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Yuliia Horiashchenko,

Doctor of Sciences (Economics), Professor, Professor of the Department
of Entrepreneurship and Economy of Enterprise, University of Customs and Finance,
Dnipro (Ukraine)

<https://orcid.org/0000-0001-7020-1412>

HETERARCHICAL MANAGEMENT SYSTEM FOR INNOVATIVE DEVELOPMENT OF SMALL AND MEDIUM-SIZED ENTERPRISES

In times of unprecedented upheavals for Ukraine – devastating destruction of infrastructure, impossibility of strategizing due to uncertainty, falling demand, a colossal shortage of working capital, loss of highly specialized specialists, and significant destruction of logistics chains – the problems of management and regulation of small and medium-sized businesses acquire a constitutive nature. The split in public administration in the field of innovation activity against the backdrop of war, distrust of state institutions, corruption, and the economic weakness of the country further makes it impossible to ensure its main functions – planning, organization, analysis, and control. As a result, a large number of strategies for the development of high-quality content at all levels of management remain unrealized, leaving documents with unsatisfactory results of statistical observation of socio-economic phenomena and processes and an unimpressive comparative characterization of the main economic indicators in relation to successful countries. The ability for innovative development consists in the search for new management methods, progressive technical and scientific ideas of the latest technologies, and the continuous development of personnel competencies even in conditions of martial law, since a number of unique features of innovations make their management different from the management of other spheres of human activity. Among the main such features are: constant change in the content and types of innovative work and performers, the short-term nature of work on the creation and implementation of innovations, the complexity of establishing criteria and indicators for evaluating innovations, etc. The methodological basis of the study includes the methods of specific and abstract comparative characteristics, monitoring of the mass media, benchmarking, methods of modern technology Data Mining, and the method of conjunctural reviews and forecasts. The article presents the methodological basis for the formation of an organizational and motivational mechanism for the innovative development of enterprises, which is the basis of the heterarchical system of management of the innovative development of small and medium-sized businesses. The results of this study will be useful to everyone who studies the problematic issues of regulating and managing innovative development and adapting innovation strategies for small and medium-sized businesses in unpredictable circumstances.

Keywords: *innovative development, management, small and medium-sized enterprises, system, model, mechanism*

JEL classification: *M21, O14, O31*

У час неспівітних для України потрясінь – нищівного руйнування інфраструктури, неможливості стратегування через невизначеність, падіння попиту, колосальний брак оборотних коштів, втрати вузькоспеціалізованих фахівців, істотного руйнування логістичних ланцюгів – проблеми управління і регулювання малого та середнього підприємництва набувають конститутивного характеру. Розколина державного управління у сфері інноваційної діяльності на тлі війни, недовіри до державних інституцій, корупції та економічної слабкості країни,

надалі унеможливилює якісне забезпечення основних його функцій – планування, організації, аналізу і контролю. Як наслідок, велика кількість стратегій розвитку високоякісного змісту на всіх рівнях управління залишаються нереалізованими, документами з незадовільними результатами статистичного спостереження соціально-економічних явищ і процесів та непоказною порівняльною характеристикою основних економічних показників стосовно успішних країн. Здатність до інноваційного розвитку полягає у пошуку нових управлінських методів, прогресивних технічних й наукових ідей новітніх технологій, безперервного розвитку компетенцій персоналу навіть в умовах воєнного стану, оскільки цілий ряд унікальних особливостей інновацій робить управління ними відмінним від керівництва іншими сферами людської діяльності. Серед основних таких особливостей: постійна зміна змісту і видів інноваційних робіт й виконавців, короткочасний характер робіт зі створення й впровадження інновацій, складність установа критеріїв та показників оцінки інновацій і т.ін. Методичною основою дослідження є методи конкретних та абстрактних порівняльних характеристик, моніторинг засобів масової інформації, бенчмаркінг, методи сучасної технології Data mining, метод кон'юнктурних оглядів і прогнозів. У статті представлено методологічний базис формування організаційно-мотиваційного механізму інноваційного розвитку підприємств, який є підґрунтям гетерархічної системи управління інноваційним розвитком малого і середнього підприємництва. Результати даного дослідження будуть корисні всім, хто вивчає проблемні питання регулювання та управління інноваційним розвитком і адаптації інноваційних стратегій для малого та середнього підприємництва в умовах непередбачуваних обставин.

Ключові слова: *інноваційний розвиток, управління, мале та середнє підприємництво, система, модель, механізм*

JEL classification: *M21, O14, O31*

Introduction

Deep destructive megatrends in the economic and social life of Ukraine have had a significant impact on the curtailment of innovative activity of enterprises. The problematic issues of internal management, strategizing, and innovativeness of economic processes have given way to issues of relocation and scaling abroad, reconstruction, and survival.

