarchical levels at each other, the elements inside the level.
15	System-integration approach	G. B. Klejner, R. Kachalov, V. Tambovcev	Inside the company implemented the processes of interaction and interpenetration of resource flows and values, cultural and institutional shifts [252] . Inside the company implemented the processes of interaction and interpenetration of resource flows and values, cultural and institutional shifts. Multi-layer pyramidal structure of the	Allocated layers interact with each other, obey. The enterprise has an object of simultaneously operating in several spaces and its functional activity can not be exhaustively described in any one of them individually.[254].

[249] Nel'son R.,Uinter S. Jevoljucionnaja teorija jekonomicheskih izmenenij. - M.: Finstatinform, 2000. -472 s.

[250] Popov A.I. Jekonomicheskaja teorija. - 4-e izd. - SPb.: Piter, 2006. - 544 s.

[251] Perskij Ju.K., Kostareva L.V. Predprijatie i makrojekonomicheskaja sreda (nachala mezojekonomiki). - Perm': Izd-vo Perm. un-ta, 2000. - 103 s.

[252] Klejner G. Predprijatie v nestabil'noj jekonomicheskoj srede: riski, strategii, bezopasnost' / G. Klejner, V. Tambovcev, R. Kachalov. - M.: Jekonomika, 1997. - 288 s.

[254] Klejner G.B. Sistemnaja paradigma i teorija predprijatija // Voprosy jekonomiki. - 2002. - №10. - S. 47-69.

			enterprise. The author distinguishes layers - mental, cultural, institutional, cognitive, organizational and managerial experience. Relationship implemented both vertically (between the individual elements of the control), and horizontally (in all stages of the life cycle of product)[253].	
16	Systemic-constructivist theory	Ryuegg - Shtyurm [255]	Enterprise - Event System, ordered by the tangible and intangible structures ("routine" models).	Together with the interaction of states on the essence of the changes and development of the enterprise, that is, the interaction of elements not only in space but also in time.
17	Self-organization and self-development	I. Prigozhin[256], G Ickovic[257], A. V. Molodchik[258]	"Self-learning" organizations differ in that they are aware of the problem quickly, are critical of their own mistakes and are constantly searching for the most efficient model of behavior in order to maximize success.[259] Such organizations are reviewing their corporate mission, trying to learn the best technique, technology and change, update their views, objectives and strategy.[260].	The approach considers the development of the organization, describes the processes of change in the organization.

[253] Oljanich D.B. Teorija organizacii: ucheb. / D. B. Oljanich [i dr.]. - Rostov n/D: Feniks, 2008. - 408 s.: il. - (Vysshee obrazovanie)

[255] Rjujegg-Shtjurm J. Sistemno-konstruktivistskaja "teorija firmy" i upravlenie processami glubokih izmenenij na predprijatii // Problemy teorii i praktiki upravlenija. - 1998. - № 6. - S. 87-91.

[256] Prigozhin I., Stengers I. Porjadok iz haosa: per. s angl. M.: Komkniga, 2005. - 294 s.

[257] Ickovic G. Trojnaja spiral'. Universitety - predprijatija - gosudarstvo. Innovacii v dejstvii: per. s angl. - Tomsk: Izd-vo Tom. gos. un-ta sistem upr. i radiojelektroniki, 2010. - 238 s.

[258] Ot samoorganizacii k samorazvitiju: smena paradigmy menedzhmenta: monografija / pod nauch. red. S.V. Komarova; predisl. akad. A.I. Tatarkina / In-t jekonomiki UrO RAN. - Ekaterinburg, 2013. - 257 s.

[259] Molodchik A.V., Komarov S.V. Ponjatie samorazvivajushhejsja lokal'noj organizacii i novaja teorija menedzhmenta // Biznes. Obrazovanie. Pravo. Vestnik volgogradskogo instituta biznesa. - 2012. - №3. - S.197-201.

[260] Oljanich D.B. Teorija organizacii: ucheb. / D. B. Oljanich [i dr.]. - Rostov n/D: Feniks, 2008. - 408 s.: il. - (Vysshee obrazovanie)

18	Evolutionary system-integration theory	E. V. Popov, N. V. Hmel'kova [261]	Introduction to the essence of the "life cycle routine" events. The company has a movable structure consisting of routines, which are at different stages of his life in the organization. Intra change is a dynamic relationship formed, and entrenched institutional behavioural collapsing structures.	Linkages between the system elements of the enterprise and their interaction with the time aspect. Not only the presence of routine inter-level interactions and dynamics of intra associated with the life cycle.

