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JUSTIFICATION OF INNOVATION DEVELOPMENT AND CHANGES OF ORGANIZATIONAL FORMS OF ENTERPRISES IN CRISIS CONDITIONS

In the article were considered and systematized scientific approaches of different authors to determination of positive crisis impact on the development of enterprises. The latest methods of effective development under conditions of crisis, such as partnership, investments attraction, promoting innovation and outsourcing have been ascertained. They have proposed the mechanism of the enterprise development during the crisis, which consists of three stages: determination of factors affecting the index of enterprise development in crisis; development of mathematical model of enterprise index assessment under the conditions of a crisis and the choice of enterprise development method during the crisis. The mathematical model of assessment index of enterprise development in crisis has been elaborated. The index value of the enterprise development will allow determining the level of enterprises development in a crisis. The main assignment of the proposed mechanism of enterprise development in crisis circumstances as achievement of a positive synergetic effect has been distinguished. The perspective direction for further research, which involves the rational use of synergic effect for enterprise development in the crisis, has been defined.

Key words: crisis, organizational forms, partnership, investment, innovation, outsourcing, enterprise development mechanism, the index of enterprise development in a crisis.

Formulation of the general problem. The global financial crisis and growing of uncertainty of enterprise environment lead to the increase of competition in the domestic and foreign markets, the appearance of new innovation-oriented competitors, offering a wide range of goods and services. Currently under the conditions of company crises it would be necessary to direct all efforts to its development, because it is the search of development methods that give it competitive advantages and leading position in the market. All this requires a search for more effective and new directions of the enterprise development in crisis. In connection with the above, the definition of the positive aspects of crisis impact on the development of innovative development of enterprises is definitely important.

Analysis of recent researches and publications. The crisis items represent a scientific interest for many researchers. On the one hand, scientists are exploring the crisis events as negative and destructive (V. Danich, N. Parkhomenko¹, P. Kukhta², A.M. Shtangret³, and many others). On the other hand – as positive (M. Dovbenko⁴, N. Kushnir⁵, I. Reshetnikova, M. Sagaidak⁶, Ch. Rou-Dufort⁷). But the position of the latest scientists confirms that the global crisis has shown the inefficiency of the old economic laws and practices due to changes in economic systems and economic relations between them. Therefore,

¹ Даніч, В.М., Пархоменко, Н.О. (2013). Визначення кризового стану підприємства. *Маркетинг і менеджмент інновацій*, 4, 208 – 218.

² Кухта, П.В. (2012). Кризи, їх причини та наслідки. *Ефективна економіка*, 10. <<http://www.economy.nauka.com.ua/?op=1&z=1439>>

³ Штангret, А.М. (2013). Методичні аспекти забезпечення фінансової безпеки підприємств. *Науковий вісник НЛТУ України*, 23.2, 328 – 335.

⁴ Довбенко, М.В. (2010). Вихід з економічної кризи: методологія обґрунтування Нобелівських лауреатів і реалії України. *Бюллетень Міжнародного Нобелівського економічного форуму*, 1(3), 100–110.

⁵ Кушнір, Н.Б. (2016). Особливості антикризового управління та економічної діагностики підприємства в сучасних умовах. *Ефективна економіка*, 5. <<http://www.economy.nauka.com.ua/?op=1&z=4954>>

⁶ Решетнікова, І.Л. (2016). Вплив економічної кризи на поведінку вітчизняних споживачів і сприйняття інновацій. *Маркетинг і менеджмент інновацій*, 4. 191–205.

⁷ Rouh-Dufort, Ch. (1996). Crises: des possibilité pour... enterprise. *Rev francaise de gestion*, 108, 81.

the crisis is that driving force that motivates most today's scientists to develop such models, methods and forms of enterprise development that fully meet the requirements of modern times.

Methods of research. The method of abstraction has been used in this paper to determine the nature of the crisis and systematize different scientific views on concept in question; analysis to determine the trend in change of the number of enterprises in Ukraine; grouping while distribution of integration methods, adaptation and development of enterprises under the conditions of crisis; economic and mathematical methods to develop a mathematical model of index assessment of enterprises development in a crisis with multiple variables.

The goal of research is to study the nature of the crisis in terms of its impact on new possibilities of enterprises integration and the justification of their innovation development.

Key ideas of material. The practice has proven that crisis events influence any kind of enterprise that could jeopardize the existence of the company or vice versa become that impact that will push it to development. The positive impact of the crisis is extremely important for the company, the industry in which it operates and the national economy as a whole. It is supported by research data of different scientists what concerns the definition of the positive impact of crisis on development of enterprises, which is shown in the table 1.

