THE MODELS OF DYNAMIC RISK MANAGEMENT OF ENTREPRENEURIAL ACTIVITY IN THE MANAGEMENT SYSTEM OF INDUSTRIAL ENTERPRISE

Natalia Metelenko

Engineering Institute of Zaporizhzhia National University, Zaporizhzhia, Ukraine, natalia.metelenko@gmail.com

Abstract

The research is aimed at substantiating the feasibility of using a systematic approach to risk management of entrepreneurial activity in the management system of industrial enterprise. The objectivity of the risky nature of entrepreneurial activity is a prerequisite for the development of risk protection mechanisms and provides basis to state that it is appropriate to classify the risks of entrepreneurial activity of an industrial enterprise on the following characteristics: industrial risks, commercial risks and financial risks. It is proved that there is a correlation between the used entrepreneurial activity risk classification features and the functional activities of an industrial enterprise. Generalized domestic and foreign experience in developing enterprise management systems by decomposing the overall business model of the enterprise (strategy model, organizational-functional model, functional-technological model, process-role model, financial model, restructuring model) using vertical description, horizontal description and quantitative description. The structural components of the general business model are: strategy model; organizational-functional model; functional-technological model; process-role model; financial model; model of restructuring.

Based on the philosophy of risk management, it is proved that integrated, unified risk management, aimed at maximizing the formalization of management objects - functional activities (processes, operations, procedures) of the enterprise, is effective. Risk identification of entrepreneurial activity within the functional types of activity of the enterprise (entrepreneurial activity in general, investment activity, financial activity, production and commercial activity) is carried out. It is proved that the concentration of risks of entrepreneurial activity in the context of functional activities leads to a threat to the financial security of the enterprise, in particular industrial enterprises. Special attention is paid to study machine-building enterprises, Limited Partnership Zaporizhzhia High Voltage Equipment Plant, whose activity was suspended in December 2018 due to the recognition of its bankruptcy. It is proved that concentration of risks of entrepreneurial activity, namely risks of financial, commercial and production activity for a long period of time and lack of an effective management system caused the enterprise to be stopped and eliminated. The impact of entrepreneurial risks is systematized and combined into two time periods, each characterized by its own set of systemic entrepreneurial risks. It is proved that the risks of entrepreneurial activity are generated as a result of influence of internal and external factors that destabilize the entrepreneurial activity, as well as the key risks of entrepreneurial activity of the machine-building enterprise. The use of system and process approaches to build a risk management model of entrepreneurial activity of industrial enterprise is justified and based on the interconnection of functional activities, business processes and operations that accompany the entrepreneurial activity. Processes occurring at the enterprise, grouped into homogeneous groups: getting an order, product development, provision of commodity-material assets, production, logistics of product delivery to the consumer, service provision, development and management of technological documentation, financial management, information infrastructure management, power supply and production safety management, administrative infrastructure management, personnel management, change management, product quality management, document management, transport infrastructure management.

Keywords: dynamic management, risks of entrepreneurial activity, risk identification, business processes.

INTRODUCTION

For a long period of time, namely since 2010, in Ukraine, in particular in industry, there has been an increase in the negative impact of risks of entrepreneurial activity on business efficiency; the possibilities of modernization and expansion of the volumes and types of activity of industrial enterprises are reduced, the enterprises are liquidated due to the bankruptcy, the enterprises lose human capital. As current practice shows, there are valid reasons for the emergence of risks in entrepreneurial activity, which are the inability to calculate the results and take into account the impact on them of different factors in the direction and strength of action, in particular, the factors themselves may change during the implementation of processes, projects. In order to minimize the negative impact of risks, identify possible consequences for an enterprise in a risky situation, neutralize the negative results of such impact on the activity of the enterprise, it is necessary to constantly update the arsenal of methods, models, approaches to managing entrepreneurial risks in industrial enterprises. The complexity of timely anticipation of changes in the environment of socio-economic relationships requires the immediate solution of the scientific problem of improving models of risk management of entrepreneurial activities, constant updating of the industrial enterprise management system that functions in the conditions of dynamic changes, ensuring economic, environmental and social security of industrial production.

