

FEATURES OF ANTI-CRISIS MANAGEMENT IN TERMS OF INFORMATION EXTERNALITIES

The features of crisis management in terms of information externalities are viewed in this research. Because of the information externalities are unfolding in the information field it affects all spheres of social, economic, and political life, and such a negative impact, which can lead to the real crisis. This impact is overviewed in falling demand, declining solvency, reduced competitiveness, weakening human resources, etc. Taking into consideration that the main components of information externalities are high technology, human capital, pragma psychology, the research describes the areas of crisis management, which will be implemented in the virtualisation of the enterprise, HR policy and branding.

Keywords: information externalities; crisis management; marketing strategies; virtualisation; HR policy.

In the information society, any event (political, economic, cultural, social, etc.) is realised in two areas: physical and informational. In addition, the information area often plays a major role, because it is exactly the information field in which the perception of any event is formed, and the reaction of the society is determined.

Due to the intensification of mutual exchange of information, uniform regulations of norms of public life, economic evaluation of economic activity are becoming more and more popular. In the XXI century, the international integration of socio-economic systems contributes to the strengthening of economic and social ties, the interpenetration of labour markets, goods and services [1, P. 14].

In the theories of anti-crisis management in the information externalities, the concept of "socio-economic" system, in which the main, system-forming element is a human, occupies a leading place. In socio-economic systems, where the links between people are realised in economic, social, political spheres, there are macro- and micro-formations such as: firms, enterprises, companies, funds, banks, etc. Since socio-economic systems are characterised by processes of

functioning and development, subjective and objective factors, which together and in their combinations determine the state of the system, plays in these systems certain role.

Taking into account, that the main factors in successful development are innovations that are implemented in response to changes in the external and internal environment, they should be purposeful and systematic. And since the socio-economic system is manageable and has in its structure elements or management bodies, the content and purpose of innovation is determined by management.

It is known that the amount of knowledge in the development of various sciences doubles every five years, therefore, in the same way increases the number of situations that require adequate response of organisations in the process of their development. Management processes are becoming more complicated, which must also be in development and the development of which may lag of the trends and development needs of the organisation itself. This creates contradictions and creates the danger of crisis situations.

In the socio-economic system, the crisis is an objective phenomenon, as it is based on the functioning and development of human activity, the aim of which is to manage this process and expand the scope of management, reducing the share of unmanaged processes. Regardless of the management object, the decisive role in anti-crisis management will be played by a human, because the human factor in crisis situations is appeared not only in relation to the crisis, but also in anti-crisis management at different stages of its manifestation, occurrence, and course.

The new economic crises that are emerging in the globalised world are caused not by financial or economic factors, but also by informational ones. Information externalities constantly remain a generator of threats and risks of deepening economic crises not only of the enterprise, but also of the whole sphere. Considering that information externalities are occurred in the information field, where the main factor is information, and human is the central subject and producer of information, among the main phases of anti-crisis management in terms of information externalities can be identified such of them:

- HR policy;
- virtualisation;
- branding.

Despite the size of the enterprise and the scope of its activities, HR policy in anti-crisis management includes not only attracting new

professionals and reducing labour costs, but also strategies focused on employees of the organization:

1. *Budget control* provides methods for reducing the costs of HR management, thereby limiting excessive costs and helping to save money of the enterprise for the long term.

2. Satisfaction of employees determines whether employees are satisfied, not only with their managers, but also with their work and responsibilities.

3. Training and development determine the type of training and skills that employees must have in order to perform their duties properly and efficiently.

4. Conflict mediation is an effective restoration of positive working relations in the organisation after conflicts arising in view of the variety of work styles, character, level of experience of employees.

5. Increasing productivity develops the performance management systems that measure the effectiveness of employees, especially in cases of low productivity.

During the implementation of the anti-crisis management program in terms of information externalities there is a set of HR management principles: the principle of system, the principle of command, the principle of equal opportunities, the principle of horizontal cooperation, the principle of legal and social protection, the principle of individual approach to each employee.

