The paper substantiates the interrelation between an enterprise’s economic safety and its innovation activity. It is stated that while making managerial decision for innovations it is reasonable to estimate the level of its economic safety. In order to ensure the target level of economic safety of innovation activity there was proposed the complex of specific requirements to management. Based on the monograph analysis as well as on the case-method some imperfections of national accounting approach to innovation expenses are revealed and discussed. In conclusion the paper proposes specific features, tasks and techniques for accounting, implementation of which can assist in economic safety management of an enterprise’s innovation activity.

**Key words:** economic safety of an enterprise, innovation activity, accounting.
In the period 2000 – 2008 the increase in Ukraine’s economy was registered: average annual GDP growth was around 4.5 %, nominal GDP for 2008 amounted to UAH 949.9 billion and increased by 31.8 % over the previous year [1]. However, this growth was mainly in line with extensive processes, it was based on previously generated facilities’ use, conserved outdated industrial structure and was reinforcing Ukraine’s economy as a raw materials supplier for more developed economies. Involved foreign financial resources were primarily intended not for the development of domestic production, but for imported goods consumption and this reinforced structural imbalances. Withal, Ukraine’s economy became more integrated into the global economy and, therefore, dependent on its dynamics. The consequence of the accumulation of global contradictions between the development of the real economy and financial sector of global economy was the deployment of the global financial crisis.

In Ukraine, global crisis led to a sharp drop in GDP in comparison with developed economies (Fig. 1) and was primarily pictured by the balance of payments crisis. The rapid decrease in exports, especially of metallurgy and chemical industry, significantly worsened current accounts and the need for substantial payments on debt obligations of banks and other sectors – the state of the financial accounts balance.

Fig. 1. Changes in GDP of Ukraine and European Union [1; 2]

![Graph showing GDP changes in Ukraine and EU](image-url)

Financial performance of companies has degraded critically: from UAH 135.9 billion in 2007 to UAH 8.95 billion in the next year; in 2009 45.6 % of business entities suffered a loss [1; 2]. This situation required active anti-crisis measures to overcome negative factors and to create new bases of development.

Global crisis led to the formation of awareness at all management levels that priority lies in sustainable development, that is the development under which satisfaction of current demands will not limit the operation of socio-economic systems in the future.

The achievement of this development path for economic entities is based on the principles of economic security and innovative financial and economic activity. This economic security is the result of harmonizing the interests of businesses and all entities of their internal and external environment, while the successful implementation of innovative strategies is determined by and at the same time is the key to achieving the optimal level of economic security.

The importance of innovation processes for an enterprise’s survival is emphasized by Porter [3], who underlined that the only way to retain competitive advantages is to improve them uninterruptedly. For Porter the competitiveness of any economic system is determined not just by the maximum effectiveness of management but by the ability to modernize and successfully commercialize new knowledge.

Innovation is the main source of economic growth and the key source of new employment opportunities as well as providing potential for realizing environmental benefits [4]. One of the most important arguments is that in the global economy, where economic actions can be carried out more cheaply in the low wage economies such as China, the main way in which other economies can compete and survive, is to find new and better products and processes [5], in other words, to innovate.

Along with the recognition of the necessity of innovations for enterprises’ sustainable development practitioners should constantly be aware of risk and uncertainty which is inherent in innovation processes, so the comprehensive management system for ensuring safety and sustainability of innovations should be implemented.

Due to its significance innovation has been a rather frequent theme in managerial studies over the past decades and a great deal of work has been done in order to understand how risk and uncertainty influence the decision making in innovation [6; 7]. Nonetheless, it seems that there is a lack of research...
that focuses exclusively and in detail on information and analytical support of managerial decisions upon the economic safety of an enterprise’s innovation activities.

So, the purpose of this paper is to disclose the specific task of accounting as the informational base for managerial decisions in innovation activities and to ground requirements to accounting as the subsystem of managing enterprise’s innovation activities.

According to the Oxford Dictionary of Economics ‘innovation refers to the economic application of a new idea’. Many scholars, among which [8; 9] consider the essence of innovation as the set of organizational and economic changes in the production system. According to Tidd [10] innovation is a general activity associated with growth and survival and a common fundamental process that can be seen in all firms, which involve searching, selecting, implementing and learning. Oslo Manual [11] defines innovation as the implementation of a new or significantly improved product (good or service), or a process, a new marketing method, or a new organizational method in business practices, workplace organization or external relations. Also a number of researchers [12; 13] interpret innovation as the final result of introducing new technology, developing new markets, implementing new organizational forms.

