International collective
Monograph

INNOVATION ECONOMIC DEVELOPMENT: INSTITUTIONAL AND ORGANIZATIONAL DIMENSION

Editor in Chief:
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COMRAT STATE UNIVERSITY (MOLDOVA)

NATIONAL UNIVERSITY "KIEV-MOHYLA ACADEMY" (UKRAINE)

ODESSA NATIONAL POLYTECHNIC UNIVERSITY (UKRAINE)

OPOLE UNIVERSITY OF TECHNOLOGY (POLAND)

TECHNICAL UNIVERSITY OF KOSICE (SLOVAKIA)

REGIONAL ECONOMIC DEVELOPMENT INSTITUTE (MOLDOVA)

2021

ISBN 978-9975-83-135-2.
338
I-54

Published by the decision of the Comrat State University Senate
(Minutes No.4 dated March 4, 2021)

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Innovation Economic Development: Institutional and Organizational Dimension: International collective Monograph / Valentina Khrapkina, Tatiana Ganushchak, Snezhana Muska [et al.]; editor in chief: Alla Levitskaia; science council: Michael Oklander [et al.]; Comrat State University (Moldova), National University "Kiev-Mohyla Academy" (Ukraine), Odessa National Polytechnic University (Ukraine) [et al.]. – [Comrat]: S. n., 2021 (Tipogr. "A&V Poligraf"). – 207 p.: fig., tab.

Referinţe bibliogr. la sfârşitul art. – 40 ex.

Materials are published in authors' editions
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CONTENT

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INTRODUCTION

The monograph presents the results obtained by research group of authors from Republic of Moldova, Ukraine, Czech Republic, Poland and Slovakia. Research work is an interesting scientific and practical study of the problems of innovative development of the economy at the present stage. The content of each section of the monograph corresponds to the general conceptual logic of the work. The international collective monograph consists of three sections:

1. Theoretical and methodological foundations of enterprises' transition to innovative development.

2. Strategies for innovative development of regional socio-economic systems.

3. Digitalization as the basis for innovative development of economics processes

These results illustrate the need to development mechanisms of innovative development of the countries and regions, which stimulate the acceleration of information and knowledge exchange between all stakeholders.

Monograph is interesting and useful for experts engaged in research in the field of economics both at the micro-level of the enterprise, and at the meso- and macro-levels - regional and national.

Presented studies is interesting for specialists in the field of innovative development and can be recommended for use by doctoral students, masters and students of higher educational institutions, practitioners and employees of local public administration authorities.

Science Council:
Alla Levitskaia, Valentina Khrapkina, Michael Oklander, Roman Smetanski, Natasha Urbanchikova.

CHAPTER I.

THEORETICAL AND METHODOLOGICAL FOUNDATIONS OF ENTERPRISES' TRANSITION TO INNOVATIVE DEVELOPMENT.

1.1. ECONOMIC SECURITY AT THE UKRAINIAN AND MOLDOVAN ENTERPRISES

Introduction. In the conditions of financial and economic crisis during a pandemic in the world. Ukrainian and Moldovan enterprises operate in conditions of uncertain and incomprehensible changes in a competitive market, as well, as under imperfect financial, economic and organizational and legal mechanisms for providing funding security. Business entities interact with numerous counterparties, who pursue their own interests and create obstacles and threats environment. Ways to ensure the economic security of the enterprises must be formed and implemented by solving complex problems, which are related to the difficulties of control and worldview today.

The environment in the system of economic security of the enterprise, for comparison of changes in dynamics, assessment of the state, quickly makes making management decisions depending on the field of activity. Achieve a high level of economic security as an element of the state economic security is to combat fraud, corruption and abuse of office. Ensuring the economic security of an individual helps strengthening economic security in the country as a whole and counteract various types of economic fraud.

According to ACFE data, approximately 5% of company income is lost as a result of fraud cases, in Ukraine, according to Kreston GCG, this figure makes up 5-15%. According to the KPMG research data, Ukraine occupies the 6th place in the field of robbery and fraud operations committed by the company employees. The annual loss of the income because of illegal action may constitute 7%. Almost 80 % of the losses in Ukrainian companies are the deliberate actions or those neglecting the official duties by a certain number of the employees. In the course of the

research, it was found that 56% of the companies pointed to the fact that they don't have a legal system to counteract economic and financial fraud, 37% of the companies recognize the formal scheme to counteract the fraud. About 80% of the losses are done by the staff of the company themselves. Only 20% of the computer hacking comes from outside. All in all, these problems may cost the company from 6 to 9% of the income. [1, p. 248-249]

The economic security of the enterprise significantly affects the dynamics of the national economy as a whole. In modern conditions, companies are forced to produce less. Demand has declined significantly, and many contracts with foreign partners have been terminated. The population consumes less impulsive goods, invests less in deposits, are unable to repay loans and mortgages. Moldova has a small and open, cash-based economy and remains one of the poorest countries on the European continent. The agricultural sector of the economy is development in Ukraine and Moldova.

Materials and methods. The methodological basis of the study are general scientific methods, namely: the method of logical generalization, dialectical method, tabular method, graphical method, synthesis, induction, deduction. The information base of the research when writing the article were, in particular, the following sources: textbooks, scientific professional articles, materials of dissertation research.

Analysis of recent research and publications. Issues of economic security of the enterprise were studied by: E.V. Aref'єva [5], V.G. Al'kema [11], I.V. Bol'botenko [17], G.V. Blakita [19], G.A. Zhitar [22], M.O. Ivashchenko [9], L.O. Korchevs'ka [14], L.S. Kozak [13], V.V. Krutov [4], A.V. Sitnik [18], O.O. Sosnovs'ka [22], M.B. Tumar [7], O.V. Fedoruk [13], K.S. Fen' [1], L.G. Shemaєva [6], O.S. Shnipko [7], O.F. Yaroshenko [9] and others.

The lay out of the contents and giving grounds of the research. The economic security of an enterprise is derived from the more general concept of "security", which is of Greek origin and means "to own the situation" [2, p. 19].

Determining the economic security of the enterprise, to better understand, we will explore the views of economists (Table 1.)