[261] Popov E. V., Hmel'kova N. V. Sistemno-integracionnye osnovanija rutinnosti funkcionirovanija predprijatija: jevoljucionnyj aspekt. Preprint. Ekaterinburg: Institut jekonomiki RAN. 2003. - 35 s., s. 4

Appendix 3

Approaches to indicators of innovation activity

Authors	**The definition of "innovative activity", the formula**	**The indicators characterizing innovation activity**
N. A. Zaglumina, S. V. Koshcheev [262]	The intensity of the enterprises innovation $NA = \frac{C_{в.и.}+C_{в.и.}+C_{р.и.и.}+C_{и.о.}+C}{N}$ where N - number of coefficients in the indicators of innovation activity (all the coefficients from 0 to1)[263]. NA = Kv.i. + Kv.i. + Kr.i.i. + Ki.o. + K * N where N - number of coefficients in the indicators of innovation activity (all the coefficients from 0 to1).	Index of production at the stage of launching into the market and the growth stage, the rate of innovation, innovation growth, innovative ideas, innovative expectations index - The coefficient of innovation (C_i.); - Innovative growth factor (C_g.); - The coefficient of innovation expectations (C_{ie}); - The coefficient of the implementation of innovative ideas (C_{ii}); - Factor of production at the stage of market introduction and growth stage (C_{mi}).
E. L. Neznahina, M. S. Veretenova [264]	Integral indicator of innovative activity, combining the resources and the intensity changes IIIA = LI * IP where IIIA index of integral innovative activity, LI - level of innovation activity, IP - An innovative potential	The cost of the training and development of personnel involved in innovation The rate of growth of costs in the field of innovation Hardware Upgrades The costs of the enterprise for the acquisition of intangible assets
O. V. Nikitin [265]	Dynamic of action of enterprises to create innovations and their	1) the presence of completed innovations 2) the degree of participation of the enterprise in the development of innovations implemented (study of the

[262] Zaglumina N.A. Innovacionnaja aktivnost', innovacionnyj potencial, innovacionnyj klimat: vzaimosvjazi // Innovacii. - 2010. - №11. - S. 45.

[263] Zaglumina N. A. Innovacionnaja aktivnost', innovacionnyj potencial, innovacionnyj klimat: vzaimosvjazi. Innovacii. №11. 2010. S. 45-48; Zaglumina N. A. Formirovanie instrumentarija ocenki urovnja innovacionnogo razvitija predprijatija. Avtoreferat/dissertacija na sosikanie uchenoj stepen kand.jekon.nauk. 2011, Nizhnij Novgorod; Koshheev S.V. Klasternyj podhod k upravleniju innovacionnoj aktivnost'ju v industrii gostepriimstva: dis. ... kand. jekon. nauk: 08.00.05. - Sochi, 2010. - 192 p.

[264] Neznahina E.L., Veretenova M.S. Metod ocenki integral'nogo pokazatelja innovacionnoj aktivnosti predprijatija // Innovacii. - 2012. - №2. - p. 94

[265] Nikitina O.V. Metody issledovanija innovacionnoj aktivnosti promyshlennyh predprijatij: avtoref. dis. ... kand. jekon. nauk. - SPb.: Izd-vo SPbGIEJeU, 2007. - 19 p.

	implementation; traffic light to the formation of the company's competitive advantages. Intellectuality, innovativeness, innovation.	structure of expenses for research and development work) 3) the share of enterprises engaged in certain types of innovation by industry 4) the reasons for the rise / fall of innovative activity (analysis of factors limiting innovative activity) 5) the target species and the structure of innovation 6) the degree of attention paid to the companies legal protection of R & D (research intellectual resources of the company) 7) the share of sales of innovative products in the domestic and foreign markets in total sales 8) assessment of the competitiveness of enterprises 9) effectiveness of investments in research and development work 10) The return on innovation 11) the cost of production and sale of innovative products 12) the cost of social and economic innovations 13) a study of tax legislation (tax exemption on profits) 14) study of motivation in the company (social benefits for the enterprise) 15) changes in intangible assets on the balance sheet intangible capital
V. A. Korolev, D. V. Kaplenko[266]	The definition is not given	The number of applications for patents for inventions The number of granted patents for inventions The amount to use the invention for which patent issued to Russian Federation Number of researchers in all
Trifilova A. A.[267]	The intensity of the economic stakeholders in the development and inclusion of new technologies or products in fine-tuning the economy.	C_{ip} - a ratio of the intellectual property. C_{pr} - coefficient of personnel engaged in R & D. C_{pr} - the coefficient of the property intended for R & D. C_{dt} - the coefficient of the development of new technology, reflecting the company's ability to master the new equipment and the latest production and processing lines. C_{it} - the coefficient of the introduction of new products. C_{ii} - innovative growth factor that characterizes the stability of technological growth and industrial development
E. O. Valeeva[268]	The intensity of the development and	Strategy[269]: - quality of the innovation strategy of competition;

[266] Korolev V.A., Kaplenkov D.V. Sistema sravnitel'nyh pokazatelej innovacionnoj aktivnosti predprinimatel'stva // Vestnik Stavropol'skogo gosudarstvennogo universiteta. - 2010. - №70. - p. 137-142.

