






Management of Modern Enterprise Development: Digital Competence Formation within the Context of Crisis Management

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Abstract: The article suggests financial control principles for crisis management (implementation of the anti-crisis development strategy) including compliance of the selected strategy with parameters of the internal and external environment, compliance of the organizational structure with parameters of the internal and external environment; the optimal structure of property and liabilities; the optimal income-expenses ratio; the optimal cash inflows-outflows ratio. It is proven that the anti-crisis strategy can only be applicable to a particular enterprise as there is no universal strategic crisis management. It is ascertained that each enterprise has its own features of the management structure and a financial mechanism of its provision, so strategy formation is specific and depends on the enterprise's position on the market, dynamics of its development and potential, competitors' behavior, characteristics of manufactured products (provision of services), the state of the country's economy, the business environment and many other factors. The necessity and ways of digital competence formation in the conditions of crisis management are determined.


1 INTRODUCTION


Today, intensification of world globalization processes and the economic recession have influenced basic economic factors of the external environment on activities of national enterprises.


A new paradigm of enterprise development management is gaining significance. The paradigm is different from the classical one in recognition of uncertainty, transition from the wish for stability to flexibility, provision of long-term efficiency of activities using not only quantitative, but also qualitative indicators in the in-depth study of their causes.


There arises an urgent need to reassess the structure and the content of the enterprise development mechanism and adapt its elements to current economic conditions. Considering this, the


environmental security problem should be solved by involving individual industrial enterprises that are to be considered as an initial stage of green production which envisages constant recreation of scientific ideas, information materials, technical means and engineering solutions to provide a mechanism of efficient resource use and green production conditions. Nowadays, it is of primary importance to develop innovative technological processes that could provide the foundation for waste-free green production with high engineering and economic indices and integrated resource use. Because of some technical and economic reasons, it is impossible to transit to waste-free technology immediately. Green production technologies imply step-by-step transition to low-waste and then waste-free closed-loop cycles. Only in this way, the goals of sustainable resource use

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and environmental protection can be achieved (Matukova et al., 2021).

2 MANUSCRIPT PREPARATION

The problems of enterprise development management are touched upon in scientific works by such foreign and national researchers as O.L. Haponenko, Ye.H. Yelifirov, Yu.S. Pohorelov, O.V. Raievneva, M.R. Tymoshchuk, L.V. Frolova, M. Hammer and others. Paying tribute to the significant scientific and practical context of the mentioned researches into the problem of enterprise development, some tasks of a conceptual nature remain unsolved. Today, scholars consider certain aspects of enterprise development management, but do not pay sufficient attention to substantiating a comprehensive system of management (Portiankova et al., 2020).

The research aims to study and suggest principles of financial control for crisis management (implementation of the anti-crisis development strategy) including compliance of the chosen strategy with parameters of the internal and external environment; compliance of the organizational structure with parameters of the internal and external environment; the optimal structure of property and liabilities; the optimal income-expenses ratio; the optimal cash inflows-outflows ratio, as well as determination of digital competence formation within the context of crisis management.

Presentation of main materials and substantiation of the research results obtained. While managing enterprise development, its main aim, basic tasks and principles are formed through implementation of certain functions. According to the general theory of management, the process of development management at an enterprise can be realized through the following basic functions:

- forecasting (planning) includes defining target guidelines, setting tasks of operation (tactics) and development (strategy), determining ways and means of implementing plans;
- organization and coordination include creation, coordination of factors and processes of plan implementation;
- stimulation and intensification involve creation of personnel's motives and incentives to perform coherent and effective actions;
- monitoring implies systematic observation of activity results, their analysis, adjustment of plans, ways and means of their implementation (Pashchenko, 2011).

Development is not a one-time non-recurrent transformation aimed at achieving the best (and therefore the primordial) state of a system. It is a process that does not stop in time, the course of which does not always occur constantly and continuously most often going in jumps along with overcoming crises of various depth and coverage (Vasilenko, 2011).

Management of enterprise development is basically aimed at providing its effective operation. Reliability, sustainability, survivability, and motivation for development are main components of viability that reflect various aspects of business activity (Kashuba, 2011).