The author's theoretical material and methodological approaches are based on the theory of management, strategic, production, and innovation management, as well as on a critical generalization of the results of research on the innovative development of entrepreneurship in the managerial aspect, reflected in the works of many scientists, including D. Aaker, R. Ackoff, S. Bondarenko, V. Heiets, P. Hrynko, P. Drucker, K. Drury, I. Yepifanova, R. Kalman, L. Fedulova, N. Chukhrai, and others. A number of authors have expanded the methodology and tools for managing the innovative development of enterprises – B. Twiss, R. Summers, R. Muller, D. Horovyi, T. Hrynko, V. Zakharchenko, S. Iliashenko, and L. Maliuta. However, despite the

significant number of studies devoted to the problem of managing the innovative development of enterprises, in modern conditions they still require updating.

The purpose of the study is to present a system of intersecting, diverse, and coexisting structures for managing the innovative development of enterprises, which, in conditions of multivariate tasks and total uncertainty, are able to provide a synergistic effect in the form of a high innovative effect.

Discussions and conclusions

I. Management of innovative development of enterprises: concept and mechanisms

Interdependent innovation process management systems – exogenous (a component of the national economy management system, which indirectly stimulates the development of innovation processes) and endogenous (which directly manages innovation processes at enterprises) – determine the success of modern enterprises even in the absence of stability and sustainability. At the same time, innovation management is a business process that can be formalized and integrated into the enterprise

management model, introducing innovative practices to develop creativity, flexibility, and openness to external influence [1].

A feature of the functioning of modern entrepreneurship is the isolation of new subjects and objects of entrepreneurial activity – respectively, leaders of innovation platforms and, in fact, the platforms themselves. An example of an innovation platform is the iPhone (Apple plays the role of a leader and offers its partners a platform for value creation (iPod/iPad/iPhone) and a platform (iTunes) for value appropriation) [2]. Innovation platforms in the modern innovation ecosystem are a model of highly effective entrepreneurship with a high level of marketing, knowledge, skills, and innovation.

The principles of the functioning of the system of management of innovative development of business entities, according to S. Illiashenko, include the principle of adaptability (balance of external opportunities and internal strengths), dynamism, self-organization (self-support of resource exchange), self-regulation, and self-development (ensuring the conditions for the survival and development of the enterprise based on innovations) [3]. The object of innovation management is the innovation process; therefore, it is extremely important to determine the principles of innovation process management, to which the scientist G. Chesbrough [4] refers: the principle of interaction (cooperation with employees outside the enterprise, which can reduce the share of losses of unused ideas), the principle of attracting external innovations at the same level as using internal innovations, the principle of cooperation, the principle of modeling a perfect business model, the principle of optimizing external and internal ideas, and the principle of profitability from existing intellectual property [4]. Scientists V. Zakharchenko, S. Filyppova, and O. Balakhonova distinguish general and specific principles of innovation process management. The latter include the principles of flexibility, taking into account the time factor, complexity, taking into account the uncertainty of innovative

work, and taking into account the creative nature of innovative work. Scientists S. Kniaz, V. Matsuk, and M. Kurt Mainka developed a set of principles for managing the innovative development of enterprises using a system-functional approach [5], distinguishing principles that are oriented toward the management process (principles of systematicity, dynamism, rationality, functionality, and scientific validity); principles that are oriented toward the object of management (principles of creativity, parametricity, flexibility, and permanence of monitoring); and principles that are oriented toward adaptation to external conditions (adaptability and informativeness). The scientist I. Pavlenko includes the principles of efficiency, flexibility, timeliness, continuity, consistency, the most complete consideration of the interests of the subjects of innovative entrepreneurship, and irreversibility among the principles of innovative entrepreneurship [6].

On the other hand, compliance with all these principles turns out to be a difficult task for any enterprise since, firstly, the defined principles correspond to an already well-established mechanism of market relations, and secondly, they are somewhat idealized theoretically.

These principles are used in innovative solutions. Collective intelligence nowadays produces clear algorithms for finding innovative solutions, driven by necessity, time requirements, and constantly recurring crises. According to Everett M. Rogers's theory of the diffusion of innovations, three types of innovative decisions are identified:

- optional innovative decision – such a decision is made by an individual who differs from other individuals in the social system;
- collective innovative decision – a decision made collectively by the entire group of the social system;
- authority innovation decision – unlike the previous ones, it is made not by the social system but by a group of individuals who have influence or power [7].