[267] Trifilova A.A. Ocenka jeffektivnosti innovacionnogo razvitija predprijatija. - M.: Finansy i statistika, 2005. - 304 p.

[268] Valeeva E. O. Upravlenie innovacionnoj aktivnost'ju turistskoj firmy: dissertacija ... kandidata jekonomicheskih nauk: 08.00.05. — Sankt-Peterburg, 2005. — 152 p.

[269] Valeeva E. O. Upravlenie innovacionnoj aktivnost'ju turistskoj firmy: dissertacija ... kandidata jekonomicheskih nauk: 08.00.05. — Sankt-Peterburg, 2005. — p. 16; Moiseeva N. K. Strategicheskoe upravlenie turistskoj firmoj. M.: Finansy i statistika, 2001; Morozov Ju. P.

	introduction of innovations into the economy organizations; Complex characteristic innovation.	- level of mobilization of the innovation potential; - level of borrowed capital - investments; - level of practices, cultures used in making innovative changes; - validity of implemented the level of innovation activity. Tactical: - compliance with the nature of the competitive reaction of the firm's strategic situation; - speed (tempo) of the strategic actions and innovative changes. Elements of the mechanism of management of innovative activity: - management of Public Relations - management of interaction with the state and municipal authorities - management of innovative activity of the personnel - management of investments in new product development - quality control of the new product - management of logistics system - Marketing Management - Control communication system
A. I. Strategy [270]		Replacing a previous obsolete products. Improved product quality Expanding the range of products. Maintaining and expanding traditional markets. Creating new markets Ensuring compliance with modern codes and standards. Increased production flexibility The increase in production capacity. Reducing wage costs Reducing material costs. Reducing energy consumption. Reduction of pollution. Improvement of working conditions
A. Piven [271]	A comprehensive description of innovative activity of industrial enterprises, including the degree of intensity of the action undertaken by the head inclined to search for a new, and their	Effective use of increasing innovation activity in the course of innovation. The effectiveness of all stages of the innovation activity of industrial enterprise. The duration of the innovation process until commercialization. Integral gain of innovative activity (intellectual property security, personnel engaged in the innovation, security of property, the development of

Tehnologicheskie innovacii i ih rol' v sovremennyh jekonomicheskih uslovijah Rossii // Innovacii. 2000. №№ 1, 2. p. 59 - 62; Novodvorskoj V. D., Ponomareva L. V., Efimov O. B. Buhgalterskaja otchetnost': sostavlenie i analiz. M.: Buhgalterskij uchet, 1994

[270] Golushko A. I. Mehanizmy upravlenija innovacionnoj aktivnost'ju v regione (na primere Omskoj oblasti): dissertacija ... kandidata jekonomicheskih nauk: 08.00.05. - Moskva, 2003. - 160 p.

[271] Piven' A. V. Ocenka i upravlenie innovacionnoj aktivnost'ju promyshlennyh predprijatij (na primere predprijatij Habarovskogo kraja): dissertacija ... kandidata jekonomicheskih nauk: 08.00.05. - Habarovsk, 2009. - p. 162

	timeliness, ability to mobilize the potential of the required quantity and quality, including its hidden side, the ability to ensure the validity of the methods used and the progressive, rational technology of composition and consistency. The proposed integral factor of innovation activity shows the level of competitiveness and the optimal strategy.	new technology, development of new products, innovative growth). 0,45-0,25 - strategy of the leader; 0,24-0,04 - follower strategy Indicators: - quality of the innovation strategy and innovation objectives; - level of mobilization of the innovation potential; - level of investment attracted; - methods, culture and landmarks are used in making innovative changes; - compliance with the competitive nature of the reaction of the company's strategic situation; - rate of development of innovative strategies; - validity of the level of innovation activity implemented
S. M. Buhonova, Y. A. Doroshenko[272]; RK Kamalov[273]	A comprehensive description of the intensity of innovation, based on the organization's ability to mobilize the innovation potential.	Three approaches: formal, resource-costly, effective. Building a radar chart.
E. V. Goncharova	A comprehensive description of its activities, including the degree of intensity of the action undertaken, the ability to mobilize the necessary capacity progressively applied the principles and methods, as well as the rationality of technology innovation process on the composition and sequence of operations.	
J. S. Muhamedshin [274]	he participation of producers in the implementation of innovative activities as a whole or its individual	Indicators of innovation activity is not considered

[272] Buhonova S. M., Doroshenko Ju. A. Metodika ocenki innovacionnoj aktivnosti organizacii // Jekonomicheskij analiz: teorija i praktika. - 20005. - №1 (34). - p. 2

[273] Kamalov R.K. Upravlenie innovacionnoj dejatel'nost'ju predprijatij v uslovijah krizisa: avtoref. dis. ...kand. jekon. nauk: 08.00.05. - Ufa, 2010. - 26 p.