Thus, among scholars at least two main positions can be distinguished: innovation as the process of generation and commercialization of novelty and innovation as the result of these processes.

The review of modern conceptual vision of innovation can lead to the following conclusions. Firstly, the criterion separating innovation from novelty is commercialization. Secondly, the distinguishing feature of innovation is that the principal means for progress is the commercialization of knowledge. Thirdly, innovation has implications both in dynamics (innovation as the process), and in statics (innovation as the result). So, while evaluating innovation it is reasonable to assess enterprise performance in dynamics (before and after innovation) and to determine the impact of discrete innovation on the whole innovation activity of an enterprise. Innovation may be considered successful if not only target enterprise performance is achieved but also during the process of innovation the fund necessary to start (and probably successfully finish) the process of subsequent innovation is accumulated. Only systematic implementation of successful innovations is pledge of enterprises’ wellbeing and success. As innovation at the most abstracted level can be regarded as an attempt to a better change, the only way for an enterprise to survive and succeed in a constantly changing environment is to change for the better. But every change entails uncertainty and risk.

Due to the lack of comprehensive, unambiguous, consistent and stable set of values, perfect and complete information, and constraints imposed by historicity, most, if not all, decisions in organizations are made in uncertainty [14]. Instability, risk and uncertainty of environment call the concept of enterprise safety into being.

For today there is no strong agreement upon the definition "enterprise safety" among scholars. Frequently it is regarded as ability to withstand adverse external factors, as capacity to provide stability and adaptability of an enterprise in unfavorable environment and marketing conditions [15; 16].

In the most general sense, safety is a condition without threats. Threat is often regarded as the cause of undesirable state. If we define threat as anobjectively existing possibility of negative impact on a social organism, which results in loss, damage, worsening of performance or development, the rationality of distinguishing two aspects of safety seems to be grounded. In our opinion, it is important to distinguish between economic safety of enterprise state (the security against negative influence of external and internal environmental factors) and economic safety of enterprise activity (the ability to realize its economic interests), i.e. the concept of "economic safety" of an enterprise should be defined on the basis of distinguishing the dynamic and static components.

In a narrow sense economic safety of an enterprise is the absence of significant threats to its economic goals. Such a narrow interpretation limits applied research, as assumes a situation of complete absence of threats. However, the absence of threats is the only idealistic assumption, the theoretical abstraction from the realities which may be used to reveal the deep essence of the phenomenon being studied. In order to develop a mechanism of economic safety management that can be employed in practice a researcher should proceed from the fact that the interaction of an enterprise with entities of internal and external environment always causes contradictions which lead to immediate threats.

Based on this, it may be proposed to consider economic safety of an enterprise in a wide sense as the economic position of an enterprise, characterized firstly by certainty, existence, integrity and security of businesses against negative influence of external and internal environment (economic safety of enterprise state) and, secondly, by the possibility to realize its economic interests (economic safety of enterprise activity). Using this approach the unity of static and dynamic components of the concept "economic safety of an enterprise" that are interconnected and interdependent is achieved.

Economic safety of enterprise state may be defined as the internal conditions of an enterprise, which are characterized by integrity and security of an enterprise against negative impact of internal factors and changes in external business environment. Sustainability, integrity, independence and safety against undesirable external and internal changes
characterize economic safety of enterprise state (ESES), so ESES is the basis for the achievement of goals, and therefore – embodies direct interest of an enterprise and has a significant impact on economic safety of enterprise activity.

Economic safety of enterprise activity (ESEA) may be defined as the market conditions, in which opportunities to realize economic interests of an enterprise objectively exist and are apprehended by the management of this enterprise. While taking opportunities an enterprise interacts with various entities of external and internal environment, thus ESEA also characterizes safety of relationships between an enterprise and numerous stakeholders in business environment.

We consider it necessary to emphasize that the static component of economic safety, ESES, is not immutable since the factors that determine enterprise position are dynamic. The assessment of ESES characterizes the situation at a particular time point. The assessment of the dynamic component of economic safety, ESEA, represents the economic safety in a period of assessment and for a subsequent period and reflects expectation of changes on behalf of stakeholders, which may have impact on the enterprises’ ability to realize its own economic interests.

In practice for creating effective economic safety management it is essential to formulate interests of the enterprise, to determine the set of stakeholders and to reveal contradictions and primary deep-rooted causes of possible threats.