The aim of the research – conceptualization of dynamic risk management of entrepreneurial activities in the management system of industrial enterprise, aimed at preventing capital losses.

PREVIOUS RELATED RESEARCH

Theoretical and practical aspects of risk management were explored by such well-known scientists as G. Markowitz, J. Neumann, W. Sharp, and J. Schumpeter, further scientific study of risk issues developed in the works of V. Apopiy, I. Balabanova, G. Bashnianin, I. Blank, G. Velikoivanenko, V. Vitlinskyj, O. Dubrova, L. Donets, A. Mazaraki, N. Mashyna, B. Mizyuk, S. Nakonechnyy, V. Tochilin, V. Chepurko, V. Cherkasov, O. Yastremska and others.

The works of these scientists investigate various aspects of risks of entrepreneurial activity [1; 2], but the problem of the presence of risks and the unmanageability of risky situations in industrial enterprises requires the improvement of a holistic theory of risk, which would be different in dynamism of mechanism, models, tools of risk management of entrepreneurial activities, which more and more characterized by signs of uncertainty, instability and variability. This is especially true of industrial machine-building enterprises and enterprises of metallurgical industry. Scientific researches in the area of risk management is relevant and needs further development, taking into account industry and internal and external environment of industrial enterprises, as well as global changes in the competitive environment.

The scientific novelty of the research. There was performed an identification of risks of entrepreneurial activity of industrial enterprises in the context of functional types and conceptualized models of dynamic risk management in the enterprise management system, which allow, through joint actions of all management components, to provide improvement of economic, organizational, technological, production, social, management market, environmental and other components of the entrepreneurial activity of an industrial enterprise, operating in a single management system and are constantly gaining ground. It is proved that concentration of entrepreneurial risks directly influences the functional activities, business processes and operations that accompany the entrepreneurial activity.

RESEARCH RESULTS AND DISCUSSION

Regardless of the area of activity (production, provision of services, execution of works), legal form, ownership, entrepreneurial activity is inextricably linked with risk. In order to protect the property interests of business entities that occur in the context of the potential likelihood of losses and the threat of other negative economic and social consequences, it is important to comply with laws, which are manifested mainly in the dynamics, that is, in the processes, by determining the uniqueness of cause and effect connections [3, pp. 30–35].

The essence and mechanism of action of these laws in relation to production systems (industrial enterprises) testify to such. The law of synergy is that the sum of the attributes of an organizational whole exceeds the "arithmetic" sum of the attributes of each of its elements separately, or, the sum of the attributes of the system does not equal the sum of the attributes of its components. The synergistic effect is achieved by enhancing the organizational role of management. The Law of Awareness - Order states that in an organized whole there can be no more order than information. Orderliness is a characteristic of a system that reflects the presence of relationships in some way. That is, the more quality information, the more stable the organization. It is believed that ordering will be achieved in full if it is defined: the constituent elements of the system (enterprise); indicators that characterize the elements of the system; the nature of the interaction of each element, as well as the system of their interaction. The law of unity of analysis and synthesis is that the processes of division, specialization, differentiation, etc., on the one hand, need to be complemented by opposite processes - integration, cooperation, integration, etc. Analysis is focused on structure, it shows how parts of the whole work, and synthesis focuses on functions, that is, the task of synthesis is to build such a structure of the system in which the system-defined functions are best implemented. The law of selfpreservation is that any organizational system seeks to preserve itself as a whole education, that is, to spend its resources sparingly, while ensuring its equilibrium functioning. An important aspect of equilibrium is the sustainability of an industrial enterprise as a system. Resistance can be in relation to the structure of the system, or to the functions that determine its functioning.

The mechanism of action of the self-preservation law is as follows: self-preservation is the survival of the system by maintaining its integrity, state of rolling

equilibrium and stability, rational use of the system's potential; self-preservation is directly related to adaptation of the system; a necessary condition for self-preservation is the constant development of the organization [3, p. 35]. Thus, the expediency of using the laws of system analysis in constructing models of dynamic risk management of entrepreneurial activity is proved.