Table 1- The economic security definitions

Author	*Approach*
V.V. Krutov [3, p. 50]	state of protection from the negative impact of external and internal threats, destabilizing factors, which ensures the sustainable implementation of the main commercial interests and goals of the statutory activities of the enterprise
E.V. Arefieva, E.YU. Litovchinko [4, p. 96]	protection from the negative impact of external and internal threats of the enterprise
L.G. Shemaєva [5, p. 32]	interest's consistency of enterprise`s cooperating, taking into account the position of all stakeholders, prevention of interest`s conflict
M.B. Tumar [6, p. 14]	ensuring the economic stability of the enterprise, its ability to live in difficult competitive conditions of a market economy
G.A. Ivashchenko, O.F. Yaroshenko [7, p. 130]	resource efficiency, production system, economic development
V.G. Al'kema [8, p. 9]	the state of protection of interests, rights, resources and other tangible and intangible objects that are valuable to the subjects of economic security of the enterprise, from internal and external threats
L.S. Kozak, O.V. Fedoruk [9, p. 72]	the state of the most efficient use of economic resources to prevent threats and ensure the stable functioning of the microeconomic system
L.O. Korchevs'ka [10, p. 44]	complex system that interacts with the external environment and is in constant

	development using an interactive method of system analysis
I.V. Bol'botenko [11, p. 152]	search for optimal management decisions aimed at reducing the tax liability within the law
Author's approach	the process of enterprise`s development in the presence of production resources, sufficient structure of assets and capital, which is provided at all stages of production and economic activity, taking into account external and internal threats and factors that has negatively affect the protection of its potential.

These approaches of economists give the opportunity to understand the different views of the problem of economic security of the enterprise. Sytnyk A.V. analyzes the socio-economic situation in Ukraine in order to assess the implementation process of economic part of the National Security Strategy of Ukraine [12, c.24-37]. That is, this approach reflects the impact of social and economic situation in the country on the economic security of the enterprise and, conversely, the development of an individual enterprise affects the national security of the country.

A similar view is held by G.V. Blakita, T.V. Ganushchak believing that the economic security of the enterprise has a set of economic relations in order to ensure permanent, well-balanced interests of the enterprise and the state, taking into account internal and external factors of influence and time [1, c.24-37]. To comply with th e principles of economic security of the enterprise it is necessary to understand the favorable and unfavorable prerequisites for strengthening the economic security of the enterprise. (Table 2.)

Table 2 - Prerequisites for strengthening the economic security of entrepreneurship

Favorable	*Adverse*
- development of entrepreneurial activity of society; - expansion of the middle class and increasing the level of democratization of society; - development programming and business support by public administration bodies at all levels; - mitigation of administrative barriers to access to entrepreneurship; - high level of infrastructure development to maintain and ensure economic security of business activities; - developed system of self-organization of business entities.	- significant negative trends in entrepreneurship and resource efficiency, low investment activity of enterprises; - inefficiency and declarative nature of state and legal regulation and support of entrepreneurship; - financial and resource constraints of local governments; - systemic problems of entrepreneurship development; - imperfection of legislation in the field of business protection

The source: worked out by the authors on the basis of [13, c. 327-347]

Increasing the negative impact of factors on the economic security of entrepreneurship leads to:

- ✓ negative socio-economic consequences (reduction of production (services); deterioration of the competitive environment and rising prices; increasing unemployment and weakening the social security of citizens;
- ✓ reduction of tax revenues to the budget;
- ✓ reduction of the level of democratization of society, entrepreneurial activity and deterioration of public attitude to the policy of public administration, etc.). [13, c. 327-347]

In order to understand the level of dangers on the way to strengthening the economic security of the enterprise, it is necessary to identify favorable and unfavorable factors to strengthen the economic security of the enterprise. (Table 3.)

Table 3 - Factors to strengthen the economic security of entrepreneurship

Factors to strengthen the economic security of entrepreneurship	
Favorable	*Adverse*
- increasing the level of availability of financial and credit resources for enterprises; - reducing the level of energy and resource intensity of domestic production, increasing the level of competitiveness of enterprises; - popularization of products of enterprises in foreign markets; - development of investment activity of enterprises; - development of quality management systems of enterprises; - strengthening the security and protection of enterprises, their staff, trade secrets of enterprises; - improvement of the property protection system.	loss of market position and reduction of the number of operating enterprises in the context of the country's European integration; - increase in resource intensity of production due to rising energy prices; - elimination of the advantages of the subjects of the small business sector provided by the simplified system of taxation, reporting and accounting; -growth of the shadow sector of the economy; -reduction of the level of competitiveness of the economy due to improper innovation activity of national enterprises.

Source: worked out by the authors on the basis of [13, p. 327-347]

To clearly understand the sequence of actions in the dangerous activities of the enterprise, we present an algorithm for ensuring the economic security of the enterprise (Figure1). In

Figure 1 the authors present an algorithm for ensuring the economic activity of the enterprise.