Entrepreneurial activity is inherently associated with innovation and the foundation of business success in successful innovation. Innovation has three main features: the scientific and technical novelty, industrial applicability and commercial feasibility. Commercialization recasts invention into economic necessity, thus performs innovation as a source of income. Dukhov [17] emphasizes that it is receiving additional income from an enterprise and that in turn forces its competitors to use legal, semi-legal and illegal methods of economic intelligence. These actions are aimed at obtaining information on innovation – the source of super profits – which are trade secrets and is subject to protection. Diffusion of innovations leads to loss of competitive advantages, thus threatens interests of an enterprise. So it seems that the existence of innovation is one of the main causes of threats. But it should be noted that despite the above, the absence of innovation is also a great threat to enterprise economic safety.

Under crisis both in local and in global market, the problem of increasing business profitability gains especial relevancy; rational and effective employment of business resources ensures survival and maintenance of economic potential of any enterprise, which can be considered as the ground for enterprises’ resistance against external and internal threats.

Following the approach of distinguishing between static and dynamic components of economic security, it seems that evaluation of ESES is more developed by scholars, and thus different assessment procedures and techniques are proposed [16].

The common feature of such proposals is that the level of economic safety is characterized by the set of indices; the majority of these indices reflect efficiency of employing material and finance resources. This is really justified by the idea that the financial result of any business significantly influences the position of an enterprise. However, the financial result also depends on the positive and negative changes in internal and external environments, is influenced by potential and real threats, and this is not considered in existing methods.

Thus, while evaluating economic safety it is necessary to supplement calculating the effective employment of resources by identifying opportunities for businesses, i.e. to measure the level of economic safety of enterprise activity. Comprehensive assessment of economic safety of an enterprise enables to create and implement the management system, which will ensure not only good results of financial and economic activity but also continuous improvement of its effectiveness by developing and implementing management measures to solve the problems (based on ESES’s estimates) and to prevent their occurrence (based on ESEA’s estimates).

Certainty about the existence, integrity and security of an enterprise against negative influence of external and internal environmental factors is based on the availability of necessary business resources in case of their effective employment, therefore, assessment of ESES should be carried out per financial, material, labor and information resources.

The stages of current assessment of ESES level can be the following [18]:
1) computing the selected indices of financial, material, labor and information resources efficiency;
2) calculating the ratio of selected indices;
3) determining the level of ESES per each type of resources;
4) determining the integrated level of ESES.

In order to increase the efficiency of diagnosis, it is advisable to select the factors that determine the impact of certain economic threats on the enterprise’s economic safety. Thus, the impact of threats from suppliers of resources and services may depend on: a supplier’s share in total resources and services employed by an enterprise to achieve its target performance, the degree of substitutability of resources or services obtained from a supplier, the additional costs of replacement, etc. Specifying factors are considered by the expert group in the process of diagnosing the economic safety of the enterprise. The set of stockholders may include consumers, suppliers, competitors, public authorities, mass media and other contact parties.
While reasoning managerial decision on innovation activity it is rational and useful to assess economic safety of an enterprise from the following angles:

1) the level of economic safety of enterprise initial state (which in general is assessed by the level of selected financial and economic indices before starting the innovation process and the level of potential threats in case of rejecting to innovate);

2) the level of economic safety when adopting innovation (which in general is characterized by the ability to resist negative external factors (including uninformed customers) and rejection of personnel to innovation)

3) the level of economic safety of enterprise final state (which in general is assessed by the level of ESES adjusted by potential threats arisen in case of failing to obtain proper innovative product for specific market or to introduce obtained innovative product to specific market appropriately).

To resist factors that restrain foreign economic operations the management of an enterprise should contain the special subsystem dealing with foreign markets' threats and ensuring the proper level of economic safety of innovations. The construction of economic safety management of innovation activity should be based on the following:

1) innovation cost management should be built on the one hand as a subsystem of cost management and on the other hand as an informational subsystem of strategic accounting management;

2) clear sustainable links between all elements of the innovation activity’s system of economic safety management should be established and employed in order to perform all functions of the management;

3) the system should be featured by the ability to self-development and continuous monitoring of threats from external and internal environment of an enterprise;

4) the system should dispose of response means in order to optimize the resources’ potential of an enterprise and in this way to ensure systematic innovation activity on the basis of target level of economic safety of an enterprise.

The crucial object of enterprise economic safety management is costs incurred in innovation activity. Innovation activity of an enterprise may purpose cash outflows into research and development; new technology acquisition and purchase of new outside knowledge; machinery, equipment and software acquisition; preproduction for innovations and miscellaneous expenses. During the last years the structure of innovation expenses was far from the optimal (Fig. 2): as research and development expenses did not exceed even 15% of total, enterprises mainly acquired modern equipment and did not invest into their development. This way for innovation activity can ensure neither competitive advantages on global market nor sustainable development of enterprises.