[274] Muhamedshin I.S. Innovacionnaja aktivnost' i konkurentosposobnost' rossijskih tovaroproizvoditelej // Rossijskoe predprinimatel'stvo. - 2000. - № 8 (8). - S. 22-27. [Electronic resource]. - Rezhim dostupa: URL: http://www.creativeconomy.ru/ articles/9101/

	species, ie, in the implementation of activities related to the transformation of ideas (usually R & D or other scientific and technological achievements) into a new or improved product, introduced in the market in new or improved technological process used in practice or in a new approach to social services	
V. G. Sidorenko [275]; S. .A Makina and E. N. Maximov[276];	Consideration of innovative activity at three levels - macro level (the country), meso (region), micro level (enterprise). Organization - a comprehensive description of its innovative activities, including a number of indicators; readiness of the organization to update the main elements of the innovation system - personnel, technological equipment, information and communication conditions, innovative marketing. The set of attributes that reflect management relations arising on the development and implementation of innovative projects between the main actors of innovation	At each level of its factors: Micro level: Susceptibility to innovation, degree of intensity of the action undertaken to transform the innovation ability to mobilize the resource potential of the organization is able to provide a rationale for the organizational methods Resource-cost approach, expert approach - a "black box" [277] , the evaluation of the potential of innovations, graphical way

[275] Sidorenko V. G. Sovershenstvovanie upravlenija innovacionnoj aktivnost'ju organizacij v rossijskoj jekonomike: dissertacija ... kandidata jekonomicheskih nauk: 08.00.05. - Moskva, 2008. - p. 17

[276] Makina S.A., Maksimova E.N. Analiz faktorov, vlijajushhih na innovacionnuju aktivnost' rossijskih predprijatij // Audit i finansovyj analiz. - 2010. - №5. -p. 368-372.

[277] Barancheev V.P. Izmerenie innovacionnoj aktivnosti kompanii kak ee konkurentnoj sily // Menedzhment segodnja. - 2005. - №4. - p.17-21.

	management (organization innovators, input suppliers, customers, competitors, government agencies).	
V. P. Barancheev, R. A. Fatkhutdinov A. V. Baryshev[278]	A comprehensive description of its innovative activities, including the degree of intensity of the action undertaken and their timeliness, ability to mobilize the necessary capacity, including its hidden part, the validity of the methods used and the progressive, rational technology innovation process on the composition and sequence of operations	Listed in the definition of indicators The intensity of the innovation The rate of implementation of innovations. Innovative susceptibility. Availability of resources. The quality of communication and innovation. The level of competence
I. G. Kukukina, I. A. Vasilyev	Economic category, characterized by an intense and effective innovation that arises from the need to improve production efficiency, and is based on a high level of susceptibility to innovation, mobilization of company innovation and investment potential. The proposed formula	The level of investment Effectiveness in relation to reliability and safety Intellectual property Marked signs of innovation active enterprises and strategies
L. A. Malyshev, I. V. Shestakov [279]	The analysis of the approaches of different authors; the author's definition is not given.	Innovative sensitivity Provision of resources Measures of legislative impact of barriers Productivity of innovation

[278] Fathutdinov R.A. Innovacionnyj menedzhment: ucheb. dlja vuzov. - 5-e izd. - SPb.: Piter, 2006. - p. 247

[279] Malysheva L.A., Shestakov I.V. Analiz podhodov k ocenke innovacionnoj aktivnosti rossijskih predprijatij // Vestnik PNIPU. Social'no-jekonomicheskie nauki. - 2012. - № 14 (38). - p. 101-111.