According to Art. 42 of the Economic Code of Ukraine entrepreneurship is an independent, initiative, systematic, at-risk economic activity carried out by economic entities (entrepreneurs) with the aim of achieving economic and social results and profit [4]. That is, risk is one of the main features of entrepreneurial activity. Joseph Schumpeter argued that there is a need to take into account the risky nature of entrepreneurship because these risks can cause both profits and losses, and therefore require economic considerations [5, p. 21]. That is, entrepreneurial (commercial) risk is associated with the possible adverse property consequences of the activity of an entrepreneurial structure (industrial enterprise). Such consequences may be due to changes in legislation, breach of obligations by counterparties, changes in business conditions, which in the aggregate leads to a negative synergistic effect of loss of reputation, capital, property, profits and business as a whole. Entrepreneurial risk directly influences the material, financial resources, production, economic processes of entrepreneurial activity.

Thus, the risky nature of entrepreneurial activities is an objective prerequisite for creating risk protection mechanisms. There are many scientific views on the classification of risks, however, in our opinion, to further develop the mechanism of risk management of entrepreneurial activity of an industrial enterprise the narrowed classification, proposed by Alexander Shapkin [6, p. 12], can be used:

- production risks (related to the failure of the enterprise to fulfill its plans and obligations to produce products, goods, services, and other types of production activities as a result of the influence of both the external environment and internal factors);
- commercial risks (risks of losses resulting from the decrease in sales volumes, unforeseen decrease in the volume of purchases, increase in the purchase price of the product, increase in the cost of circulation, loss of goods in the process of circulation);
- financial risks (arising from the inability of a firm to fulfill its financial obligations due to changes in the purchasing power of money, failure to make payments, changes in exchange rates) [6, p. 12].

Improving the mechanism of risk management of entrepreneurial activity for domestic enterprises of different industries is a technology to increase the efficiency of their activity, a mechanism for adapting to globalization changes in a competitive market environment.

Modern opportunities of information technologies, domestic and foreign experience in the development of management systems offers enterprises many modeling options [7–10], from which it is advisable to distinguish the following:

- a vertical description of the enterprise, including a list of goals, methods of achieving them, management and assurance functions required to achieve the

objectives in the chosen manner, as well as a description of the hierarchical structure of enterprise management capable of implementing these functions;

- horizontal description that reflects the technology of implementation of functions in the form of processes;
- quantitative description that reflects the resources needed to implement business processes.

The main purpose of building management models is to decompose the overall business model of the enterprise. Structural components of the general business model of an industrial enterprise, in our opinion, can be:

- a strategy model that aligns with the goals of the enterprise a set of strategies, ie ways to achieve the goals;
- organizational-functional model, which assigns responsibility for the presentation of products on the market and the implementation of the relevant management and assurance functions for individual structural units of the enterprise;
- functional-technological model that outlines business processes in the form of a temporary sequence of simple operations that accompany material and information flows;
- process-role model, which assigns a personal executor (process or project manager) to each business process operation;
- financial model a model that represents the system of budgets of the enterprise;
 - model of enterprise restructuring (reorganization, modernization, etc.).

The combination of these models gives a complete and interdependent description of the entrepreneurial activity of an individual industrial enterprise. The change of each model undoubtedly causes corresponding changes in the other models, but these changes should not violate the laws of synergy, awareness, unity of analysis and synthesis, the law of self-preservation.

The problem of risk management of entrepreneurial activity of any enterprise requires, first of all, continuous improvement of the enterprise management system, in particular, the mechanism of business process management, each of which is aimed at a certain level of efficiency.