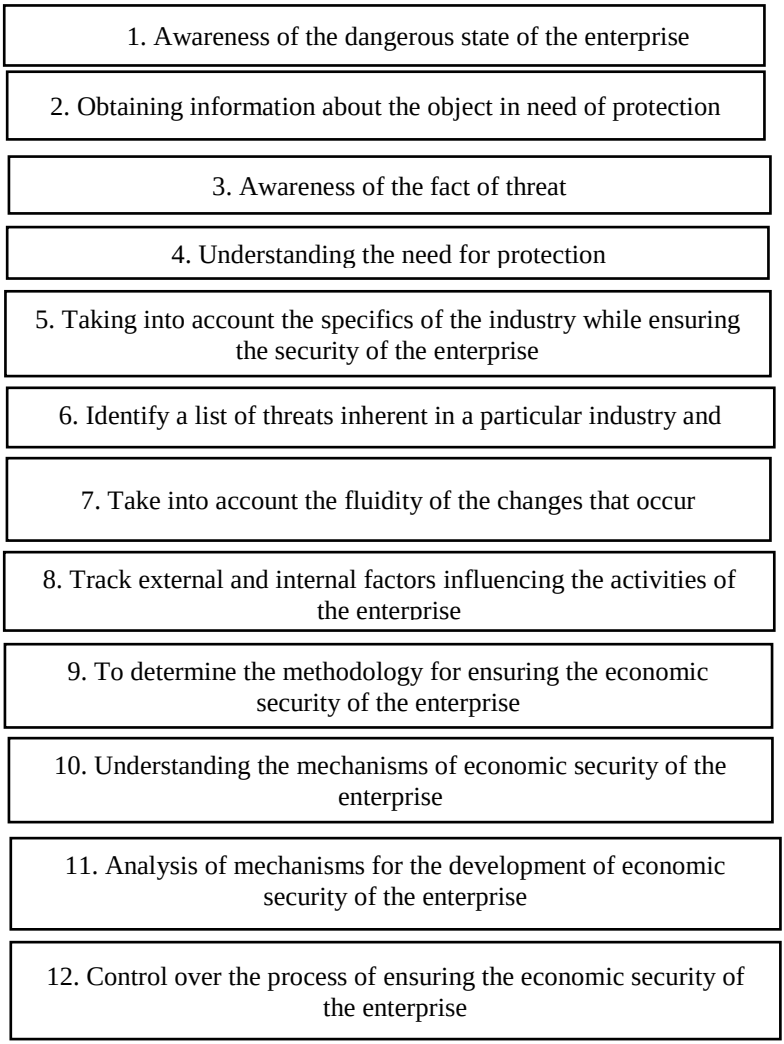

Figure 1. Algorithm for ensuring the economic security.
Source: worked out by the authors

This is a clear sequence of actions that will allow entrepreneurs in the process of the enterprise to ensure a continuous process of dangerous activities with minimal time. This model

makes it possible to accelerate the process of ensuring economic security, taking into account a clear algorithm, mechanism of provision and management. According to the authors, a vulnerable place for economic security of enterprises is the growth of globalization. They make the country's economy vulnerable, dependent and open to dangerous manifestations. The current situation makes it possible to move away from existing rules of conduct, to promote the development of domestic production.

Thus, Sosnovska O.O., Zhytar M.O. believe that today globalization is a very important challenge to the economic security of any country that is to some extent integrated into the economic space – because it violates economic borders and makes the national economy more open to the negative trends of today. Accordingly, if a country does not have an effective mechanism to counteract the negative impact of processes taking place in a changing and interconnected economic space, it becomes vulnerable to the threats of the globalization world. [14, c. 327-347]

Authorities largely recognize the risk of corruption in Moldova. The National Strategy for integrity and anticorruption (2017-2020) analyses in detail the corruption phenomena in Moldova, and builds up a set of actions structured on seven integrity pillars: the parliament; the government, the public sector and local public administration; the Central Election Commission and the political parties; the Court of Accounts; the Ombudsman; and the private sector. However, despites the efforts placed in the fight against corruption, the ranking of the Corruption Perception Index (CPI) did not improve in the recent years.

Table 4 - Corruption Perception Index in Moldova (2014 - 2018

Year	***CPI (0 = high, 100 = low corruption level)***	***Rank (out of 180)***
2014	35	122
2015	33	123
2016	30	102
2017	31	103
2018	33	117

Source: [15]

Having considered table 1. data it is clear to see that the Corruption Perception Index in 2018. Compared to 2014, which is a positive trend for the state. Moldova ranks 103rd out of 174 countries in Transparency International`s perception of corruption.

The 2018 index, with a score of 35 on a scale from 0 (very corrupt) to 100 (very clean). It is reported that the level of bribery in the country remains relatively high – an average of 29 percent through eight public services, while the judiciary, political parties and parliament are perceived as such sectors most affected by corruption Ineffective inspections of power, impunity civil servants on misconduct and government interference in the provision of civilian. It is believed that criminal justice is one of the reasons why the level of corruption in Moldova remains high.

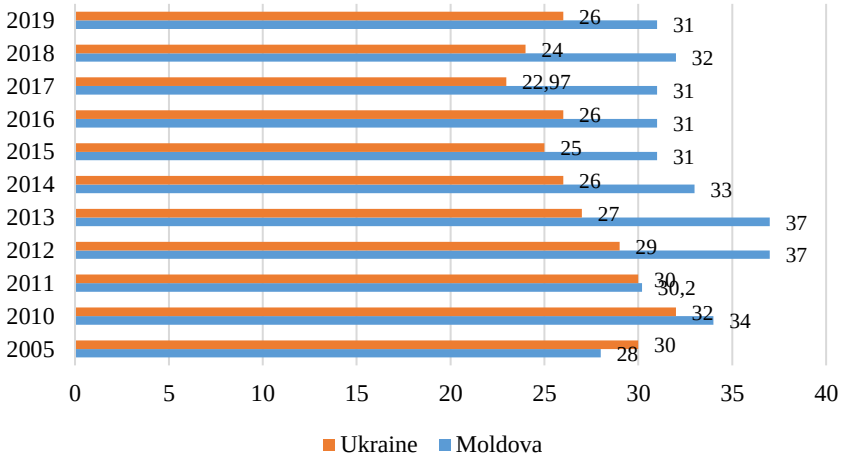

Figure 1. Comparative characteristics of corruption indices of Ukraine and Moldova for 2005-2019

Source: worked out by the author on the basis of [17]

There are a number of anti-corruption laws and policies in place to fight corruption a consistent national law on the disclosure of assets by civil servants was introduced strategies to prevent and combat corruption, conflict of interest law, code of conduct for civil servants, the law on transparency of the decision-making process, the law on national integrity Commissions and tightening sanctions for corruption and illicit enrichment.

Despite these many initiatives, most of the new rules remain largely ineffective due to the lack of clear sanctions for non-compliance or due to limited political will to ensure them. According to Transparency International's Corruption Perceptions Index 2018, under the previous regime, Ukraine ranked 142 out of 174 countries, with a score of 26 on a scale from 0 (highly corrupt) to 100 (very clean), making it the worst performer of the countries assessed in this report [16].

Table 2 - Political rights and civil liberties in Ukraine and Moldova in 2020

Country	***Political Rights***	***Civil Liberties***
Moldova	26	34
Ukraine	27	35

Source: [18]

According to the International Ranking of Countries, Ukraine ranks 127th and Moldova 120th in the terms of corruption. Given the data to figure 1., the level of corruption in Ukraine is higher than in Moldova.Having considered Table 2. Data it is clear to see that Ukraine has higher rates of Political rights and civil liberties compared to Moldova in 2020.