L.M. Shymanovska-Dianych generalizes approaches to providing a definition of development as a philosophical category: development is a process of self-progression from the lowest level to the highest one, this resulting in disclosure and implementation of internal trends, revealing the essence of phenomena, emergence of something new and causing changes in various forms of matter (convenience translation) (Shymanovska-Dianych, 2012).

In managing development of a modern enterprise, crises should be focused upon. The beginning of a crisis can be predicted using the theory of cycles and crises. By studying the change in the enterprise's life cycles, it is possible to determine some turning points approaching and with sufficient probability set timing of their achievement and depth of shocks (Prokopyshyn, 2021).

Development of the enterprise involves formation of its strategy. The concept of strategy is derived from the ancient Greek word *strategia* (*stratos* means army and *ago* – the art of the commander) that describes the most important part of the military art. As for development of the economic sphere, the concept of the enterprise strategy first appeared in 1911 at Harvard University where a course of business policy began being taught. In the 1960s, there arose a scientific interest in the concept of strategies.

Today, there are a number of definitions of the strategy that interpret this concept depending on the research object and the subject in relation to a particular situation.

H. Mintzberh distinguishes five definitions of the strategy: as a plan (a system of consistent actions); as a position (determining the position of an organization in the external environment and in relation to its main competitors); as a smart trick; as a principle of behaviour; and as a prospect (Porter, 2005).

The enterprise's strategy covers long-term, most fundamental, important instructions, plans, and intentions of its management regarding production, income, costs, investments, prices, and social protection (Melnyk, 2012).

Strategies are formed in three directions:

- the strategy of cost control based on reducing the enterprise's own costs compared to those of its competitors through mandatory control over costs, or by regulating the size of the enterprise and the volume of products, due to which its higher performance is achieved;

- the differentiation strategy, the essence of which consists in focusing the enterprise's efforts on several priorities to have more advantages over other enterprises; here directions can be different, so there are many options of the strategy in practice.

- the focusing strategy when the enterprise purposefully focuses on either a certain group of consumers, a limited range of products, or a specific geographical market, a niche in the market most often being meant here.

As a rule, there are some obstacles hindering implementation of the formed strategies:

- in most cases, the strategy development process is not in line with actual strategy implementation; the strategy is developed considering the enterprise's activities for the future, while its implementation occurs in the current period, so the response to any changes in the external and internal environment should be timely;

- a strategy is considered only from the viewpoint of competition, but not changes in the enterprise's activities due to changes in the external environment.

Thus, the enterprise's strategy consists of planned actions (the formed strategy) and necessary amendments in case of unforeseen circumstances (unplanned strategic decisions). The enterprise should have a substantiated strategy of actions, yet be ready to adapt to unexpected circumstances that may arise in the future.

The purpose of anti-crisis control over the enterprise's finances should be based upon principles of unity of motives, tools and results. From this point of view, anti-crisis control over the enterprise's finance aims to financially enhance long-term development and existence of the enterprise on the market. All preventive measures of crisis financial management can be grouped as follows:

- general measures that enhance the economic security level of a business entity and ensure stability of its economic development;
- specific measures as a prompt response to current threats. The measures are not subject to typification

due to the unique nature of a particular crisis, and their choice and potential to combine are primarily associated with the level of professionalism of crisis managers, their intuition and accumulated experience.

The crisis management programme should combine general and specific measures. General measures that form the enterprise's protective reaction and increase its ability to withstand crises and trends should be developed on a continuous basis independent of real crisis threats occurring.

Principles of financial management include:

- aim/result-orientation: a crisis programme cannot be developed without considering hierarchy of aims of a particular enterprise's operation;

- reliance on monitoring financial indicators: building a system of prompt monitoring changes in key indicators of the enterprise and the environment to prevent crisis risks;

- predominance of managerial influence: forecasting crises threats prior to development of strategic plans in order to consider measures to prevent serious crisis losses and lost financial opportunities;

- financial flexibility: maintaining sufficient solvency of the enterprise by planning future financial flows through applying a strategic approach to selecting alternatives for financial resources allocation and deterring excessive innovations;

- economic feasibility of management: preliminary assessment of economic feasibility of implementing a specific measure of crisis financial management at the enterprise, comparing possible financial losses and costs of implementing the corresponding measure;

- compliance of the feedback form: informational support of implementing anti-crisis methods (Tkachenko et al., 2018).