Business process management involves the identification and analysis of the situation, corrective actions, determining and measuring their impact on the effectiveness of the business process. Ignoring and underestimating the impact of risks of entrepreneurial activity in developing a model of industrial enterprise management inevitably impedes the development of the whole society, scientific and technological progress, provides stagnation of the economic system as a whole. The latest methodological approaches to risk management are focused on the philosophy that every company employee views risk management as an integral part of their work, the risk management process is continuous, taking into account all types of risks and probabilities for their occurrence. Such integrated, joint risk management aims to maximize the formalization of management objects, which, in our view, should be the functional activities of an industrial enterprise (economic activity as a whole; production activity, which includes the stages of development, design,

production planning and the actual process of production); commercial activity; financial activity; investment, which embodies elements of other activities, is the most risky activity because long-term financial investments in an unstable external environment have the highest level of risk of capital loss.

From the managerial and economic point of view, every enterprise should have reasonable information about the risks of entrepreneurial activity, which require priority management, that is, the loss from which is estimated as a value that exceeds the level of risk acceptable for the enterprise. The priority criterion for risk management of entrepreneurial activity of an industrial enterprise is particularly relevant during the recession life cycle, because during this period the enterprise has no available financial resources, needs to update its cumulative potential and has little ability to generate net income in sufficient volumes to self-finance their investment needs.

An important step in managing entrepreneurial risks is also the identification of internal and external cause and effect relationships between risks, which will allow quantitative measurement of the potential consequences and the size of losses. In general, it should be noted that the model of risk management of entrepreneurial activity for each individual enterprise is unique and, in addition to the developed scientific and methodological approaches, embodies many years of experience of professionals in a particular area.

Based on the classification of risks of entrepreneurial activity [6, p. 12], it is expedient to carry out the identification of risks within the functional types of activity of the enterprise (Figure 1), which allows to formalize the risk situations, the management of which is within the competence of a specific function manager.

The concentration of risks of entrepreneurial activity in the context of functional types of activities threatens the financial security of the enterprise, especially in the case of industrial enterprises.

For a long period of time domestic industrial enterprises, in particular machinebuilding enterprises, are in a financial and entrepreneurial crisis. The lack of ability to upgrade the production capacity of the industry with the products of its own mechanical engineering has such devastating consequences for the domestic economy as the reduction of the value added and the reduction of the sector of the economy tuned for the production of high value added products; reducing the employment of the population and its solvent demand; reducing the level of profitability of industrial enterprises and reducing the opportunities for self-financing of their economic activity; reduction in the amount of tax revenues and, accordingly, the amount of direct financial support by the state to industrial enterprises and other consequences. As a consequence, the above negative trends not only increase the dependence of the Ukrainian industry on foreign markets of machinery and equipment, but also limit the possibilities of generating financial resources of enterprises within the national economy, thus creating a significant threat to the economic security of the state. Taking into account the almost destroyed production potential, the absence of longterm success factors, the gradual loss of equity due to loss-making activities, it should be noted that most machine-building enterprises of Ukraine are in a state of strategic crisis and crisis of profitability, while balancing the reality on the verge of crisis solvency.

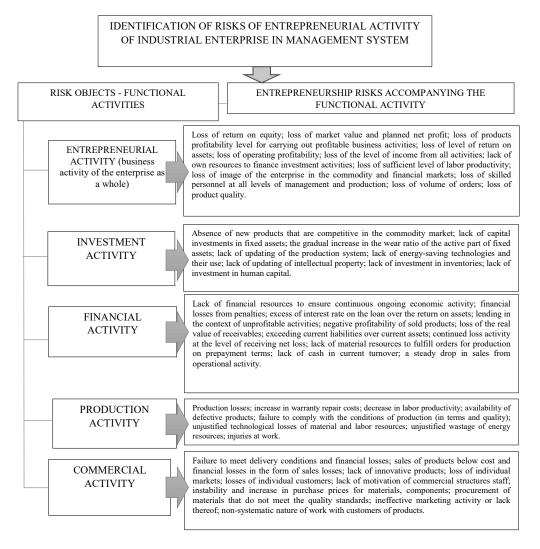


Figure 1. Identification of risks of entrepreneurial activity of industrial enterprise

Regarding the concentration of entrepreneurial risks, it is advisable to dwell on the example of an industrial enterprise in Zaporizhzhia region, which ceased to exist in December 2018 due to bankruptcy.