In the anti-crisis policy of the enterprise HR management is a pre-thought-out process, which is adapted according to the current situation. In the information society, HR policy based on the accumulation of knowledge is implemented in four types: preventive HR policy, passive HR policy, active HR policy, reactive HR policy.

The following methods of HR policy are used for effective implementation of anti-crisis management:

1) **solving current problems of employees:** wages, investments of employees, pension plans and training, as well as the mediation of conflicts between employees or between employees and their managers;

2) **attracting new employees:** recruiting potential employees, monitoring the hiring process (checking the status, drug testing, etc.) and ensuring the focus on new employees;

3) **dismissal of employees:** settlement of payments, restriction of access to company resources, seizure of keys, computers or confidential materials;

4) **raising morale:** promoting the overall success of the enterprise, rewarding good results and creating a positive work

environment [2].

In the information society the virtualisation of the enterprise, which can ensure the effective removal of it from the crisis and further development, is a necessary condition for effective operation of the enterprise.

Virtual technologies include computer-generated images and sound, high-definition television, holography, tactile simulators, etc., which can be used in the following activities:

- *financial management*, where virtual technologies implement a complex forecasting models and heuristic systems; the ability to work with graphical information, to test different scenarios with the help of tools that improve the perception and understanding of models and situations, make the risks more obvious.

- *marketing*, where virtual technologies open unlimited prospects for new products and services: new opportunities for product positioning, market promotion, delivery; opportunity to try virtual versions before buying the product.

- *production*, where virtual technologies provide the ability to manage a large production process, to reproduce the conditions of physical presence in the process, complementing the models of controllers; the ability to work with a remote presence, physically being anywhere.

- *HR*, where virtual technologies are used for distance learning and training of qualified personnel, opportunity for affordable learning.

- *strategy and structure*, where the traditional concepts of organisation, property and wealth are reviewed with the help of virtual technologies; the ability to bridge boundaries between people through remote presence and computer-generated worlds [3, P. 151].

Enterprise virtualisation involves building three components that are interdependent:

- 1) virtual market – the market of goods and services, based on the communication and information capabilities of global networks (Internet);

- 2) virtual reality, which allows you to display and model real production developments in cyberspace, which is both a means and an environment at the same time;

- 3) virtual organisation of the enterprise – live virtual enterprise.

The aim of anti-crisis management is a gradual exit from the crisis and the possibility of effective functioning, which is why this type of management involves making complex management decisions at all stages: from information gathering - to implementing management

decisions, which in turn requires the use of modern information technology to ensure the efficiency and soundness of management decisions to overcome the crisis [3, P. 120].

Since the main task of information technology is the collection, processing and modelling of information, anti-crisis management is presented in the input-process-output system, where information is entered from various sources in various forms, classified, analysed, updated [3, P. 139].

At this stage of development of the information society, where companies operate with huge amounts of information and data, the current problems are not related to information technology, but to the adaptation of innovations: organisational coherence, lack of education and management deficiencies. However, there are certain tools that allow companies to operate with large amounts of information:

1. *Prognostic analytics*. One of the main tools to reduce risks in decision making. Forecasting hardware and software solutions can be used to detect, evaluate, and deploy forecast scenarios by processing large amounts of data. Such data can help companies prepare for future scenarios and help overcome crisis situations by analysing and understanding them.

2. *Non-relational NoSQL databases*. These databases are used for reliable and efficient data management through a scalable number of storage nodes. NoSQL databases store data as relational database tables, JSON documents, or key-value pairs.

3. *Knowledge search tools*. These are tools that allow you to get large amounts of data (structured and unstructured) stored in many sources. These sources can be different file systems, APIs, DBMSs, or similar platforms. With the help of search and discovery tools, companies can isolate and use information to their advantage.

4. *Stream analytics*. Sometimes the data, which some organisation needs to process can be stored on multiple platforms and in different formats. Streaming software is used to filter, aggregate and analyse such big data. Streaming also allows you to connect to external data sources and integrate them into the application stream.

5. *"In-memory Data Fabric" storage technology*. This technology helps distribute large amounts of data between system resources, such as dynamic random-access memory, flash memory, or storage. Which, in turn, provides low-latency access and big data processing on connected nodes.