Anthony et al.[280], Consulting firm «Boston Consulting Group»	No definition	1) Factors of production: Financial resources allocated for innovation. Human resources involved in innovative activities. Dedicated resources for innovation in non-core business. The time that senior management devotes to the development of new directions. The number of patents. 2) Processes and Control: Speed processes. The scale of the process of generating ideas. Balance innovative portfolio. Current growth gap. Some processes, machines and systems for the measurement of different types of options. 3) Results Number of new products and services brought to the market. The percentage of revenue, profit from new products and from new customers return on investment.
Zorin D.S	Activities characterized achievement dictated demand increments novelty of technical and technological, economic, organizational, managerial, social, psychological and other indicators of goods and services produced in a given time. Formula of coefficient of innovation activity is proposed	Degree increments novelty of technical and technological, economic, organizational, managerial, social and psychological indicators of goods and services
Kapreeva E. G.[281]	The set of innovative potential, innovative susceptibility, innovative performance. Object - region	20 indicators, 8 groups
Nikolskaya A. A.	A comprehensive description of the use of the innovation potential in relation to the specific characteristics of universities, which	Four blocks of indicators, comprising 13 indicators to assess innovative activity: 1) Personnel: the share of researchers in the composition of the entire staff, the proportion of young scientists, the share of researchers, improve their skills;

[280] Jentoni S. Rukovodstvo innovatora: kak vyjti na novyh potrebitelej za schet uproshhenija i udeshevlenija produkta: per. s angl. / S. Jentoni, M. Dzhonson, Dzh. Sinfild, Je. Oltman. - M.: Al'pina Pablisherz; Jurajt, 2011. - p. 306

[281] Kapreeva E.G. Upravlenie innovacionnoj aktivnost'ju na mezourovne: na primere Saratovskoj oblasti : dis. ... kandidata jekonomicheskih nauk : 08.00.05. - Saratov, 2012. - 182 p.

	differs from the existing points of view into account the interaction of the basic elements of the innovation infrastructure (personnel, financial, information, material, consultancy), as well as the purpose, achievement of competitive advantage in the market of educational services.	2) Science: publication activity, the level of testing research, scientific activity of students; 3) Financial: utilization of earmarked funding, the coefficient of additional funding, the share of income from research and development, financial support to young scientists; 4) Scoring: patenting activity, the degree of commercialization, the development of innovative infrastructure
T. Kolosov, I. Paradeeva [282]	Self-category, with its help to evaluate the nature of innovation.	- The quality of the innovation strategy of competition; - The level of mobilization of the innovation potential; - The level of borrowed capital - investments; - Techniques, culture, landmarks used for innovative changes; - The validity of the level of innovation activity implemented; - Compliance with the competitive nature of the reaction of the enterprise strategic situation; - Speed (tempo) development of innovative strategies
Tovstih L. E.[283], A. E. Kolosov[284]	The intensity of innovation, the dynamics of action to create innovative products and their commercialization. Symbiosis component associated with intellectual resources, ie the ability to generate ideas innovations to transform innovative ideas into the final product, with the introduction of them into production and the successful implementation of the market, as well as to the	Intellectuality - scientific perspective, the presence of intellectuality results. Innovative - the company's ability to operate stably in an unstable environment. Innovation - the ability to turn an intellectual product in innovation, striving for leadership in innovation.

[282] Kolosova T.V., Paradeeva I.N. Formirovanie strategii innovacionnoj aktivnosti malyh predprijatij // Strategicheskoe upravlenie predprijatijami, organizacijami i regionami: sb. statej VI Vserossijskoj nauchno-prakticheskoj konferencii (Aprel' 2012 g.). - Penza: RIO PGSHA, 2012. - 200 p.

[283] Tovstyh L.E. Novaja innovacionnaja sfera v jekonomike tret'ego tysjacheletija i novye zadachi // Innovacii. - 2003. - №6. - p. 39-45.

[284] Kolosov A.E. Stimulirovanie innovacionnoj aktivnosti predprijatija za schet razvitija ego chelovecheskogo kapitala : dis. ... kand. jekon. nauk : 08.00.05. - N.Novgorod, 2012. - 126 p.

	lack of resistance from the workers of innovation, their interest in change.	
A. Y. Reutov [285]	The dynamic characteristic of the innovation on the basis of the resource potential of the organization.	Three blocks of indicators - resource, Scoring, statistical. Three blocks include 43 indicators. 1. esource 1.1. Quality: innovative receptivity (receptive to information about innovations, to the best practices for innovation, the level of employee motivation), provision of technical and technological and information resources (technological and methodical equipment of the organization's staff, security staff knowledge and information, technical equipment of the organization)quality of organizational processes and communication of employees (level of information and communication technologies, optimal organizational structure, the quality of corporate culture, the efficiency of the innovation process) 1.2. Quantitative: securing funding (R & D costs for training employees for the purchase of modern equipment for the acquisition of licenses, patents, know-how, for the acquisition of innovative firms) to ensure human resources (number of man-hours spent on innovation) 2. Scoring: innovative competence (timely delivered innovative products, quality of delivered innovative products, the level of competence of the organization), the dynamics of the innovation process (the length of time since the creation of demand to commercialization, processing development, production of a new product, the duration of the production cycle), performance renewability (number of R & D, patents, acquired by innovations, the introduction of innovations, sales of new products), economic benefit (revenue growth of the organization, reducing costs, increasing the value of the assets), social impact (improving the conditions and nature of work, social security, psychological climate), environmental impact (reduction the load on the environment, the neutralization of technogenic effect), scientific and technical effect (the level of originality acquired knowledge, the ability to use the obtained knowledge outside the organization), management effects(Improvement of the organizational structure, improve the style of decision-making).