Table 1

**Scientific approaches to determine the positive impact
of a crisis on the development of enterprises**

Name of scientist	Definition of «crisis»
Ch. Rou-Dufort	«A crisis has not only negative and destructive nature, but is also the potential for changes and the organizational basis for learning»
Y. Osipov	«The crisis process is not the end yet, and even not the catastrophe ... Without crisis there is no development, no qualitative changes ... The crisis is an obligatory prerequisite and condition of a qualitative advance»
N. Kushnir	«The crisis process in the organization, which is going on in the set (desired) direction can be described as a form of forward motion of the system.»
M. Dovbenko	«The crisis is the disturbance of the balance and at the same time, the transition to a new equilibrium. » «The crisis is a change of organizational forms of the complex (system), break point in the course of its development»

The carried out above mentioned study of scientific opinions prove that under the conditions of crisis not only decline, bankruptcy or liquidation of the company, but its rapid development, reorientation of production and other positive effects can occur as well.

It is important to note that crisis and depression tendencies of Ukrainian economy have dramatically increased the motivation of the business sector to create new enterprises and new forms of activity. The confirmation of this trend can be seen by the example of the number of registered and liquidated companies during the times of deep economic and political crisis in Ukraine for the years 2012-2015, as shown in Table. 2.

Table 2

**Analysis of key indicators to determine changes in the number
of Ukrainian enterprises and profit (loss) for the period of 2012-2015
(compiled by the authors)**

Years	Total number of enterprises in Ukraine, units.	The change of the total number of enterprises resulting from:		Balance of net profit (loss) of large and middle sized enterprises, mln. UAH.
		Registration of new enterprises, units	Liquidation of existing enterprises, units.	
2012	1600127	4978	2792	8673,5
2013	1722070	4885	2691	-4294,5
2014	1931161	5057	1267	-258794,2
2015	1974439	4995	1113	-186729,2

When analyzing the data of the table 2, we can conclude that despite of the fact that the number of liquidated enterprises is decreasing with every year (from 2012 till 2015 by up to 1679 units.) and the number of the registered ones is increasing, we can see that their work is unprofitable. On the basis thereof we can conclude that there are no new and more effective mechanisms of enterprises development in a crisis.

Many companies that operate in a crisis, require mechanisms to adapt to these conditions and practices that promote enterprise development in this uneasy period. In virtue of it, the authors have divided the methods of adaptation and development of enterprises in a crisis into two groups: conventional and advanced (table 3).

Table 3

Methods of adaptation and development of enterprises in crisis
(elaborated by authors)

Conventional methods of adaptation	Advanced method of adaptation
<ul style="list-style-type: none"> – anti-crisis management; – restructuring of an enterprise; – rehabilitation of an enterprise; – reorganization of an enterprise.. 	<ul style="list-style-type: none"> – partnership; – attracting investment;; – implementation of innovations; – outsourcing.

Summarizing the various methods and approaches presented in the Table 3, we can identify the method that would be most effective for the development of enterprises in a crisis.

Let's consider the latest methods of enterprises development in a crisis.

During the crisis, the most popular strategy is integration in the form of strategic partnerships. In this form, retaining separate management, enterprises can enjoy the benefits of joint activities.

The main technological innovation reasons that motivate businesses to create strategic partnerships are the following:

- Partnerships can create stable channels of advanced knowledge transfer;
- Partnerships expand the scale of enterprises activity and simplify the access to unknown technologies;
- Joint development and innovation projects can reduce the cost of the innovation process;
- Partnerships provide integration to the network of innovation-oriented structures;
- Partnerships allow enter the international arena with the retention of differentiation and specialization;

Strategic partnership often envisages cooperation of efforts in any definite direction, which doesn't prevent companies to remain competitors in other markets. This saves on the amounts on account of carrying out the joint action with separate acquisition of income.

As a result of partnerships integration, ties between enterprises and new organizational forms are emerging. The creation of such forms contribute to the development of enterprises in crisis, getting in the first place financial mutual support and synergy effects of cooperation (tab. 4)

Thus, having characterized the main forms of business, we can come to the conclusion that some of enterprises directly unrelated by sectoral and technological principles and financial institutions have been integrated.

Centralization of production, finance, foreign trade and other activitiest is carried out; reduction of an enterprise risk due to significant concentrations of financial resources and considerable diversification of products takes place; unification of different types of business activities allows coordination of financial flows, their optimal redistribution to ensure effective use of financial resources; operaion pursuant to the developed general strategy; lack of internal competition for clients or for quota production; formation of a unified database of customers who are clients for almost all participants.