6. *Distributed storage*. A way to counter independent node failures and the loss or damage of big data sources, distributed file repositories contain replicated data. Sometimes data is also replicated for quick

access and short delays on large computer networks. These are usually non-relational databases.

7. *Data virtualisation*. This allows programs to retrieve data without implementing technical limitations such as data formats, physical location of data, and so on. Apache Hadoop and other distributed datastores are used to access real-time or near-data stored on different platforms. Data virtualisation is one of the most used big data technologies.

8. *Data integration*. A key operational challenge for most big data organizations is to process terabytes (or petabytes) of data in a way that can be useful for the end results. Data integration tools allow companies to organise data into a range of high-volume solutions, such as Amazon EMR, Apache Hive, Apache Pig, Apache Spark, Hadoop, MapReduce, MongoDB and Couchbase.

9. *Data processing*. These software solutions are used to process data in a format that is consistent and can be used for further analysis. Data preparation tools speed up the data exchange process by formatting and clearing unstructured datasets. The limitation of data processing is that all its tasks cannot be automated and require human presence.

10. *Data quality*. An important parameter for big data processing is data quality. Data quality software can clean and enrich large amounts of data through parallel processing. These software tools are widely used to obtain consistent and reliable results of processing large amounts of data [4].

In the information society, where international integration is intensifying, and the globalisation of information processes directly affects the efficiency of the enterprise, the role of marketing, policy and strategy increases significantly. After all, through strategic planning and control over the behaviour of goods, competitors, and consumers in the market, as well as planning and implementing effective research of the demand, product, price, communication and sales policy, ensures competitiveness and solvency of the enterprise, its resilience to crises phenomena [5, P. 26].

The modelling of an effective marketing strategy in the enterprise or organisation allows:

- to analyse and identify potentially relevant changes in the marketing environment;
- to change the business direction of the enterprise from passive respond to the market influence to active actions;
- to form long-term goals;

- to determine competitive advantages;
- to evaluate marketing opportunities in order to focus on the most promising development areas.

Although the scientific community believes that flexibility and rapid response will help enterprises to adapt for changing market dynamics, consumer demands and competition, in practice most enterprises work on a well-defined marketing plan, guided by budgetary and technological strategy. As for anti-crisis management in the context of information externalities, the areas of implementation are communication strategies, which include communication within the enterprise, communication with customers and market communications, and cost management.

It is important to implement the following practical measures for an effective marketing strategy as part of anti-crisis management:

- *market research* is a key part of the market strategy development, during which information that provides an idea of customer thinking, purchasing patterns and locations is collected; in addition, market research can also help to make an initial sales forecast, track market trends and changing competition;

- *defining the target market profile* is a grouping or segmentation of potential customers based on certain characteristics, which is effective for focusing marketing efforts. Such segmentation is based on indicators: geography (location), demographic indicators (age, sex, level of education, income, profession), behaviour (loyalty, attitude, willingness to buy, level of use), lifestyle (social class, personality, personal values).

- *determining the uniqueness of the product* is a unique reason, it is the thing that excretes business from others; it is important to identify exactly what is different in a particular enterprise and provide this to potential customers.

- *definition of marketing strategy* is the process of planning in which it is necessary to consider your target audience; strategies include business website, social media, blogging, brochures and flyers, online events, print advertising, word of mouth, cold calling and emails;

- *definition of goals and budget*; for effective of marketing strategy in anti-crisis management goals must be specific, measurable, achievable, relevant and timely.

Thus, information externalities, even though they unfold in the information field, affect all spheres of social, economic, and political life, and such a negative impact, which provides itself in falling demand, reduced solvency, reduced competitiveness, reduced and weakening human resources, etc. And such influence can lead to a real crisis, the

way out of which is possible only with the introduction of anti-crisis management, which has its own characteristics in terms of information externalities.

Taking into account that the components of information externalities include three main points: high technology, human capital, pragma psychology; anti-crisis management in such conditions will focus on the same areas that will be implemented in enterprise virtualisation, HR policy and branding.