For more than 60 years the Open Joint-Stock Company Zaporizhzhia High Voltage Equipment Plant (today Limited Partnership "ZZVA" – hereinafter referred to as LP "ZZVA") has been a monopolist for the production of most of the current and voltage measuring transformers, and to this day in Ukraine it is a monopoly for the production of gas and gas measuring transformers of current of the TOG-765 type (large size). The electrotechnical equipment, which has been produced to date at LP

"ZZVA", is presented at all energy objects of the National Energy Company (SE NEC "Ukrenergo"), at all facilities of the National Atomic Energy Company (SE NAEC "Energoatom"), at energy facilities of Ukrzaliznytsia, at facilities of energy generating companies, at coal-mining substations, as well as at some Oblenergo structural units.

The concentration of entrepreneurial risks at LP "ZZVA" occurred during the period 1997 - 2017, which should be divided into two stages: the first stage -1997 - 2007, the second stage -2008 - 2016. The first stage is characterized by the following features of entrepreneurial activity:

- exports of products more than 60% provided the opportunity to receive VAT refunds;
- exports to Central Asian countries allowed to form attractive prices for the enterprise;
- pricing policy in Ukraine also allowed to form competitive prices on the basis of stable economic situation;
- utilization of production capacity of the enterprise allowed to plan fixed and variable costs, which together did not exceed the break-even point;
- stable product portfolio allowed to plan purchases, which allowed to optimize purchase prices and material costs in the cost of production.

That is, the financial and commercial activities of this period are not characterized by significant entrepreneurial risks, but the risks of production activity occurred and were reflected in the nonconformity of certain components of products to the international quality standards, as evidenced by the auditors who audited annually the quality management system of the enterprise. Also, there were risks of entrepreneurial activity in the area of investment activity, namely: small enterprises appeared in energy market of Zaporizhzhia region, having the technical capacity to produce certain types of products of LP "ZZVA"; during 2000 – 2007 the activity of these enterprises resulted in the loss of 1/3 of the commodity market volume by the enterprise of LP "ZZVA". The mobility of the production systems of these enterprises, the absence of burdens on large volumes of fixed assets made it possible to purchase the latest equipment and produce competitive products. The loss of time by "ZZVA" managers and the concentration of entrepreneurial risks in the area of production and investment activities have led to losses, which since 2008 have been systematic in nature and have led to a forced halt to economic activity. The systemic entrepreneurial risks of the second stage include the following:

- the share of exports is not more than 37%, it is unstable in the time period, which does not allow planning and optimization of VAT (refunds);
- since 2009, a significant amount of own working capital has been diverted to paying VAT, which has reduced the mobility of the enterprise in the circulation of funds; this is due to the duration of manufacturing products and accessories, which do not match in time and does not allow to optimize VAT payments;
- in order to streamline payment to the State Budget of VAT to all counterparties in the market, the state tax policy was aimed at exercising a constant (monthly) control over the ratio of tax liabilities and tax credit between counterparties

that have relations with economic activity; if there is a doubtful counterparty in the relationship chain, then the company has additional financial obligations for VAT, reduced gross costs, criminal charges may occur;