Systematization of enterprise interaction mechanisms allows stating that current conditions the state of the investment climate of the country and the creation of its investment attractiveness is especially topical for domestic enterprises in choosing the direction and path of development. In this regard, there appears to be a need of another process that involves creating and maintaining investment attractiveness of enterprises to achieve the goals towards their development.

Table 4

**Assessment results of conformity of major integration associations
in the investment market (developed by authors)**

Type of association	Factors of compliance to the conditions of effective activity
Consortium	<ul style="list-style-type: none"> – companies can simultaneously be members of several consortia because they can participate in the implementation of several projects; – temporal pool of capital, complementary resources and capacities for a limited period in order to achieve the objectives in the process of joint project implementation; – when the goal achieved a consortium ceases to exist
Association, union	<ul style="list-style-type: none"> – no right to interfere in the operational and commercial activities of any of the participants; – non-profit public association, which does not conduct business; – freedom for parties in decision-making as a result of the main goal – coordination of participants business activities, protection and lobbying of their interests, more efficient organization of work of consulting and information support; – temporary association.
Strategic alliance	<ul style="list-style-type: none"> – a form of cooperation between two or more independent companies, including potential or actual competitors in the long run for achieving a particular goal; – a company may participate in a big number of strategic alliances; – inefficiency of such form of association; – difficulties of coordinating activities of the alliance participants(partners can make decisions suboptimal to strategic alliance as a whole); – control complexity (lack of autonomy of the participants of strategic alliances causing internal conflicts); – different initial expectations by alliance partners, while one company is trying to avoid competition, the other strives to become first in access to latest technology and knowledge; – temporary association
Cartel	<ul style="list-style-type: none"> – long-term contractual association of several enterprises in one branch of production; – the purpose of creation is receiving significant profit by all parties of the agreement by eliminating or regulating competition between them, and by the suppression of "outside" competition; – internal competition for quota production
Syndicate	<ul style="list-style-type: none"> - monopolistic agreement of enterprises of the same branch of production, whose members are losing ownership of the manufactured product; – internal competition for clients or for the production quota
Trust	<ul style="list-style-type: none"> – participants lose ownership of the means of production and manufactured product, industrial and commercial independence, that is combining the production, sales, finance and management of agreement parties; – lack of central investment funds, subordination of individual businesses to overall objectives of the trust (otherwise liberalization of trust relations considerably weakens, which complicates the management process); – internal struggle for the most influential positions in the government for income distribution.
Monopolistic concern	<ul style="list-style-type: none"> – the parties lose ownership of the production means and manufactured products; – Limited companies within the group, in decision-making; – Centralization of functions of scientific, technological and industrial development, investment, finance, foreign trade and other activities; – Internal competition for clients or for the quota production.
Conglomerate	<ul style="list-style-type: none"> – significant diversification, which can lead to management difficulties; – significant expenses required to create a conglomerate in the case of implementation of absorption mechanism.

We can talk about innovation and investment development of the enterprise, which will provide regular qualitative and quantitative changes in the enterprise operation through continuous transition of investment achievements and attractiveness in innovations that strengthen competitiveness and promote development, which will enable leading innovation at a new level.

In January – September 2016 the enterprises of Ukraine attracted investments of the total amount of 204,450,100,000 UAH, which is 43,727,400,000 USD more than at the same period last year, and that proved that this method is effective and important in enterprise development in a crisis.

The need for innovation implementation for enterprise development in the crisis is stipulated by the following:

- Innovation is a channel of implementation in practice of the achievements of the human intellect, scientific and technical results, contributing to the intellectualization of labour and the increase of its scientific content;
- Through innovations the range of goods and services expands, their quality improves, contributing to the growth of needs of every person and the society as a whole and their satisfaction;
- Innovations make it possible to engage new productive forces in production, to produce goods and services with less labor, materials and energy inputs, etc;
- Concentration of innovations in this or other fields promotes the compliance rehabilitation structures to environment structure taking into account new needs.

Thus, innovation is an essential element of the implementation of the basic laws of the enterprise development, the condition of its viability, survival and development. At the same time innovations develop by its own laws.

For the successful development of the enterprise in a crisis it is not essential to perform all non-profile functions related to the main activity of the enterprise, maintaining these processes can be assigned to a specialized organization – the outsourcing firm.

Transfer of the functions of one or more parts of the value chain to external partners has a number of strategic advantages allowing:

- getting comprehensive services of higher quality and less expensive;
- improving the innovative capabilities of the company through collaboration and partnership with world-class suppliers who have great intellectual potential and rich experience in innovation;
- providing better company flexibility in case of sudden changes in the market situation or consumer preferences: it would be easier and cheaper to find new suppliers with the necessary capabilities and resources than rebuild inner operation of the company, through liquidating one kind of facilities and resources and creating new ones;
- accelerating the acquisition of resources and skills;
- focusing on those operations which are effectively performed by the company and those which are strategically advisable to be kept under its control;
- promoting concentration of the outsourcer entire attention on the core business of the contracting company;
- enabling the reduction of company personnel;
- contributing to a better quality of implementation of certain functions of organization by specialized firms;
- ensuring the reliability of services provided by outsourcers through a combination of specialization and experience, reducing the risk of an enterprise.