Efficiency of implemented measures of the crisis financial management system of the enterprise is based on a set of principles that each manager should follow. Basic principles of financial management are as follows (Fig. 1).

In addition to the above principles, one can use general principles of management, namely systemacy, coherence (integration) of diversity, self-regulation, self-training, and selectivity.

Foreign scholars identify five groups of key competences that a specialist should possess:

- 1) political and social competences;
- 2) multiculturalism, i.e. the ability to communicate with different cultures and religions;
- 3) sociability;

4) digital competences related to the emergence of the information society;

5) competences aimed at personal and professional life-long self-development (Oleshko et al., 2019).

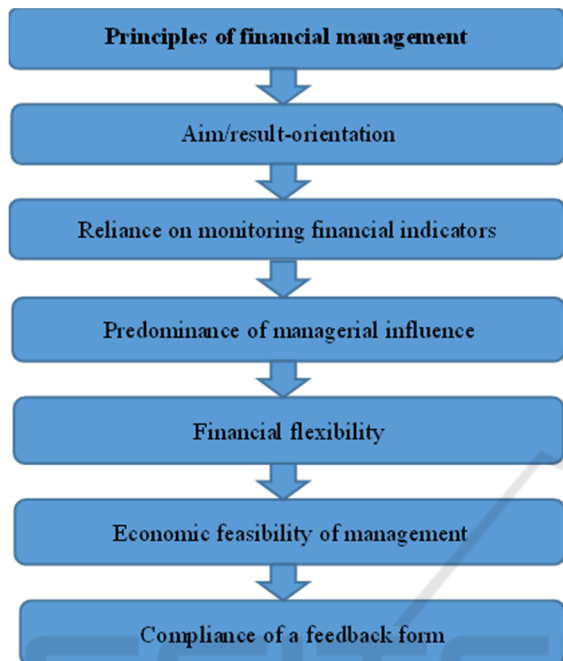


Figure 1: Principles of financial management (Tkachenko et al., 2018).

A competence is often seen as a quality, a characteristic of a person that allows them (or even gives the right) to solve certain problems, make decisions, judgments in a particular field. The quality is based upon knowledge, awareness, and experience of social and professional activities (Vedernikov et al., 2018).

The National Qualifications Framework approved by the Cabinet of Ministers of Ukraine (Decree #1341 as of November 23, 2011) defines that a competence is a dynamic combination of knowledge, skills, ways of thinking, views, values and other personal qualities that determine a person's ability to socialize successfully, perform professional and/or further academic activities (Pro zatverdzhennia Natsionalnoi ramky kvalifikatsii: Postanova Kabinetu Ministriv Ukrainy vid 23.11.2011 r. № 1341).

The concept of professional competence covers some specified skills including the requirement to perform certain individual tasks, use knowledge and skills in the workplace as established by requirements (standards) for this job, the ability to responsibly perform duties and achieve planned results, etc. (Matukova, 2014). Summarizing the above, we can

use the formula of the professional competence suggested by V. Lozovetska (Lozovetska, 2002):

$$\text{Professional Competence} = [(\text{Knowledge} + \text{Skills}) + \text{Emotional intelligence}] \times \text{Creativity}$$

Thus, in this approach, a professional competence can be defined as an integral characteristic of a specialist's business and personal qualities, which reflects the level of knowledge, skills, and experience sufficient to perform professional duties at a certain level.

Summarizing the main approaches to understanding the concepts competence and professional competence, it can be argued that a professional competence is professional-status opportunities for a person to exercise state, social and personal authority in professional activities.

The competence characterizes a person's integration into professional activities, their social and psychological maturity, professional orientation of their worldview and appropriate value orientations.

In current conditions, with rapid rates of information technologies development, various devices are constantly appearing and the number of Internet users is growing. Researchers indicate (Oleshko, 2019) that the key technologies impacting human development will include robotics, artificial intelligence, the Internet of Things, cloud computing, big data, three-dimensional printing, digital payment systems, interoperable technology systems and platforms. Today, digital technologies are used by the state, businesses and citizens. They are increasingly present in various areas of life, so it is important that all social groups of people are ready to use them effectively (O kompetencjach cyfrowych w Polsce na konferencji umiejętności cyfrowe, 2019).