- since 2009 the state-owned enterprises of NEC "Ukrenergo" and NAEC "Energoatom" have become the main buyers of the company's products; relations with state-owned enterprises are characterized by a tender procurement procedure, which makes it impossible to formulate a flexible pricing policy during periods of decline in commodity market;
- the duration of the period of execution of business agreements with state-owned enterprises is usually six months or more, ie, in the face of an unstable external economic situation, enterprises incur additional financial costs associated with the increase of energy tariffs, prices for materials, etc.
- a feature of this period's relations with state-owned enterprises is the low level of subscriptions (30%) or even their absence, which causes the enterprise to produce products for its own working capital or for credit; also, the terms of contracts with state-owned enterprises provide for a final settlement within 30 days after the production and shipment of products to the customer;
- the state policy of this period was not aimed at supporting the domestic producer, so the utilization of production capacities of such enterprises as LP "ZZVA" did not allow to cover permanent expenses (energy, land lease, other taxes and fees in local and state budgets), which led to increased losses; so, if in 1997 the enterprise produced 3584 units of production, in 2016 543 units of production;
- enterprises, similar to LP "ZZVA", are hostages of the system of sectoral agreements, which, irrespective of the efficiency of conducting business activity, defines an increase in the level of wages in accordance with budgetary indicators, which forcibly increases the level of cost; it is not possible to carry out the reduction of personnel more than 4% promptly; the procedure for agreeing a higher percentage of staff reductions is time consuming and does not solve the problem of cost optimization.

Systemic risks of entrepreneurship activity should also include the inability of internal management to respond in time to changes in the external competitive environment that signal the need for change; thus, the interaction of "purchase - sale - product development" areas under the conditions of effective management is able to respond to requests of the product market by changing the design, production technology, purchasing new progressive materials, changing suppliers, carrying out small wholesale purchases, researching market needs, developing new markets and new technologies for product promotion, use of electronic resources, team updates and more.

The instability of the financial market, tax policy, customs policy, the political situation in the country have negatively affected the export-import operations, in particular, in the composition of strategic materials for the production of LP "ZZVA" products there are such items that are not produced in the territory of Ukraine. Due to the fact that LP "ZZVA" has been an important component of the USSR machine building industry for more than 60 years, these positions have been procured on the territory of the Russian Federation. Political and economic changes have prompted

the company to look for alternative sources of supply in Europe and Asia, which has led to additional financial losses. Also, the logistics of supplying enterprise products to Central Asian countries, due to political sanctions, are long-term, risky and high-value.

The risks of commercial activity include the transportation of products by sea, repeated cargo reloads, risks of damaging cargo; the complexity of clearly planning the length of transportation. It should be noted that in the pre-crisis period, the main mode of transport was the railway, which took into account the dimensions of the product, minimized its vibration during transportation, travel time and so on.

High-value and significant risk of entrepreneurial activity in the financial area include the instability of the financial market of Ukraine, which, starting from 2009, led to the financial crisis and the inability of industrial enterprises to service credit resources. The NBU short-term lending rate increased from 11% in 2009 to 25.5% in 2016; at the same time the US dollar exchange rate increased from 7.7 UAH for 1 US dollar in 2009 to 25.5 UAH for 1 US dollar in 2016.

The concentration of entrepreneurial risks in the financial activities of LP "ZZVA" industrial enterprise led to their spread in commercial activities, which resulted in a negative synergistic effect of loss of capital and business as a whole.

Thus, the aggregate key risks of entrepreneurial activity of LP "ZZVA" include:

- utilization of production capacity less than 30%;
- outdated production system and slow updating of fixed assets;
- sale of products at prices below cost;
- political and economic crisis in Ukraine in the period 2013 2016;
- unacceptable conditions for subscription (less than 30%) for domestic producers - in case of execution of government orders;
- lending in conditions of scarcity of own financial resources for loan servicing;
- raising energy tariffs in conditions of low utilization of production capacity;
- high cost of credit resources;
- currency exchange rate volatility;
- poor quality of material resources.

The enterprise is a complex socio-economic system. An important role in modeling the behavior of such a system is played by the methodological approach that is used to evaluate the effectiveness of the system. The considerable number of scientific and methodological approaches [11–14] does not mean their originality and significant differences, however, each enterprise can, based on its specificity, use them in whole or in part. Systematic and process approaches are the most commonly used management approaches of any system. The systematic approach focuses primarily on the holistic perception of an industrial enterprise as a system, taking into account most of the possible mutual effects of all its components on the risks of entrepreneurial activity. The process approach is more dynamic, it is to identify the features of the process flow and the impact on these processes. A process or process – oriented approach leads to the simplification of multi-level hierarchical organizational structures. By reducing hierarchical levels of organizational structure, the process approach makes it easier to share information between different

departments. The transition to a process approach eliminates the isolation of divisions and officials, considers any functional activity not in statics, but in the dynamics, when activity in the system should be constantly improved on the basis of appropriate measurements and analysis, focus management's attention on the interaction of divisions and officials [15]. The process approach implies a clear formalization of the functions that make up certain processes, which is relevant in the context of risk management of entrepreneurial activities.