To implement the methods of enterprise development the need of elaboration of the mechanisms of the enterprise development in a crisis arises. The authors have proposed a mechanism which is shown in Figure 1.

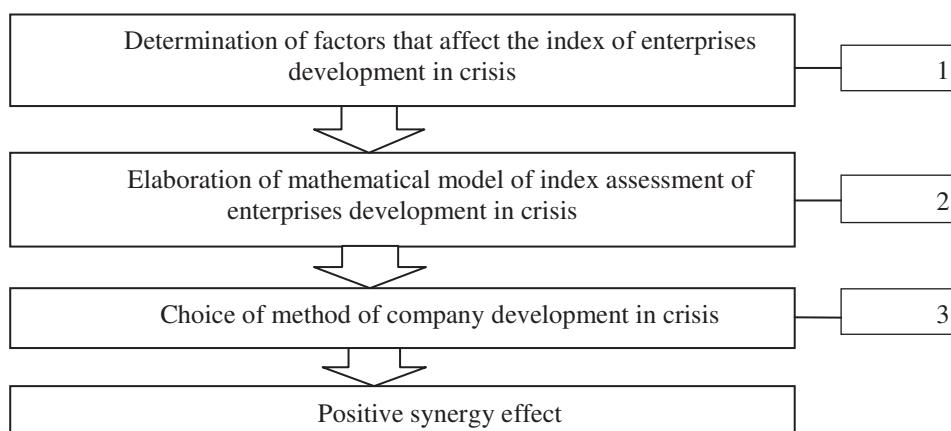


Fig. 1 – Mechanism of enterprise development under the conditions of crisis
(elaborated by authors)

The proposed mechanism consists of three stages which should lead to a positive synergistic effect. Thus, the first step is to develop methodic guidelines of index assessment of the company development in a crisis and identify the key factors that determine the development of the company in crisis. According to the authors, these factors are:

- enterprise interaction forces with other market entities;
- financial stability;
- efficiency of investments operations;
- innovation activity.

Each of the specified factors can be represented as a series of relevant indicators, the calculation of which will allow assessing the impact of each factor on the development level of enterprises in a crisis. Thus, the main factors and indicators that most accurately reflect the state of the company in crisis are determined.

At the second stage the mathematical model of index assessment of enterprises development under conditions of crisis with several variables (factors of development) is formed. That means that the calculation the index of enterprise development in a crisis will have in general the following formula:

$$I_{IED} = a_1 \cdot IIF + a_2 \cdot IIA + a_3 \cdot IIAE + a_4 \cdot IFS,$$

where a_1 is a weight of a relative factor in determining the development of the company in crisis.

IIF is the index of interaction force with other business enterprises in the market;

IIA – index of innovation activity;

IIAE – index of innovation activity efficiency;

IFS – index of financial stability.

If after appropriate calculations the value of enterprises index in a crisis is greater than one ($I_{IED} > 1$), it can be stated that the enterprise is developing quite actively. If the index is equal to one ($I_{IED} = 1$), it indicates a stable state of an enterprise in accordance to the mechanism of its further development. If the index is less than one ($I_{IED} < 1$), then a negative trend for the company is observed, which requires more effective tools and methods to ensure its development.

Thus, the dynamics of the index of enterprise development in a crisis is characterized by the general state of the company and reflects the trend of its economic growth.

In the third stage the trend direction (positive or negative) provides the basis for making specific decisions and choice of method of economic development for enterprises in a crisis. Well coordinated work at all stages gives the expected positive synergistic effect.

Conclusions and further research. On the basis of analysis of various scientists' scientific opinions and economic practice it has been proved that the crisis may not only be a negative, but a positive event in the economy, it could push the company to develop. Therefore, the development in the crisis is the crucial step that can allow the company to take a leading position in the market. It is efficient under these conditions to search the new methods of enterprises development in a crisis like partnership; attracting of investments; implementation of innovations and outsourcing. To engage these methods we have proposed a mechanism of the development, which implementation would provide the possibility of choice of the most effective method for each individual company.

Thus, the effective implementation of new techniques is the best way for the development of enterprises in a crisis.

The rational use of synergic effect for enterprise development in the crisis should become a promising trend of further research.

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