The peculiarities of anti-crisis management in the digital economy must be taken into account not only at the stage when the enterprise has already found itself in a crisis situation, but when building an integral management system.

Scientists emphasize that total digitization of all hierarchical levels of the economic system creates a need for human resources of a new quality. Consequently, it is necessary to form and develop the personnel's digital competence to provide an opportunity to perform actively in the information environment and use the latest technological advances in professional activities.

On 17 January 2018, an updated version of key competences for lifelong learning was approved (recommendations 2018/0008 (NLE) of the European Parliament and the EU Council) (Council

Recommendation on Key Competences for Lifelong Learning), which include:

Literacy competence

Language competence

Mathematical competence and competence in science, technology and engineering

Digital competence

Personal, social and learning competence

Civic competence

Entrepreneurship competence.

Cultural awareness and expression competence (Kliuchovi kompetentnosti dlia navchannia vprodovzh zhyttia, 2018).

In order to implement the accelerated scenario of digital development, which is the most relevant for Ukraine in terms of challenges, needs and opportunities, the Cabinet of Ministers of Ukraine approved The Concept of Digital Economy and Society of Ukraine for 2018-2020 (Decree #67-p as of January 17, 2018), which provides for implementation of appropriate incentives for digitalization of the economy, public and social spheres, awareness of current challenges and tools for digital infrastructure development, acquisition of digital competences, identifies critical areas and projects of digitalization, and stimulates the national market of digital technology production, consumption and use (Pro skhvalennia Kontseptsii rozvytku tsyfrovoy ekonomiky ta suspilstva Ukrainy na 2018-2020 roky ta zatverdzhennia planu zakhodiv shchodo yii realizatsii, 2018).

The features of anti-crisis management of an enterprise in the context of digitalization are summarized in Table 1 (Butrova, 2021).

The transition to the digital economy also imposes new requirements on the head of the enterprise, on his professional competencies in the field of management, personnel management, and IT technologies.

The issue of creating a corporate culture based on effective interaction at all management levels and readiness for change is also important.

According to the Concept, development of Ukraine's digital economy consists in creating market incentives, motivations, demand and forming needs for using digital technologies, products and services among Ukrainian industries, life activity areas, business and society to ensure their efficiency, competitiveness and national development, high-tech production and well-being of population.

The digital economy can evolve through developing the national market of production, use and consumption of information, communication and digital technologies. Digital development involves a

set of tasks that will positively influence the economy, business, society and life of the country as a whole.

Introduction of digital jobs concept is also among digitalization areas in the Concept. Digital workplace is the virtual equivalent of the physical one, which requires proper organization, use and management, as it should guarantee increased efficiency of employees and create more favourable working conditions for them (Matukova et al., 2021).

Table 1: Features of anti-crisis management of an enterprise in modern conditions of digitalization.

№	Feature	Impact on anti-crisis management processes
1	The possibility of using automated control systems for collecting, processing and analyzing big data in real time, as well as generating new models and algorithms of behavior using artificial intelligence	Efficiency of data provision, incl. already calculated financial and economic ratios and other indicators necessary for making managerial decisions. Using the capabilities of artificial intelligence to generate new models and algorithms for the system's response to certain values, markers
2	Digital ecosystem: internal and external	Efficiency of interaction with government agencies, customers, suppliers. Additional advantage over "traditional" companies not involved in the digital ecosystem
3	"The paradox of profitability"	Growth of capitalization of digital companies against the background of their unprofitableness
4	High rate of change	The need to accelerate management decisions and predict the dynamics of development of the macro- and microenvironment
5	The dynamism of the macro environment	The need to take into account risks
6	Possibility to reduce costs through the use of digital technologies	
6.1.	Remote work	Possibility to reduce office maintenance costs
6.2.	Using digital twins	Possibility to reduce costs for real tests by

		using digital twins (study of technical characteristics, such as strength, reliability, functionality, etc.) with the ability to design at a given cost
6.3.	Digital sharing platforms	Possibility to reduce the cost of maintaining fixed assets

Public administration is a separate area of digitalization in the Concept covering synergetic potential of social, mobile, and cloud technologies, data analysis technologies, the Internet of Things which individually and together can lead to transformational changes in public administration and make the public sector efficient, reactive and valuable (Diadin, 2019).