So, currently, mainly authoritative innovative solutions are being broadcast; in some cases, there is pressure on voluntary

innovative solutions, motivated by the requirements of the present and the inevitable stage of digitalization. We believe that innovative solutions should have a natural character, an analytical component, a high level of information support, justification, voluntariness, and partnership. Bureaucracy violates the so-called “triangle of interests”: “government–business–society” and inevitably leads to problems in innovative activity.

Thus, the principles of innovative development management should include the principle of analytical support for management decisions, the principle of justification (expediency), the principle of openness, the principle of accessibility, the principle of generativity, the principle of rationality (adaptability), the principle of complexity (a comprehensive approach based on indicators of various intersecting economic spheres), the principle of voluntariness, the principle of purposefulness, the principle of continuity of the innovation process, the principle of innovation efficiency, the principle of partnership among all participants in the innovation process, and the principle of equality of innovation opportunities.

The methods of managing the innovation process and innovative development are identical and include: administrative, financial and economic, organizational and planning, and socio-psychological [1, p. 22]. In today’s time-constrained and hyper-information environment, it is important to use convenient methods and models of innovation process management, quickly visualizing business models of enterprises. An effective tool that identifies weaknesses and strengths, prospects and opportunities, and presents plans and/or “road maps” is the business model canvas. Widely used among small and medium-sized enterprises are Lean Canvas (Steve Blank) and the business model of A. Osterwalder and Y. Pigneur. An important position of the first template for building a business model, in contrast to the second, is the advantage of resources over KPIs, partners over problems and alternatives, and customer relationships over competitive advantage. The main segments

of the Lean Canvas model can be represented by the following stages:

- analysis of the client segment (target audience of the product), where the strategy is chosen – B2B, B2C, or any other; consumers (users or clients) are divided into innovators and early adopters;

- identification of the problem and existing alternatives;

- analysis of income sources (choosing a monetization model, calculating the cost and value of a product or service). Nowadays, new trends in economic management should be taken into account, in particular, focusing management efforts on value-based management;

- development of a solution map taking into account key opportunities;

- identifying a unique value proposition that distinguishes the company from its competitors;

- establishing offline/online communication channels with customers;

- selection of key metrics by which the success of the enterprise is measured;

- assessment of fixed, variable, and opportunity costs;

- identifying “unfair” advantages such as professional specialists, insider information, the presence of patents, etc.

Both models are widely used in the world and are definitely recommended for use in Ukrainian small and medium-sized businesses, the key challenges for which today are: lack of working capital, destruction of logistics chains, outflow of productive human resources, increase in costs (utility payments, raw materials), inability to forecast or strategize due to uncertainty, and a drop in demand (loss of sales markets) [8]. All of the above indicators are defined as unsatisfactory; their values vary greatly from the normative level, reaching critical levels. Thus, in the first year of the war, the lack of working capital in SMEs amounted to 44%, which represents a near-total loss of business liquidity. However, in the second year of the war, the situation improved somewhat, and this indicator averaged 29%. Business support programs during the war (the State Business Relocation Program, affordable factoring,

affordable loans, affordable financial leasing, and some promotion of transparency in public procurement) have paid off. With international support, the business sector survived. But perhaps the biggest shock for it was the drop in demand/loss of sales markets (in the first and second years of the war, 77% and 57%, respectively). The full-scale invasion resulted in significant disruption of logistics chains (52% in the first and 33% in the second year of the war). The improvement of the indicator is due to the preservation of export supplies as much as possible and their support, the change of logistics channels for export and import, and the slow restoration of production capacities. Unfortunately, it is almost impossible to replace sea supply routes, as well as to use air routes at the moment. In 2025, the cost of railway transportation increased significantly, which again affected the restructuring of logistics.

The most painful issue was and remains the loss or inability to find highly specialized specialists in the labour market. It should be noted that in the first year of the war this figure was 27%, but in the second year it increased significantly – to 44%, which indicates the ineffectiveness of government programs. Among adult refugees, the share of Ukrainian women is about 70%. The outflow of human capital (by 2023, 25% of scientific human capital had left the country) affected the deterioration of Ukraine's position in the Talent Competitiveness Index (64th out of 133 countries).

The growth of fixed costs amounted to 70% and 53%, respectively, in the first and second years of the war. In addition, experts noted the impossibility of forecasting (strategizing) due to uncertainty (68% and 55%), since it is extremely undesirable and difficult to restore business in chaotic conditions.

In 2022, 57% of SMEs were fully operational, and in 2023, 85%. It is estimated that 6% of SMEs temporarily ceased operations in the first year of the war, and 1% in the second. It is important to maintain this positive momentum, especially in difficult conditions of change: an increase in the military levy from 1.5% to 5% and a number of other taxes and fees [8].