[285] Reutov A.Ju. Razrabotka kompleksnoj ocenki innovacionnoj aktivnosti organizacii // Upravlenie jekonomicheskimi sistemami. - 2011. - №10 (34) [Electronic resource]. - Rezhim dostupa: URL http://uecs.ru/uecs-34-342011/item/727-2011-10-28-08-54-34

		3. Statistical unit: the presence of completed innovations the involvement of the organization in the development of innovation
J. A. Ermkova, V. V. Svechnikova	Characteristics of dynamism, energy innovation and economic systems, estimated by the speed and volume of the creation, promotion and use of innovation in economic activity	Number of implemented inventions, models, industrial designs, technical innovations. Capital expenditures on R & D. Innovative growth factor. Ratio of development of new products. The share of personnel employed in R & D. The index of capital productivity MPF. The index date MPF
G. Tuhvatullina, N. V.Bahtizina	Definitions are not given	Given the size of the enterprise: - The proportion of the number of employees of research units; - The share of extra-budgetary financing costs of technological innovation; - The share of innovation costs of total goods shipped; - The number of the most significant innovations in the organization over the past 3 years; - The proportion of the volume of innovation products; - The number of applications for patents; - Return on innovation
N. A. Kuzmin	Characteristics of dynamic innovation in industrial production, estimated by the speed and volume of the creation, promotion and use of innovation in business. One of the characteristics of innovation development. It is calculated as the average of a number of indicators, with the weighting factors.	The increase in production of innovative products. The share of innovation-active organizations activities. The proportion of exported and imported technologies. The share of innovative products and services.
O. M. Belousova	The management category that is used to assess the nature of innovation	1. Quality innovation strategy. 2. Level mobilizing the innovation potential. 3. Level of capital investment- attracted investment. 4. Methods, culture, landmarks, used in making innovative changes. The main thing - is to use innovation concepts and methods to obtain a real competitive advantage. 5. Validity of realized level of innovation activity. 6. Compliance with the nature of the competitive reaction of the company's strategic situation. 7. Speed (Tempo) design and implementation of innovative strategies. This refers to the intensity of the action for the creation and promotion of innovation, for strategic innovative changes.

Rebyazina V. A., Kusch S. P., Krasnikov A. V., Smirnova	Definitions are not given. Technique "Innovation Radar", developed by Sawhney M. et al.	Improving the supply (new product), the technological base (technological innovation), innovation in the external environment of the company (partnership)
Agabeyov S. and E. Levine	Definitions are not given	The willingness of economic agents to risk an innovative project; quality of staff; the number of certified specialists; predominant types of organizational structures; motivation.

Appendix 4

Approaches to the subsystem performance marketing

№	Authors	Method of assessment/approach	Proposed indicators
1	Kotler F., Armstrong G., Sonders Dzh., Vong V. Basics of marketing[286]	Marketing control The process of quantification and analysis of the results of marketing activities	- Volume of sales - Profit - The profitability of products, markets, territories, distribution channels - Market share
2	Assel' G. Marketing: Principles and strategy[287]	evaluation at the level of the product and the company business unit	- Profit: profit margins, return on investment, net profit - Volume of sales - Market share
3	S. Gupta, D. Lehmann, "Gold" customers. Are the clients of the money that you spend on them?	Customer-oriented approach The relationship between the value of the customer and business value The relationship between financial performance and marketing The division of indicators focused on the buyer (awareness, communication, attitude, trial, usage, loyalty, recommendations, satisfaction) and focused on the company (the cost of the buyer, a source of attraction, maintenance and expansion of the client, the cost of attracting and retaining customers)	- Lifetime yield buyer - The profitability of the buyer - The cost of attracting a buyer - The cost of the buyer, the buyer profits from - Customer retention rate
4	Rust R. Ambler, T., G. Carpenter, B. Kumar, R. Srivastava Measuring Performance marketing: current knowledge and future directions	Cost Approach The impact of marketing costs for the firm position in the market. Effect of non-financial indicators to changes in the marketing of financial condition Chain Performance Marketing	- The quality of the brand, brand equity - Customer satisfaction - Client capital
5	Paul W. Farris, Neil T. Bendl, Philip J. Pfeiffer, J. David. Reybshteyn.	Using a system of marketing performance Establishing the relationship between marketing and financial indicators,	50 indicators of marketing covered in 9 groups: - Product management and portfolio - Customer profitability - Management of sales channels and