Conclusions:

1. Economic security of the enterprise is a set of economic relations that arise in order to ensure stability, balance of enterprise`s interests with the interests of the external environment.
2. Ensuring the economic security of the enterprise is complicated by the lack of a single scientific system approach, taking into account the specifics of the industry.
3. Moldova and Ukraine should ensure that their business is prioritized threats and vulnerabilities, and take other appropriate risk mitigation measures given the identified risks. Enterprises of Ukraine and Moldova must be provided with sufficient resources and opportunities for more efficient use (financial experts, forensic accountants, information technology (IT) hardware) and IT software). More efforts should be made to increase the efficiency

of asset recovery. Thematic control in the area of anti-money laundering and terrorist financing should focus more on those areas of major importance as a reformed reporting system. The result is proportional and convincing sanctions should be applied by all business leaders.

4. The author presents an algorithm for ensuring the economic activity of the enterprise, which will provide a clear, consistent process of dangerous activities with minimal time. In our opinion, it is necessary: to realize the fact of a dangerous condition of the enterprise; get information about the object that needs protection; determine the specifics of the enterprise; realize the fact of threat; understanding the need for protection; determine the list of threats inherent in a particular industry, individual enterprise; take into account the flow of time; track external and internal factors influencing the activities of the enterprise; to determine the methodology for ensuring the economic security of the enterprise; understanding the mechanisms of economic security of the enterprise; analysis of mechanisms for the development of economic security of the enterprise; control over the process of ensuring the economic security of the enterprise.

5. In addition to the coordinated work of enterprises, local governments and the state, it is necessary to establish a corporate culture from within, starting with a careful selection of staff and a system of employee motivation.

6. According to the authors, the economic danger of the enterprise in the context of strengthening the national economy develops in the absence of systematic, coordinated activities of enterprises, local governments and the state.

7. The authors proposed the following methods to fight corruption in Ukraine and Moldova:

1). Governments and business entities must do more to encourage free speech, independent media, political dissent and an open and engaged civil society.

2). Governments should promote and implement laws that focus on access to information. This access will help to enhance transparency and accountability of company's financial reports.

3). Governments and business entities should take advantage of the momentum generated by the United Nations Sustainable Development Goals (SDGs) to advocate and push for reforms at the national and global level.

4). Governments and businesses should proactively disclose relevant public interest information in open data formats, including disclosure of government budgets, company ownership, public procurement, etc.

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1.2. DIRECTIONS OF IMPROVEMENT OF MOTIVATIONAL MANAGEMENT OF ENTERPRISES BASED ON MOTIVATIONAL AUDIT

Modern enterprises operate in an era of change, characterized by a change of priorities, stagnant rules, and conditions of existence. The emphasis shifts towards the "humanization" of business and society as a whole. The consequence of this is new methods of working with personnel, changing the management style, transforming management functions. Motivation as a function aimed at encouraging staff to act in the new conditions is also undergoing significant changes. The abilities, qualities, worldview of the organization's employees have changed significantly to date, therefore, the ways of influence and motivation to achieve goals must also be transformed.

The role of motivation in improving the performance of the enterprise reflects the concept of motivational management. Bîrcă A. analyzes the concept of motivational management, which "arises as a result of changes in the competitive environment, globalization of national economies and is more complex than previously known" [1, p. 292].

However, N. Kuznetsova interprets motivational management as the concept of studying motivating and demotivating motivation factors, certain indications and a specific worldview [2, p.21-27]. N. Lukyanova defines motivational management as a system of actions to activate human motives [3, c.4]. In the modular program V. Travin, M. Magura, and M. Kurbatov state that motivational management is a review of methods and a way to solve problems of strengthening staff motivation [4].

In our opinion, motivational management is an enterprise management process based on the study of personnel needs in connection with the goals of the enterprise, through a motivational audit, and as a result, the development of a motivational model that activates the motivations of employees. A feature of motivational management is the activation of its impact on those motives that are more inherent in the employee.

A review of the methods used in the process of research into the motivation of enterprise personnel makes it possible to conclude that within the framework of the goal of modernizing the motivational model in the innovative world there is a need to introduce a motivational audit into the personnel management system. To do this, you need to use comprehensive methods of analyzing the motivation of work activities, it is necessary to take into account and analyze the influence of the methods of motivation used by staff on the indicator of labor productivity, which is the main one in the evaluation of personnel activities.

Taking into account the advantages and disadvantages of all methods and methodologies that can be applied in the process of carrying out a motivational audit, it is possible to use the advantages of all methods, in particular, the method of segments, the development of the motivational profile of the enterprise, the

study of the motivation of managerial labor, the method of internal and external motivation, the identification of the motives of labor and the attitude to labor in their totality for the development of the program of motivational audit at the researched enterprises.

Foreign authors interpret the concept of motivational audit from various positions. So, V. Keli, V. M. Lavrentiev, R. P. Kolosova, P. V. Malinovsky, E. A. Mitrofanova, Yu. G. Olegov and T. V. Nikonov [5; 6; 7] consider motivational auditing from economic positions as a separate area of personnel audit to study the effectiveness of the organization's pay and benefits system. V. N. Belkina and N. A. Belkina, A. G. Zdravomyslov and V. A. Yadova, A. M. Meyerovich, V. D. Patrushev consider motivational audit from a psychological point of view as a means of analyzing the effectiveness of motivational programs from the point of view of their compliance with the dominants of labor motivation of workers [8, p.58; 9, page 163-177]. M. Olehnovich, T. Makarova, A. L. Jukova consider motivational audit as a diagnostic tool for various aspects of the staff motivation system [10, p.46-52; 11, page 38-44].

Currently, the concept of audit in legal, banking, environmental, technological, tax, social, organizational, and other areas is distinguished. In this study, a motivational audit or an audit of the motivational state of the organization is of particular interest. The organization's motivational state audit is a measurement of the degree of staff motivational state, as well as the organization's motivational potential, which is revealed during the audit of motivational processes used by the enterprise, documented in the audit report [12].