The 2024–2027 strategies (restoration and facilitation of entrepreneurship, innovative, digital and green transformation, human capital and entrepreneurial culture, competitiveness, and increased exports), according to experts, have the potential to provide high indicators. In particular, in 2027, the “Freedom to Do Business” indicator in the Index of Economic Freedom should increase to 75 (currently it is 61), and the science intensity of gross domestic product will increase to 0.7% (0.3% in 2022 and 0.5% in 2019 in Ukraine, compared to 1.8% in the USA). The unemployment rate, according to experts, should decrease from 18% to 11%. It is extremely important that this indicator does not lose accuracy and remains reliable. Finally, the number of exporters among SMEs should increase from 27,300 in 2021 to 35,000 or more in 2027.

We note a very optimistic scenario for the recovery, sustainable development, and digital transformation of SMEs. Ultimately, Ukraine has an optimistic scenario for digital innovation development, as stated in the Digital Innovation Development Strategy until 2030 approved by the government, which aims to open markets for new technologies and innovative products, build and support a modern innovation infrastructure, simplify regulations in the field of innovation, ensure access to financing for startups and businesses, develop human capital, train and retrain specialists, protect intellectual property rights, support knowledge-intensive and inclusive innovations, effectively manage state institutions in the field of innovation, create centers of excellence (WinWin CoE) for each of the key industries, strengthen international cooperation for access to new markets and technology transfer, and so on. For example, the success of the single portal of public services “Diia” is sought to be adopted by Slovakia, Bulgaria, Moldova, and other countries. Thanks to the powerful potential of the IT industry and innovative projects similar to those implemented in Diia, Ukraine has a chance to become a leading state in the field of technology and innovation, as stated in the strategy. However, there are significant obstacles

to this goal – a low share of gross capital accumulation relative to GDP; a drop in the ranking according to the Global Innovation Index from 49th place in 2021 to 60th in 2024 (among 133 countries); a reduction in exports of high-tech products, which even before the full-scale war accounted for only 5% of all exports of industrial goods; migration of 5.6–6.7 million Ukrainians as of 2023, according to estimates by the Center for Economic Strategy (1.3–3.3 million people may not return, as a result of which additional GDP losses each year may amount to 2.7–6.9%); and damage or complete destruction of about 40% of the entire R&D infrastructure in the country [10].

Naturally, to achieve these goals, business leaders should strengthen management functions – planning, organization, motivation, and control. According to P. Drucker, “entrepreneurship in society primarily requires the application of basic concepts, basic skills, and management to solving new problems and exploiting new opportunities” [7, p. 37]. Progressive owners and managers of enterprises, building a vision and strategy for business development, prefer the innovative path of development over intensive and extensive ones. According to their development concept, the goal of doing business is to increase the income and value of the enterprise. Such managers choose a situational approach to management, which has proven itself well all over the world, as opposed to an administrative or systemic one, and create conditions for supporting the innovative spirit within the enterprise. At their enterprises, the share of employees performing mental labor exceeds the share of employees performing manual labor, or appropriate organizational work is constantly being carried out to increase the share of mental labor. A feature of following the innovative path of development is the push for constant changes and a rather sharp differentiation of consumer demands, which undoubtedly encourages a constant search for new ideas. In addition, the innovative path of development involves a mixed type of buyer’s and seller’s market. Although innovative goods and services are created

in order to “alleviate pain” and solve urgent problems for the consumer, they are still “imposed” by the manufacturer and the seller. The innovative path of development is dominated by a small-scale and unitary type of production, non-price competition, coverage of selective segments and niches of the market, and an excess of sales costs over production costs.

The principles of business planning are based on the classical principles of continuity, complexity, optimality, and scientificity.

Involving enterprises in the system of strategic management of innovative development creates a number of competitive advantages: market expansion (in the case of marketing and sales innovations), cost reduction (in the case of anti-crisis innovations), access to foreign markets (in the case of organizational and managerial innovations), and income growth (in the case of product innovations). Marketing (marketing-mix-related type innovations) and sales innovations include distribution policy, brand rebranding, image building, etc. Organizational and managerial innovations include the implementation of a quality management system, and anti-crisis innovations include the creation of separate centers of competence for innovation and digital technologies, corporate innovation centers, or a retail innovation center (or, for starters, marketing, logistics, and R&D departments).

Some large high-tech enterprises have a so-called “technological sandbox” – a platform for testing hypotheses, conducting pilots with startups, and implementing innovative solutions; a strategic analytics service that prepares analytical materials on innovative solutions for business and IT departments; and analytical (innovation) centers (sometimes several) that are engaged in the innovative development of enterprises, etc. [11]. The main goal of creating an innovation center (or its modifications) is to bring innovations to a single standard and distribute them among all departments of the enterprise. Modern managers should focus on open innovation. The practice of open innovation (creating a corporate business incubator within a corporate office) deserves special attention, as it can be applied in various

conditions. As an example, an enterprise can collect ideas on the Internet, offering a reward for them, or become a participant in a hackathon, receiving solutions to core tasks, etc.