The Concept of Development of Digital Economy and Society of Ukraine states that implementation of initiatives to digitize public institutions should consider the following technological concepts: the digital workplace of civil servants, multichannel information supply and involvement of citizens, open data, the Internet of Things, digital government platforms, and blockchain.

In addition, the Concept indicates that Ukraine's public administration with the growing number of tasks, initiatives, projects and simultaneous cost optimization should be based on technological and digital forms of providing its smooth and effective operation. All digitalization measures can cause transformational changes in public administration, make the public sector efficient and the country's economy developed.

They should form timely anti-crisis programmes of enterprises of all forms of ownership, create the personnel's motivational demand for mastering digital competences and form the need for using digital technologies to make business and individuals competitive on the economic market.

The anti-crisis strategy can include the following structural blocks:

- situational actions of financial orientation to adapt to new conditions that will form the most likely of possible and/or expected future critical events;
- mandatory actions to ensure and improve security of the production and economic system; they are reflected in the enterprise's strategic plan and focused on increasing business profitability, reducing or eliminating financial pressure of expected adverse events. Anti-crisis measures of the programme include prevention of increasing unprofitable potential by eliminating low-income industries,

aligning with the basic potential of support and service potential, as well as strengthening quality of identifying and implementing synergies and developing key competences;

- mandatory operational actions to overcome bottlenecks to increase profitability, as well as specific measures to intensify financial inflows and firmly regulate financial outflows of assets to maintain ongoing solvency;

- measures to strengthen control over implementing anti-crisis decisions to ensure the planned set of actions and measures. National enterprises usually have underdeveloped or centralized services involved in developing anti-crisis measures, elaborating, implementing and monitoring financial plans, conducting systematic assessment of the enterprise financial condition.

In current conditions of the COVID-19 pandemic, the need to adapt to new economic conditions forces us to look for ways to use available production capacity. Simulation can be used to choose the strategy of enterprise development by reproducing events that occur simultaneously or sequentially in simulation time (Kompanets et al., 2021).

The main task of developing a simulation model is to choose an optimal strategy for enterprise development and determine the maximum profit that should be expected from implementation of the strategy with limited investment, which is the subject of our further research.

3 CONCLUSIONS

The proposed principles of financial management are aimed at providing crisis management (implementation of the anti-crisis development strategy): compliance of the chosen strategy with parameters of the internal and external environment; compliance of the organizational structure with parameters of the internal and external environment; the optimal structure of assets and liabilities; the optimal income-expenses ratio; the optimal cash inflows-outflows ratio.

In most cases, a crisis arises at the managerial stage starting with errors in management, disorganization, non-optimized business processes, etc.

The anti-crisis strategy can be applicable only to a particular enterprise as there is no universal strategic crisis management.

Each enterprise on the market has its own characteristics of the management structure and the financial support mechanism, so strategy formation is

specific and depends on the enterprise's position on the market, dynamics of its development and potential, behaviour of competitors, characteristics of products (services), the country's economy, the business environment and many other factors.

The formation of a new digital technological paradigm leads to the emergence of new features that affect the processes of anti-crisis management.

Many of them open up new opportunities for the enterprise and increase the likelihood of a faster overcoming of crisis phenomena, however, if we are talking about a manufacturing enterprise that, due to certain reasons, is not able to flexibly adapt to new requirements and market challenges, it is necessary to build an integral system, the key components of which are presented in the study.

At the same time, it should be noted that today much depends on the professionalism of the leader himself, his experience and creativity in approach to crisis management, professional outlook, leadership qualities and so-called soft skills, openness to new tools and management mechanisms, as well as corporate loyalty and professionalism of the team.

In current conditions of the COVID-19 pandemic, we should adapt to new economic conditions and look for ways to intensify available production capacity, which is the subject of our further research.

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