Motivational audit, according to the author, has a different nature from financial, accounting or tax, at the same time, there is a lot in common between these concepts, firstly, the purpose of the audit is to state the existing state of affairs and deviations from given values; secondly, this process should help to identify and eliminate shortcomings in the enterprise's activities.

Following the Law of the Republic of Moldova "On Auditing Activity," audit means "an independent review of annual financial reports, consolidated annual financial reports and other

relevant information of the audited entity to express the auditor's professional opinion on their compliance with all material aspects established for the requirements." Following article 6 of this law, services that may be provided by auditors may also include "management assistance services" (article 6, paragraph i) [13].

Despite the fact that the concepts of audit in various areas have many features, in our opinion, the principles of their implementation, prescribed in Article 3 of the Law [13], are common. The fundamental principles of audit activity in any area should be (in this context, the paragraphs of the Law with our interpretation are presented):

a) independence (of the actions of auditors from the preferences of the customer, owner, or another person),

b) integrity (the control system represents the relationship of a plurality of subsystems to be covered by the audit),

c) objectivity (impartiality of auditors and recognition of objective reasons and points in the organization's activities),

d) professional competence and thoroughness (auditing must be carried out by professionals, competent persons and cover all aspects of activities),

e) confidentiality (audit results shall not be disclosed to third parties),

f) professional conduct (the auditor's conduct in any situation must be objective, impartial, and adequate).

It should be noted that at the enterprises of the Republic of Moldova, the concept of auditing is more associated with the analysis of financial indicators, that is, it is considered as a component of economic analysis, in contrast to the concept of motivational auditing, which, in our opinion, represents a combination of three areas, that is, it includes the economic component, psychological and social. The relationship of these components is schematically shown in Figure 1, from which it follows that a comprehensive audit of the motivation system should consider these three interconnected areas.

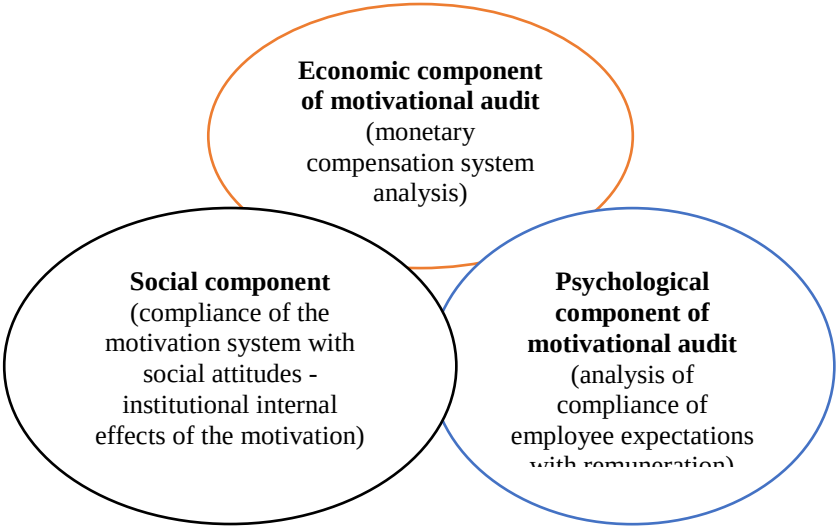

Figure 1. Components of the motivational audit system
Source: performed by the author based on the results of the study

The motivational state of the personnel and the enterprise as a whole is determined based on the criteria developed to identify the degree of satisfaction with work, devotion, and trustworthiness of the employees of the enterprise. The developed recommendations and models of the motivation system provide an opportunity to stimulate the labor potential of employees in the process of introducing innovations in enterprise management.

Determining the value of the presented indicators will reveal the motivational state of the enterprise (its subdivision) and then determine the level of satisfaction with the work in the company and the level of loyalty of employees to the enterprise. It should be noted that the presented directions contribute to strengthening the labor potential of employees in the process of introducing crisis management technologies.

Today, the practice of most national enterprises lacks an integrated approach to conducting a motivational audit, this is due to certain shortcomings or problems of existing management systems. Firstly, one of the main problems is the narrowness of the concept of a staff motivation system, which considers motivation,

primarily as a system of economic remuneration with elements of using administrative methods.

Secondly, most often, the motivational audit system, if it exists in the enterprise, is limited to the study of the field of remuneration or the sphere of employee expectations. Thirdly, the insufficient development of the motivational audit methodology and its specific tools represents a large gap in the company's motivational management system. Therefore, the present study seems to require a detailed study of specific directions, methods, and tools of a motivational audit.

The author proposes his technology for conducting a motivational audit, which should be broader than the concept of audit, either personnel audit, or the concept of analyzing the system of remuneration and incentives. A comprehensive motivational audit system is shown in Figure 2.

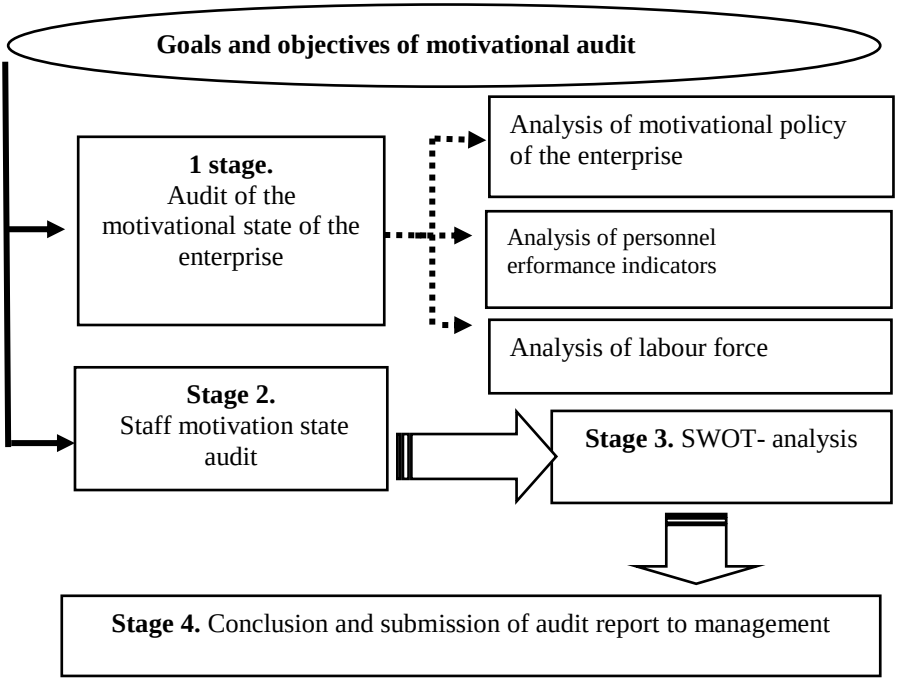

Figure 2. Proposed technology for conducting a motivational audit of enterprises.