[286] Kotler F., Armstrong G., Sonders Dzh., Vong V. Osnovy marketinga. - 2-e evrop. Izd. - M.; SPb.; K.; Izdatel'skij dom «Vil'jams», 2003. - 944 p. , p. 139

[287] Assel' G. Marketing: Principy i strategija: ucheb. dlja vuzov. - M.: INFRA-M, 1999. - p. 717

	Market indices. More than 50 indicators that are important to know each manager. - Dnepropetrovsk [288]	justification of the need to rely not only qualitative but also quantitative Marketing - in the center of the organization	sales force - Pricing strategy - Sales promotion - Media and Web performance - Marketing and Finance - Margin and earnings - The market - consumers and Share
6	Kaplan, R., Norton D. Balanced Scorecard. From strategy to action [289]	Establishing a relationship strategy with the system of strategic indicators Distribution of performance in four components, two of which are associated with marketing - customer, internal business processes	- Expansion of the customer base - Customer retention - Customer satisfaction - Customer profitability - Market share - The share of new products
7	Best R. from the consumer Marketing [290]	Orientation of the business to the market and consumers. The impact of marketing on the company's financial results.	- Customer satisfaction - Net income from marketing - Marketing costs - Marketing ROI - Marketing return on sales - An index of consumer loyalty - Market potential - Market share, the potential market share - Competitiveness - Brand value - The profitability of marketing channels - Flexibility and effectiveness of advertising - The effectiveness of marketing strategies - An index of market appeal
8	Seth D., R. Sisodia Problems and marketing productivity analysis [291]	The introduction of the concept of "productive efficiency" - giving companies and consumers more value at a lower cost. A clear customer focus Marketing Database Marketing as an investment The problem of determining and accounting for marketing costs	- Performance Marketing Marketing - produktivnost - Client capital - Investment in marketing - Customer satisfaction

[288] Marketingovye pokazateli. Bolee 50 pokazatelej, kotorye vazhno znat' kazhdomu rukovoditelju / Pol' U. Fjerris, Nejl T. Bendl, Filipp I. Pfajfer, Djevid Dzh. Rejbshtejn. - Dnepropetrovsk: Balans Biznes Buks, 2009.

[289] Kaplan R.S., Norton D.P. Sbalansirovannaja sistema pokazatelej. Ot strategii k dejstviju: per. s angl. - 2-e izd., ispr. i dop. - M.: Olimp-Biznes, 2003. -320 p.

[290] Best R. Marketing ot potrebitelja. - M.: Mann, Ivanov i Ferber, 2008

[291] Shet D., Sisodia R. Problemy i analiz produktivnosti marketinga//Rossijskij zhurnal menedzhmenta. - Tom 5, №2, 2007, p. 91-116

9	M. MacDonald Measuring marketing effectiveness. Improving the reporting of expenditures [292]	Valuable marketing approach Marketing as a process Three levels of performance measurement Allocation of financial and marketing performance The calculation of the risks and their correlation with the results of marketing Model performance marketing	- market growth - Sales growth - Market share - Customer retention - New Customers - The proportion of unsatisfied customers - The relative quality of the product - The service quality - The relative amount of sales of a new product - The effectiveness of the work on the commodity segment of the market
10	Consulting company Bitek - Business engineering technology	The system of key performance indicators of the company as a whole Selecting the group "Customers and Products" Analogue approach Norton-Kaplan	- increase revenue per customer - Expansion of the range - Increase customer satisfaction - An increase in the power of customers - Regional Development - The degree of increase in the company's brand strength
11	Preisner A. Balanced Scorecard in marketing and sales [293]	The system of key performance indicators of marketing and sales. Application of the theory of Balanced Scorecard developed by Robert Kaplan and David Norton Isolation of the seven groups of indicators, only 81 index	Groups of indicators: - Costs and Benefits (product profitability, profitability, earnings per unit of output, and so forth.) - Performance (market share, the share of claims and so forth.) - Sales and Distribution (percentage of transactions, the share of new customers, the effectiveness of customer visits and so forth.) - Logistics (timely implementation of the commitments, the turnover of stocks and so forth.) - Customers (profit from a customer turnover rate of customers, the frequency of purchases and so forth.) - Information and innovation (the knowledge of customers, the ability to innovate, the intensity of innovation, etc.). - Sales Partner (trading margin relative obligations of trading partners and so forth.)
12	J. Davis. A practical guide to measuring the	The need for introduction of a number of indicators, taking into account the different marketing approaches, the stage	103 indicators, grouped into three groups: 1) Marketing Planning and customers (objectives, projections, market