At the planning stage, the main point of adaptive innovation management is to draw up a strategy implementation plan that determines its priority relative to other management functions.

Regarding the function of organization, the main modern trends in the organizational development of enterprises are: the desire for simplicity of the organizational structure, the reduction of hierarchical levels and the number of middle managers, the decentralization of management decision-making, the predominance of adaptive structures, and the formation of working and project groups.

Today's realities are such that, as before, most companies push innovation to meet the requirements of laws and regulators or to increase operational efficiency or PR. The main problems that managers face are the lack of a culture of innovation, insufficient support from top management and employees within the company, the lack of a common goal, insufficient resources for conducting innovation activities, loss of control over the organization of processes, a critical attitude from partners, the lack of a common understanding of what exactly constitutes innovation, the lack of cooperation and information exchange between development teams and other divisions of the company, the lack of creative knowledge, competitive intelligence and comparative analysis of technologies, and the lack of a motivation and reward system. Scientist S. Bondarenko compared traditional and innovative approaches to motivating enterprise personnel. Thus, the traditional approach does not assume a direct connection between the motivation of the enterprise's personnel and the implementation of its goals. Employees are not involved in the formation and management of the enterprise's corporate structure. The main motivator for employees is wages, the growth and size of which do not depend on performance and efficiency. The results of the enterprise are considered to be the sum of the results of the work of

each employee. Only a "vertical" career path is possible for all employees. Full or partial management and the adoption of management decisions by the head of the enterprise or the heads of departments are assumed.

According to the innovative congruity approach, the formation of a system of targeted motivation, an open remuneration system, and the linking of the social package to individual performance and efficiency indicators are envisaged. The role of teamwork is growing, during which employees are involved in negotiations, development, research, and the process of making managerial decisions. In addition to the "vertical career" from the bottom up, there is also a "horizontal" ("matrix") career path. Lifelong learning and the formation of ideas and views creating shared values (CSV) are envisaged [12].

Domestic small and medium-sized enterprises have only recently begun to develop corporate social responsibility: making useful products and services, donating funds to vulnerable segments of the population, and engaging in charity work within their budgets, and have immediately found themselves immersed in creating shared value (CSV) – creating jobs, innovative, economic, and social mechanisms, and integrating social value into the business model [13].

According to the results of a study on the implementation of innovations in enterprises, conducted by the consulting company KPMG, it was found that most enterprises do not have separate systems of financial and non-financial motivation for innovative activity: rewards are determined by formal criteria and are not compared with the effect of the implementation of innovations, while non-financial motivation is used episodically. Management leadership and employee involvement, as one of the main principles of quality management according to ISO 9001, as well as building a motivation and incentive system, should become the basis of the corporate strategy of any modern enterprise. In the era of digitalization, it should be remembered that not only information and innovation are the most valuable resources

today, but also employees, who are cross-functional resources under the conditions of a properly built management system. Thus, the theorist and practitioner of industrial and operations engineering J. K. Liker assured that “the success of a company is determined by the balance between two components: a culture that assumes and values continuous improvement of employees, and a technical system based on the principle of flow that effectively creates added value” [14].

Regarding the control function, according to the analytical study conducted by the consulting company KPMG, today the traditional system of management and control of innovative development at enterprises is unable to meet market conditions and encourage businesses to constantly generate ideas. Most enterprises are forced to protect their current market position through innovations or to drive innovations to meet the requirements of laws and regulators. In our opinion, innovation activity at a particular enterprise should be controlled by an innovation manager, who must be a high-class analyst capable of planning, organizing, inspiring, and controlling the creation of ideas and their conversion into successful projects in order to increase the economic efficiency of current enterprise processes, improve customer experience, and ensure scalability.

It would be advisable to conduct a survey and testing at the enterprise and further process the answers to the following questions:

- what are the goal, mission, vision, and corporate strategy of the enterprise?
- how many ideas are there in the company now?
- is there the presence of “internal startups” with risky ideas?
- is there an alternative profit model?
- is there a digital strategy in the company?
- what are the goals and requirements for the enterprise’s IT architecture?
- what is the level of digital literacy of the company’s employees?
- what is the benefit for each stakeholder of the enterprise from the activity?

The “final” function of control and analysis reveals the effectiveness

of innovative projects and innovative management solutions.

Thus, innovative development management is a continuous, complex process of qualitative changes in an enterprise based on innovation and the implementation of management functions.