Source: developed by the author

As can be seen from Figure 2, the technology of conducting a motivational audit consists of the relationship of two audit subsystems: the motivational state of the enterprise and the motivational state of the personnel. The object of the motivational audit study is:

• strategic objectives of the enterprise;

• motivation system used by the enterprise;

• the capacity of the enterprise to meet the priority needs of employees.

The goals of the motivational audit, its structure, and duration depend on the goals that the organization sets for itself, on the request of management, on the state of the labor market. For its implementation, all staff of the organization and its categories may be affected. The methodology proposed by the author involves a motivational audit in two directions:

1. Audit of the motivational state of the enterprise - it is recommended to conduct at least 1 time every three years.

2. Audit of staff motivational condition - it is recommended to carry out at least 1 time a year.

An audit of the motivational state of the enterprise is carried out to identify positive and negative aspects of the motivational policy applied by the enterprise, in this case, an internal audit is applied and can be carried out by consulting or audit firms, as well as line managers or personnel management specialists.

The results of the audit are summarized in an audit report, which reflects a set of answers about the enterprise's activities in the field of personnel management and the prospects for the development of the enterprise as a whole. We propose to conduct an audit of the motivational state of the enterprise with the help of separate groups of evaluation indicators in the following areas of analysis:

1 group. ***The analysis of the motivational policy of the enterprise*** involves the analysis of the needs that can be realized at the enterprise, determination of the incentive systems used, analysis of the structure and dynamics of the wage fund, quantitative and qualitative assessment of the wage fund, and analysis of the rationality of its use, analysis of the current

documentation (regulatory and documentary support of the staff motivation system).

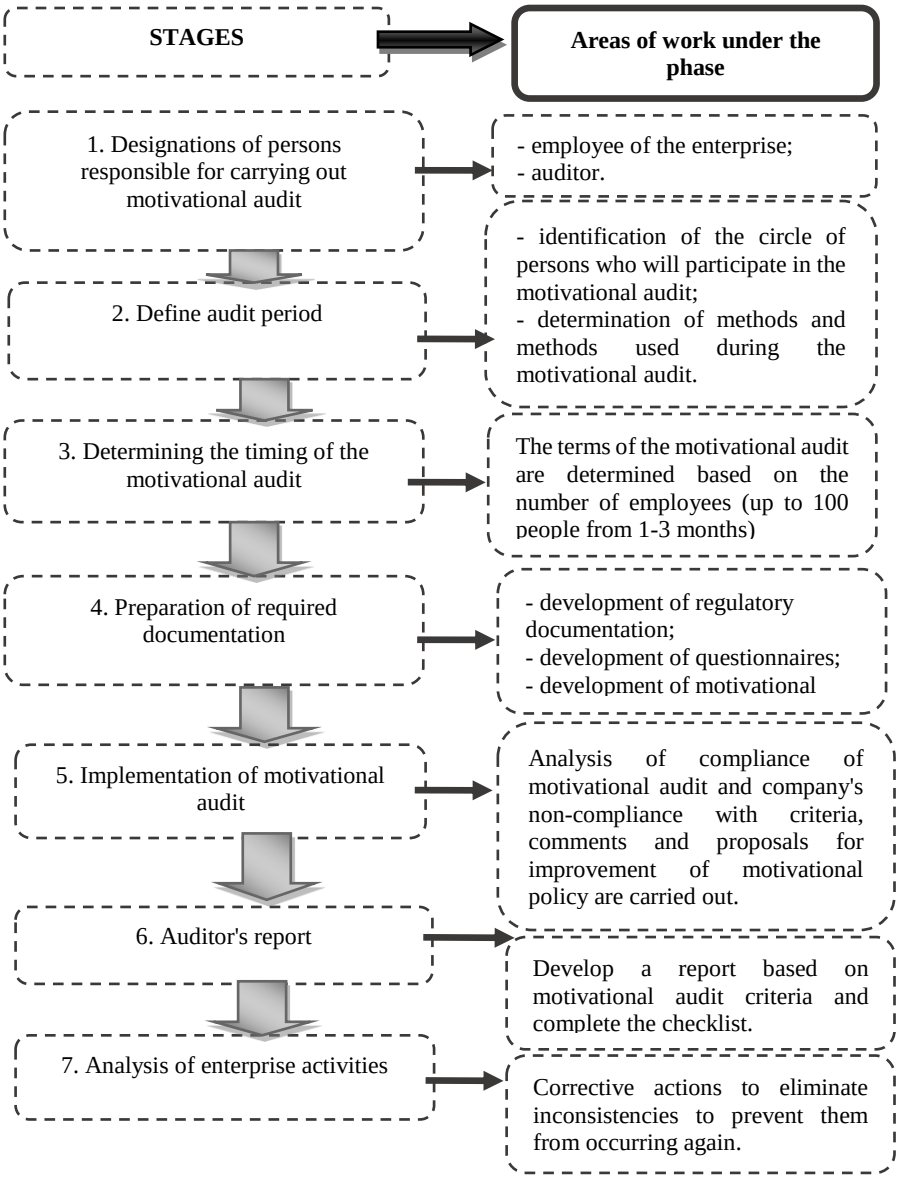

Figure 3. Stages of motivational audit.
Source: developed by the author

2 group. ***Analysis of personnel performance indicators:*** analysis of the implementation of the plan for labor productivity growth and determination of product growth due to this factor, factor analysis of labor productivity, and direction of labor productivity increase.

*3 group****. Analysis of labor use:*** analysis of the company's labor resources, analysis of the level of personnel skills, analysis of the forms, dynamics, and causes of personnel movement, analysis of the work time balance.