The study of the risks of entrepreneurial activity of LP "ZZVA" makes it possible to state that the management system is of decisive importance in risk management, and its constant improvement should be directed to the development of the mechanism of managing business processes and operations. The set of business processes of an industrial enterprise is a more detailed and formalized description of functional activities. Business process management involves management operations, therefore, in our opinion, it is advisable to base the model of dynamic risk management of entrepreneurial activity on the operational description of processes (business processes) occurring in each area of activity of an industrial enterprise (Figure 2).

The process-operational approach to managing the risks of entrepreneurial activity of industrial enterprise is to consider the entire activity of the enterprise as an organized network of processes and derivatives of them interrelated in time and space of operations to transform input resources into output; processes take place over a long period of time, are sustainable and aimed at achieving the purpose of existence of the enterprise. Production systems of industrial enterprise are relatively constant structures, and processes are being a constant component for more than five years, while operations may vary depending on changes in the internal and external factors of the enterprise.

The processes that take place in an industrial enterprise, according to expert judgment, are grouped into the following groups:

- getting an order (marketing and sales units);
- product development (design units grouped by type of product and having significant differences in the preparation of design documentation);
- provision of commodity-material assets (strategic procurement units, procurement of tools, materials and components, logistics and procurement support; warehousing);
- production (planning, attestation of production processes at all sites, preparation of processes and their logistical support, dispatching of production processes, preparation of reports and all stages of production; accounting of work in progress; implementation of repair works ensuring continuous production);
 - logistics of product delivery to the consumer;
 - service provision;
 - development and management of technological documentation;

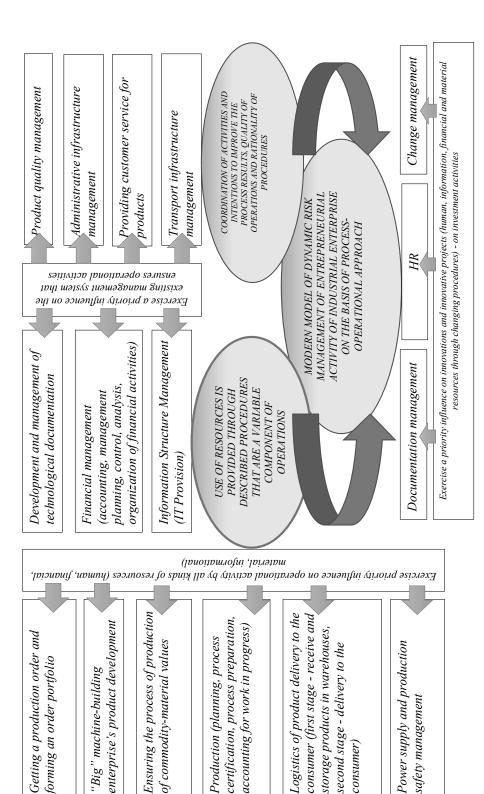


Figure 2. Model of dynamic risk management of entrepreneurial activity of industrial enterprise on the basis of processoperational approach

safety management

consumer)

- financial management (accounting organization; management planning, accounting, control and analysis, including: formation and control of budget execution, accounting of commodity products and formation of static reporting, calculation of prices for products, conducting statistical observations, estimates, estimated cost, management reporting; organization of financial activities);
 - information infrastructure management;
 - power supply and production safety management;
 - administrative infrastructure management;
 - personnel management;
- change management (organization of project management processes monitoring, measuring and analysis of processes; organization of processes of continuous improvement management - management systems, processes, project management; organization of corrective and preventive actions);
 - product quality management;
 - document management;
 - transport infrastructure management.