[292] Makdonal'd M. Izmerenie jeffektivnosti marketinga. Sovershenstvovanie otchetnosti o rashodah // Marketing i marketingovye issledovanija. - 2012. - №3. - p. 182 - 201

[293] Prajsner A. Sbalansirovannaja sistema pokazatelej v marketinge i sbyte. - M.: «Izdatel'skij dom «Grebennikov», 2009. - 308 p.

	effectiveness of marketing [294]	of the life cycle, growing audience.	segments and customers) 2) Trade offer (new products, price, advertising, promotions, direct marketing, internet marketing, brands, retail sales) 3) The sales staff (number of sellers, sellers quota, deviation analysis by sales, compensation for sales staff) In each of these subgroups is considered a set of indicators. So, a group of "markets" are market growth, market share, etc..
13	Ojner O. K. Marketing Performance Management [295]	Investment character of marketing, performance marketing. The logic of the productivity of marketing: "factors - marketing activities - marketing results -Results financial - business results." Consideration of the theoretical foundations of marketing performance, classification parameters, the system performance.	- Client performance - Client capital - A certain set of parameters depending on the type of company, stage of life cycle, market situation
14	Jeffrey M.		15 indicators of marketing: - Brand awareness - Consumers who have tried the product before purchase - The level of churn - The level of satisfaction - The dynamics of attraction - profit - The net present value - Internal Rate of Return - Payback period - Lifetime customer value - The cost of a single click - Conversion rate - Return on investment in advertising - The number of failures - Marketing "word of mouth"

[294] Djevis Dzh. Prakticheskoe rukovodstvo po izmereniju jeffektivnosti marketinga // Marketing i marketingovye issledovanija. - 2009. - №4 (82). - p. 321

[295] Ojner O.K. Upravlenie rezul'tativnost'ju marketinga: ucheb. dlja magistrov / O.K. Ojner. - M.: Jurajt, 2013. - 343 p. - (Magistr).

Appendix 5

Gazelles companies in different sectors

Sector	The number of companies on the list of "gazelles" of 2015-2020.	The number of companies in the ranking of "gazelles" of 2015-2020.	Share, ("gazelles" 2015-2020.)	Share ("gazelles" 2015-2020)% from total
Wholesale	79	19	15,2%	15,1 %
Construction	68	19	13,1%	15,3%
Mechanical engineering	39	4	7,5%	3,2%
Trade of cars and car service	39		7,5%	
Production of building materials	36	2	6,9%	1,6%
Retail	36	8	6,9%	6,5%
Delivery of equipment	33	9	6,3%	7,1%
Food processing industry	27	14	5,2%	11,1%
Metal trading	19	1	3,6%	0,8%
Trade of fuels and lubricants	17		3,3%	
Transport and Logistics	16	2	3,1%	1,6%
Nefteservice	15	6	2,9%	4,8%
IT, Internet & Communications	13	7	2,5%	5,6%
Pharmaceuticals, including trafficking in drugs	12	15	2,3%	11,9%
Multidisciplinary business	10	1	1,9%	0,8%
Agriculture business	8	5	1,5%	4,0%
Engineering	6		1,2%	
Lising	6	2	1,2%	1,6%
Furniture manufacturing	6	1	1,2%	0,8%
Chemical industry	5		1,0%	
Media and Entertainment	4	1	0,8%	0,8%
Perfume and cosmetic industry and the production of hygiene	4	3	0,8%	2,4%
Consalting	3		0,6%	
Packaging	3	1	0,6%	0,8
Services for collection and disposal of household waste	3		0,6%	
Hotels and tourism	2		0,4%	
Timber industry complex	2		0,4%	
Consumer goods	2		0,4%	
Jewellery Industry	2	1	0,4%	0,8
Banking	1		0,2%	
Secutiry	1		0,2%	
Medical services	1		0,2%	
Oil and gas industry	1	1	0,2%	0,8
catering	1		0,2%	
Typographic business	1		0,2%	
Mining and quarrying	0	1	0,0%	0,8%
Power industry	0	1	0,0%	0,8%

KURPAYANIDI KONSTANTIN IVANOVICH
MAMUROV DONIYOR ELDOROVICH

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edited by
Doctor of Economics professor M.A. Ikramov

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“Al – Ferganus” nashriyoti
Farg‘ona sh., Aeroport ko‘chasi
“Poligraf servis” MChJ bosmaxonasida chop etildi
Farg’ona shahar, Aviasozlar, 6.
alferganus.ltd@gmail.com