Personnel motivational state is audited according to the following technology:

• assessment of satisfaction of the existing staff motivation system;
• analysis of motivational and demand sphere of employees;
• identification of areas of current and basic needs;
• the potential of complex incentives, such as the socio-psychological climate in the team, the management style of the manager, the peculiarities of corporate culture;
• identification of motivational profile of employees, identification of demotivating factors.

Based on the results of the motivational audit study, there is a need to build a special checklist, which will specify the compliance or non-compliance with the criteria of the motivation system and those points that will inhibit the development of the system based on its motivational attitudes, and, if necessary, identify opportunities for improvement [14, p.106-110].

The conclusion and submission of the audit report to management is a document, a checklist containing the opinion of the auditor expressed in the established form on the results of the motivational audit. A motivational model is developed based on the checklist and audit report.

Phase II. Conduct motivational audit. The purpose of this stage is to obtain information about the motivational potential of the enterprise and the level of motivation of personnel. Therefore, the result and rationality of the motivational model depend on how effectively the motivational audit will be carried out.

There is no uniform methodology for conducting a motivational audit. Therefore, the author of the work developed his methodology for conducting a motivational audit, presented in Figure 3. We describe the stages of the motivational audit in more detail:

1 stage. Appointment of persons responsible for carrying out a motivational audit. To better collect information for a motivational audit, it is necessary to involve responsible persons from both the internal and external environment of an organization or enterprise. To form an objective opinion on the reliability of the motivational audit checklist, there is a need to involve an auditor from the external environment (external auditor).

It must be a competent person with the following set of qualities: knowledge of the labor code, higher economic education or education in the field of human resources management, knowledge of the dental code (i.e., the general code of rules for an external auditor) and knowledge of psychology. An employee engaged from the enterprise to conduct an audit - an internal auditor; qualities: to possess socio-psychological knowledge, to have skills in communication, to know personal qualities and professional skills of respondents of motivational audit, to have knowledge in the field of human resources management, experience in the enterprise for at least 10 years.

Stage 2. Define the audit period. At this stage, the period for conducting an audit of the motivational state of the enterprise (at least 3 years) is determined, departments and divisions that will participate in an audit of the motivational state of personnel are determined, methods and techniques used during AI are determined (questionnaires, survey, test, observation, interview, etc.).

Stage 3. The timing of the motivational audit, id est the number of working days required to conduct the motivational audit, which depends on the number of employees participating in the audit. In small enterprises up to 30 working days, on average - up to 60 working days, depending on the category of the enterprise.

Stage 4. Preparation of required documentation. Based on the criteria of motivational audit, a checklist, questionnaires or tests, as well as auditing documentation are developed.

5 stage. Implementation of a motivational audit. At this stage, the auditor conducts a conversation with employees and management, checks the documentation regarding the motivational policy of the enterprise.

6 stage. Auditor's report. According to the results of the motivational audit study, there is a need to build a special checklist in which there will be systems that inhibit development, based on its motivational attitudes, and, if necessary, identify opportunities for improvement [14, c.106-110]. The conclusion and submission of the audit report to management is a checklist document containing the auditor's opinion expressed in the established form on the results of the motivational audit. A motivational model is developed based on the checklist and audit report.

Stage 7. Analysis of enterprise (organization) actions. The organization must take corrective actions to eliminate the causes of inconsistencies in order to prevent their recurrence. Corrective actions shall correspond to consequences of detected non-conformities [14, p.106-109].

A study of the motivational condition of the staff of small and medium-sized wine enterprises of UTA Gagauzia was carried out according to the independently developed methodology. The motivational audit was conducted in accordance with the data on the average number of staff during the study period. The total number of workers was 501, 132 people took part in the study, which represents 26% of the total number of personnel.

The study revealed and proved the view of representatives of different conceptual trends in the field of motivation that not only material incentives and rewards can be motivators of staff labor. Intangible motivators, in particular, relationships between employees, establishing favorable contacts between staff and managers, interesting and complex work, praise, participation, etc., have significant weight at the research site.

The basis of the work on the development of the staff motivation system was the research conducted, which indicates what drives people and encourages them to work (Figure 4). In the process of studying the results of the questionnaire, the author states that in order to develop an effective motivation system, the

need is expressed to use an integrated approach, that is, to create material, organizational, moral, and leadership motives that correspond to the goals of the enterprise. The development of a comprehensive staff motivation system involves work in two directions, clearly shown in Figure 4.

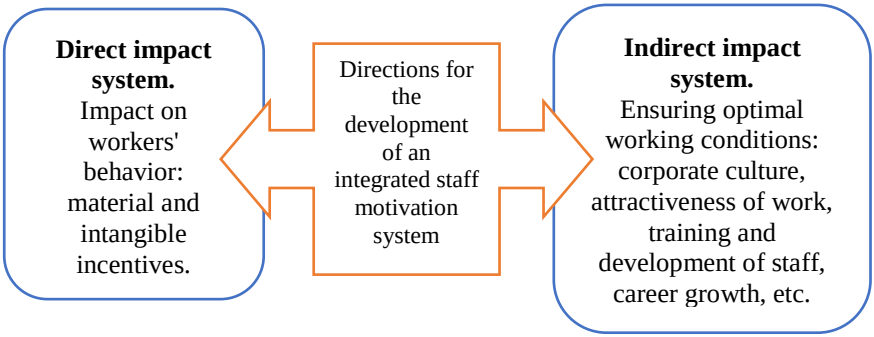

Figure 4. Directions on the development of an integrated staff motivation system at wineries of UTA Gagauzia.
Source: developed by the author based on studies.

The studies carried out to allow us to formulate activities within the framework of an integrated system of motivation of personnel, as shown in Figure 5. Figure 5 illustrates the various components of the motivation system, which together should lead to the realization of strategic goals driving the entire enterprise system. Given the specifics of the enterprises under study, that is, small and medium-sized, in such collectives, it will be easier to establish individual guidelines in the case, for example, when employees are driven by a desire for career growth. It will also be easier to conduct coaching to identify the potential of employees in small groups and to focus them on further career development in such enterprises [15, p.234].