Fig. 2. Changes in innovation expenses of enterprises in Ukraine [1]

One of the numerous reasons for low research and development activity of enterprises in Ukraine lies in the sphere of accounting. According to National Standards of Accounting research and development expenses are not capitalized but are recorded as expenses of a period, and thus these expenses should be posted to decrease income. So, the amount of research and development expenses seems to influence negatively on the level of enterprises’ profitability according to the accounts. In case this approach is followed in management accounting research and development expenses may be equated with administrative expenses, selling, etc., that should be kept on minimum in order to make the bottom-line look better. The management accounting attitude is indication of “company culture” related to innovations; managers who treat innovations as investments usually have a more strategic view of innovation activities.

Moreover, it should be noted that the crucial requirement for cost management of innovation activity as a part of economic safety management system is ensuring innovation’s decision making on the criterion that total cost of creation, selection, incubation and implementation of innovation may be less than total cost of an innovative product, as an asset generated during innovation process. This is the main but not the only limitation in the construction of cost management’s optimization model.

Another limitation is the resource limitation, which is the requirement for employing material, finance, labour and information resources in the process of innovations’ commercialization. Resources’ utilization entails expenses (accrued in the period of consumption and which cause decrease in income) and costs (recognized as assets and reported in balance sheet).

In order to elaborate the model of optimizing innovation activity expenses it may be proposed to find out solutions for the following tasks:

1) scientifically grounded selection of integral index to economic effect gained from the implementation of innovation in static and dynamic components;
2) formulating the system of limitations, selected during the innovation budgeting regarding possibilities of employing material, finance, labour and information resources on the ground of criterion function of effect index maximization;
3) completing the system of limitations by requirements on possible employment of resources for effective response to external and internal threats which may occur during the innovation implementation.

The target function in the model of optimizing innovation activity cost is defined in accordance with enterprises’ strategic goals by the level of economic safety of innovation’s adoption or by the level of economic safety of enterprise final state.

To ensure efficient and effective management of innovation activity which meets target level of enterprises’ economic safety it is necessary:
1) to introduce special method assessing economic safety of an enterprise and managerial subsystem that is able to prevent internal and external threats and create opportunities for systematic innovations;
2) to create innovation cost management within the overall system of economic safety management;
3) to consolidate general management and accounting system into one flexible management information system;
4) to develop an adequate system of strategic management accounting, that provides internal decision makers with appropriate operational information relevant for implementing innovations.

In practice following the proposed approach requires establishing the adequate information base which would support prompt decision-making in frameworks of innovation activity’s economic safety management.

To follow the path of sustainable development of management every enterprise should contain the special subsystem dealing with threats and ensuring the proper level of innovation activities’ economic safety. The development and scientific justification of the structure, components, goals and procedures of this subsystem begin with disclosing the nature of links between safety and innovations.

Innovations and economic safety are closely interrelated: systematic successful innovation activity ensures economic safety of an enterprise, while economic safety provides an enterprise with opportunities for further innovations. To ground managerial decision upon launching a new product it is reasonable to assess the level of economic safety of enterprise state and the level of economic safety of enterprise activity. While the first index reflects the achieved position of an enterprise, the second one gives ground to forecast changes in interests of numerous stakeholders (among them consumers, suppliers, competitors, public authorities and mass media are of high priority) and to prevent potential threats.

Accounting is an essential element in the system of economic safety management of innovation activities. Among specific tasks of accounting to ensure successful managerial decisions upon innovation the most relevant are:
1) for financial accounting: analytical accounting for accounts payable and accounts receivable, preparing statements on economic safety of an enterprise by material, labor, information and financial recourses and performing it to senior management; control of calculation’s accuracy, completeness and timeliness of payments, control of correctness of primary documents that accompany the innovation activity of an enterprise;
2) for managerial accounting: planning of innovation activity and evaluation of plans, development and implementation of assessment workflow of economic safety, setting the frequency of assessment and analysis of economic safety, development and implementation of the detailed schemes of evaluating and analysing of economic safety, reporting to the appropriate governing body, improvement of the current system for evaluating economic safety of an enterprise’s innovation activity.

Assessment of economic safety of an enterprise’s innovation activity should employ not only special techniques, but should also consider the differences among industries and unique features of internal and external environments of different businesses. Discovering these features and scientific grounding of its consideration by economic safety management are among the essential tasks for future research.

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