CONCLUSION

The study of entrepreneurial risks of an industrial enterprise has allowed to establish patterns of risk situations that accompany functional types of entrepreneurial activity and to offer conceptual business models of the enterprise, to justify the feasibility of using a process approach to risk management of entrepreneurial activity, based on the fact that all business processes of the enterprise are based on the cumulative impact of processes and operations affects the riskiness of entrepreneurial activities. Expert assessment of system of risks of entrepreneurial activity of LP "ZZVA" allowed to substantiate the process-operational approach to risk management of entrepreneurial activity. The proposed process-operational approach to the risk management of entrepreneurial activity can be the basis for the development of local models of industrial enterprise risk management in any industry and with the purpose of identifying risks in business processes, operations and functional activities. Such horizontal detailing of risks reflects the technology of implementation of functions in the form of processes and formalizes functions and processes, which allows to carry out quantitative measurement of influence of factors on the level of risks of entrepreneurial activity; determine the level of losses from the influence of negative factors.

REFERENCE

- 1. Donets L.I. (2006). *Economic risks and the methods of measuring them: textbook*, Centr navchalnoyi literatury, Kyiv, Ukraine. (in Ukrainian)
- 2. Vitlinsky V.V., and Maxanec L.L. (2008). *Riskology in external economic activity*, KNEU, Kyiv, Ukraine. (in Ukrainian)
 - 3. Fatxutdynov R.A. (2000). Production organization, INFRA-M, Moscow, R.F. (in Russian)
- 4. The Verkhovna Rada of Ukraine (2003). Economic Code of Ukraine dated January 16, 2003, No. 435 IV, as amended [Online]. Available at: http:// zakon.rada.gov.ua/laws/show/436-15 (Accessed 28 September 2019)

- 5. Shumpeter J. (1982). Theory of economic development (Study of entrepreneurial profit, capital, interest credit and conjuncture), Progress, Moscow, R.F. (in Russian)
- 6. Shapkin A.S. (2003). Economic and financial risks. Assessment, management, investment portfolio: monograph, Izdatelsko-torgovaja korporacija "Dashkov and Co.", Moscow, R.F. (in Russian)
- 7. Hammer M., and Champi D. (2000). Corporate reengineering: a manifesto of the business revolution, Saint Petersburg, R.F. (in Russian)
- 8. Davenport T.H., and Short J.E. (1990), The New Industrial Engineering: Information Technology and Business Process Redesign, *Sloan Management Review. Magazine*, 1990, Vol. 31, pp. 11–27.
- 9. Ojhman E.G., and Popov Je.M. (1997). Business reengineering: organization reengineering and information technology, Finansy i statistika. Moscow, R.F. (in Russian)
- 10. Iliin. V.V. (2006). *Modeling business processes. Practical experience of the developer*, Viljams, Moscow, R.F. (in Russian)
- 11. Zhalilo Ya. A. (2003). Economic strategy of the state: theory, methodology, practice, NISD, Kyiv, Ukraine. (in Ukrainian)
- 12. Vasyltsiv T. H. (2008). Economic security of entrepreneurship of Ukraine: strategy and mechanisms of strengthening. Aral, Lviv, Ukraine. (in Ukrainian)
- 13. Hubskyi B. V. (2001). Economic Security of Ukraine: Measurement Methodology, Condition, and Supply Strategy, SE Ukrarxbudinform, Kyiv, Ukraine. (in Ukrainian)
- 14. Dolzhenkov O. F., Zhukovska Zh. O., and Holovchenko O. M. (2007). Features of guaranteeing economic security of business activity in market conditions: monograph, OYuI KhNUVS, Odesa, Ukraine. (in Ukrainian)
- 15. The official site of Effective Economics Online Magazine, "A systematic approach to enterprise and staff management" [Online]. Available at: http://www.economy.nayka.com.ua/?op=1&z=1079 (Accessed 28 September 2019).