State support for the development of small and medium-sized businesses is provided through the provision of educational, training, and consulting services, including the introduction of training in the basics of entrepreneurship, retraining and advanced training in the field of entrepreneurship, conducting educational seminars, trainings, forums, round tables, and conferences, financing business projects, etc.

II. Aggregation of the results of management of innovative development of enterprises in the form of an organizational and motivational mechanism and a heterarchical management system

Fig. 1 presents the organizational and motivational mechanism of innovative development of enterprises as a system of purposeful organizational and motivational interactions between innovative enterprises (innovation centers, technology parks, technopolises, innovative business incubators, innovatively active enterprises, enterprises engaged in innovative activities, and enterprises carrying out innovative activities) and other subjects of innovation policy capable of ensuring long-term economic growth during the implementation of innovative processes tailored to the needs of society, by implementing functions using a set of tools, methods, levers, principles, levels (environment), and strategies in order to achieve sustainable innovative development.

Since entrepreneurship is innovative in its essence, let us consider its core – small and medium-sized enterprises – as objects of innovative development management. Fig. 2 shows the system of management of innovative development of small and medium-sized enterprises, which demonstrates the multivariate nature of tasks, resources, and management decisions that form the potential of innovations and produce an innovative effect.

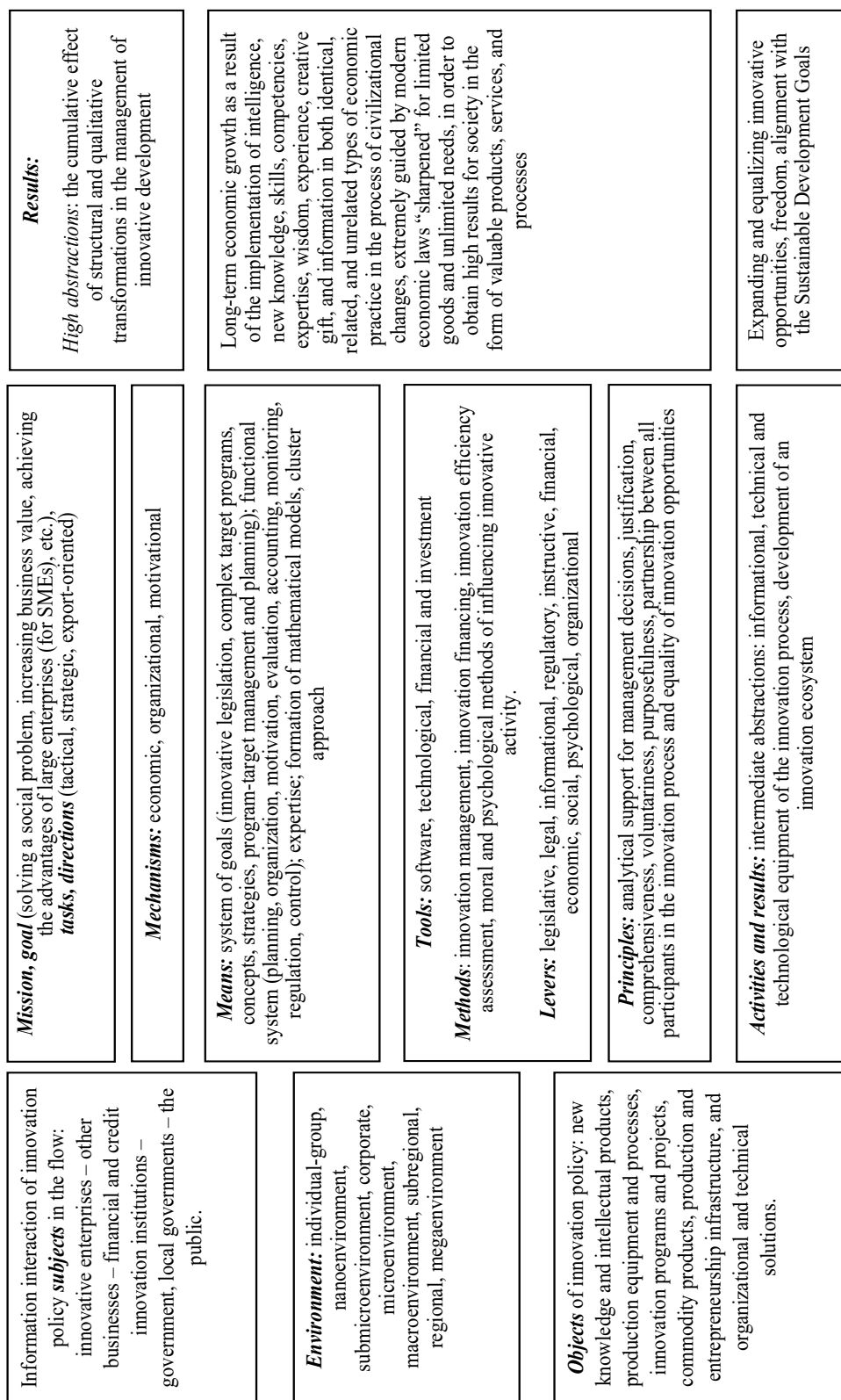


Fig. 1. Methodological basis for the formation of an organizational and motivational mechanism for the innovative development of enterprises