The process of enterprise virtualisation involves a virtual market (market of goods and services based on communication and information capabilities of global networks), virtual reality (real development of production in cyberspace), a virtual enterprise. In addition, virtualisation implements the following functions: communication (e-mail, video conferencing, collaboration software, social media), data management (data storage, data management, data access), marketing (content creation, online advertising, e-commerce, marketing research), process improvement (financial savings, reduction of logistics costs), resource planning (combination of functional aspects of the enterprise). Virtualisation uses tools for operations with large amounts of information (forecasting analytics, non-relational NoSQL databases, knowledge retrieval tools, streaming analytics, In-memory Data Fabric storage technology, distributed storage, data virtualisation, data integration, data processing, data quality data).

HR policy in anti-crisis management in the context of information externalities provides the solution of current problems of employees, namely remuneration, investment of employees, pension plans and training, as well as the mediation of conflicts between employees or between employees and their managers; attracting new employees, namely recruiting potential employees and ensuring the focus on new employees; dismissal of employees, i.e. settlement of payments, restriction of access to company resources, seizure of keys, computers or confidential materials; raising morale - promoting the overall success of the company, rewarding good results and creating a positive work environment.

Considering that in information externalities the effectiveness of anti-crisis policy is directly influenced by marketing strategy, i.e. market research, which is determining the profile of the target market, determining the uniqueness of the product, goals and budget. The main means of marketing in an unstable information field is branding, which helps to stand out from the competition, build brand awareness, create a lasting experience with the brand, connect with the audience and turn them into loyal customers. Elements of branding are the mission and

values of the brand (short and precise statement that defines the current state and purpose of the company), brand book (brand strategy, business decision template, stylistic elements), logo (company face), website (digital asset), additional elements (business cards, product packaging, flyers, etc.)

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ОСОБЛИВОСТІ АНТИКРИЗОВОГО УПРАВЛІННЯ В УМОВАХ ІНФОРМАЦІЙНИХ ЕКСТЕРНАЛІЙ

У статті розглянуто особливості антикризового управління у умовах інформаційних екстерналії. Оскільки інформаційні екстерналії, що розгортаються в інформаційному полі, впливають на всі сфери

суспільного, економічного та політичного життя, і такий негативний вплив, який проявляється в падінні попиту, зниженні платоспроможності населення, зниженні конкурентного стану, ослабленні кадрового потенціалу та ін., що надалі може призвести до реальної кризи, вихід з якої можливий лише із впровадженням антикризового управління, що має свої особливості в умовах інформаційних екстерналій. З огляду на те, що основними компонентами інформаційних екстерналій є високі технології, людський капітал, прагма-психологія, у дослідженні описуються напрямки антикризового управління, які будуть реалізуватись у віртуалізації підприємства, кадровій політиці та брендингу.

Процес віртуалізації підприємства передбачає створення за допомогою інформаційно-комунікативних технологій віртуального ринку, віртуальної реальності та віртуальної організації підприємства. Крім того, віртуалізація підприємства реалізує такі функції: комунікативну, управління даними, маркетинг, вдосконалення процесу, планування ресурсів.

Кадрова політика в антикризовому управлінні в умовах інформаційної війни орієнтується на контроль за витратами бюджету, на вдоволення працівників, на навчання та розвиток, на розв'язання конфліктів та на підвищення продуктивності. З іншого боку така політика передбачає вирішення поточних проблем співробітників, залучення нових співробітників, звільнення співробітників, підвищення морального духу.

Оскільки маркетингова стратегія безпосередньо впливає на ефективність антикризового управління в умовах інформаційної війни, а брендинг є основним елементом, його реалізація допомагає виділитись серед конкурентів, сформувати пізнаваність бренду, створити постійний досвід роботи з брендом, створити зв'язок із аудиторією та перетворити їх на лояльних клієнтів. Ефективна маркетингова стратегія оперує ресурсами підприємства для створення контенту, який охоплює дослідження ринку, визначення профілю цільового ринку, визначення унікальності товару, реалізацію маркетингової стратегії, визначення цілей та бюджету.

Ключові слова: інформаційні екстерналії; антикризове управління; маркетингові стратегії; віртуалізація; HR-політика.

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