Source: Compiled by the author

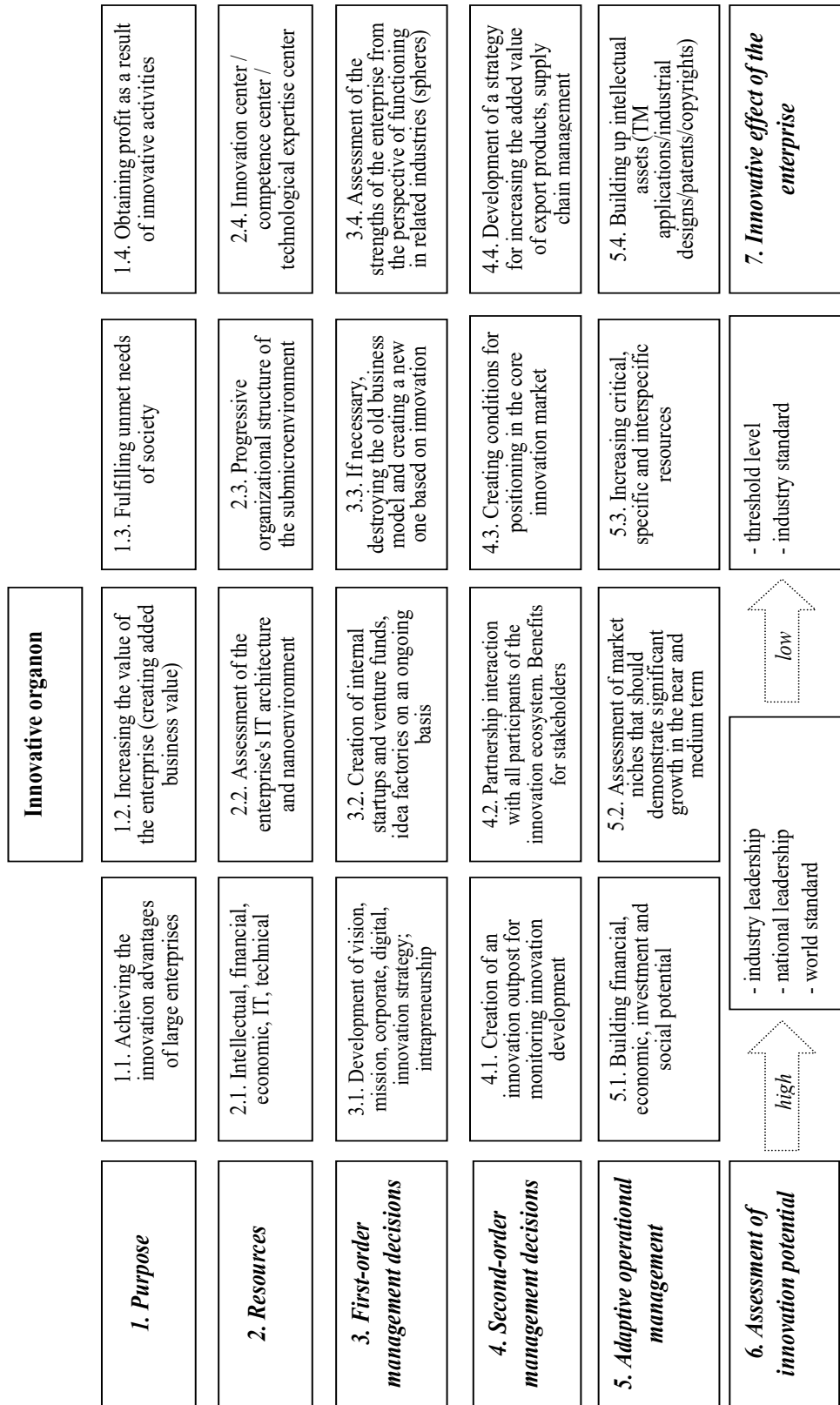


Fig. 2. A heterarchical system of management of innovative development of small and medium-sized enterprises
Source: Compiled by the author

According to Fig. 2, the innovation organon is a strategic tool woven from a set of rules and methods for developing innovation policy. The development of innovative infrastructure will allow development on its basis and, first of all, the creation of state scientific centers and state and university business incubators on the territory of Ukraine. Otherwise, the transfer of research centers to the territory of Ukraine under certain favorable conditions, or vice versa, from Ukraine abroad, should be ensured. In the latter case, the problem of patenting is partially solved, since subsidiaries patent innovative and technical solutions at the location of the parent company. A management body formed from leading specialists and scientists, business and government structures, and other stakeholders should be responsible for developing the innovation organon. It should form effective specialized working groups and further monitor the implementation of the tasks of the innovation strategy, presenting the results of each step in a publicly accessible format through consultations and thematic seminars.

The main element in the structure of innovation policy is the establishment of institutional relationships and an innovative management model – e-government: electronic interaction, e-commerce and e-services, electronic identification, interoperability, and open data [15].

So, today all management functions are permeated with globalization, innovation, and digitalization. Therefore, progressive owners and managers of enterprises should choose an innovative path of development; include an innovation center (R&D unit, innovation development center, corporate innovation center, strategic analytics service center, or technology expertise and development center) in the organizational structure of enterprises; create a system of financial and non-financial motivation

for innovation activities; and establish partnerships with scientific organizations, technology companies, and higher educational institutions.

Conclusions

It is extremely important in the current conditions to substantiate the system of management of innovative development of small and medium-sized businesses, taking into account the limited material resources at the theoretical and conceptual level. Innovative development management is defined as a continuous, complex process of qualitative changes in an enterprise based on innovations and the implementation of management functions. The presented system of innovative development management of small and medium-sized enterprises demonstrates the multivariate nature of tasks, resources, and management decisions that form the potential of innovations and produce an innovative effect.

Economic growth and the restoration of innovative activity in Ukraine are possible due to a gradual increase in the initial level of digitalization and high rates of development in this sphere, advanced technologies, international cooperation, and the adaptability and institutional support of innovations under the new conditions of a long post-war economic recovery. The developed organizational and motivational mechanism for the innovative development of enterprises, as a system of targeted organizational and motivational interactions between innovative enterprises and other subjects of innovation policy, is capable of ensuring long-term economic growth during the implementation of innovative processes tailored to the new needs of society through the implementation of functions using a comprehensive set of tools, methods, levers, and strategies in order to achieve sustainable innovative development.

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HETERARCHICAL MANAGEMENT SYSTEM FOR INNOVATIVE DEVELOPMENT OF SMALL AND MEDIUM-SIZED ENTERPRISES

Yuliia H. Horiashchenko, University of Customs and Finance, Dnipro (Ukraine).

E-mail: julia.goryaschenko@gmail.com

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Introduction. Deep destructive megatrends in the economic and social life of Ukraine have had a significant impact on the curtailment of the innovative activity of enterprises. The problematic issues of internal management, strategizing, and innovativeness of economic processes have given way to issues of relocation and scaling abroad, reconstruction, and survival. Despite the significant number of studies devoted to the problem of managing the innovative development of enterprises, in modern conditions they need to be updated.

Problem Statement. Today, there is an urgent need to present a methodological basis for the formation of an organizational and motivational mechanism for the innovative development of enterprises, which is the basis of a heterarchical system for managing the innovative development of small and medium-sized businesses.

Purpose. The purpose of this research is to represent a system of intersecting, diverse, and coexisting structures for managing the innovative development of enterprises, which, in conditions of multivariate tasks in times of total uncertainty, are able to provide a synergistic effect in the form of a high innovative effect.

Materials and Methods. The author's theoretical material and methodological approaches are based on the theory of management, strategic, production, and innovation management. The methodological basis of the study includes methods of concrete and abstract comparative characteristics, media monitoring, benchmarking, methods of modern Data Mining technology, and the method of market reviews and forecasts.

Results. The system of management of innovative development of small and medium-sized enterprises is substantiated taking into account the limited material resources at the theoretical and conceptual level. Management of innovative development is defined as a continuous, complex process of qualitative changes in the enterprise based on innovations and the implementation of management functions. The presented system of management of innovative development of small and medium-sized enterprises demonstrates the multivariate nature of tasks, resources, and management decisions that form the potential of innovations and produce an innovative effect. The results of this study will be useful to everyone who studies the problematic issues of regulating and managing innovative development and adapting innovation strategies for small and medium-sized businesses in unpredictable circumstances.

Conclusions. The developed organizational and motivational mechanism for the innovative development of enterprises as a system of targeted organizational and motivational interactions between innovative enterprises and other subjects of innovation policy is capable of ensuring long-term economic growth during the implementation of innovative processes tailored to the new needs of society through the implementation of functions using a complex of tools, methods, levers, and strategies in order to achieve sustainable innovative development.

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