The proposed motivational model, and in particular the components of the indirect impact zone, allow to obtain the opposite effect, that is, they will increase the economic component of small and medium-sized wineries of UTA Gagauzia, as a result of increasing productivity and labor quality, thanks to:

- development of a strong human resources reserve;

- increasing the cohesion of the team;
- a person's awareness of the importance of his work;
- improving corporate culture;
- personnel involvement in the interests of the enterprise.

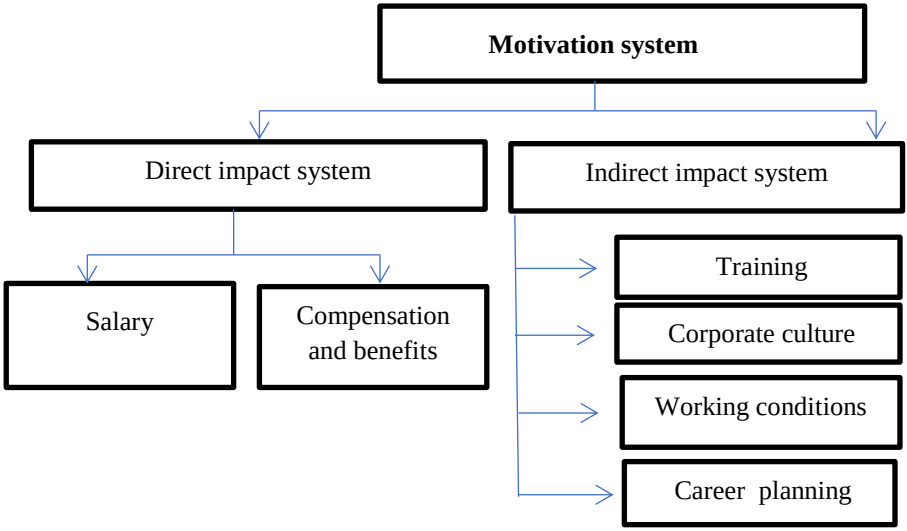

Figure 5. A motivational management model is recommended for small and medium-sized wineries of UTA Gagauzia as part of an integrated approach. Source: developed by the author based on studies.

Obviously, the development of the industry cannot be solved only by partial introduction of any individual elements: for example, without state programs to support and develop the industry of small and medium-sized enterprises, it will be extremely difficult to overcome all the difficulties that have arisen today.

An innovative approach to the motivational management system, based on the complexity of the introduced measures, should permeate the entire management system and reflect on the most important indicators of its activities: profitability, efficiency, competitiveness, strategic focus, image, social responsibility. To sum up, it should be noted that the development of effective motivational management is of strategic importance for enterprises.

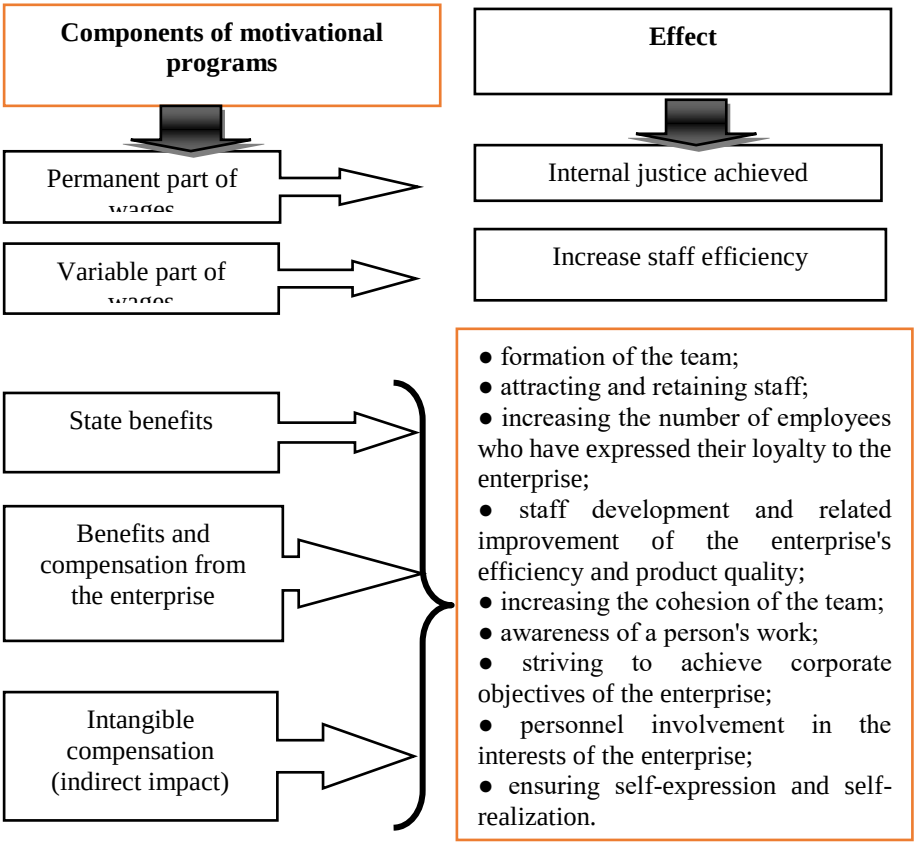

Figure 6. Projected effect of introduction of innovative model of motivational management on wineries of UTA Gagauzia
Source: developed by the author based on the results of studies.

Understanding, shaping, and meeting the needs of staff is the foundation of this mechanism and, therefore, a decisive step towards achieving the goal of the enterprise. The introduction of effective motivational management contributes to increasing the competitiveness, productivity, and, ultimately, profitability of the enterprise. It also allows the enterprise to reach an economically new level of development and opens up opportunities to realize its opportunities at the global level.

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1.3. INNOVATIVE APPROACH TO FORECASTING INVENTORIES OF INDUSTRIAL ENTERPRISE IN CONDITIONS OF DEMAND VOLATILITY

Each of the industrial enterprises seeks to minimize transportation costs, storage costs for raw materials, work in progress and finished products. Determining the demand for the company's products using forecasting tools is a factor in preventing the risk of forming excess level of inventories. According to the identified demand, it is possible to estimate the projected sales volumes and improve the logistics risk management system at the enterprise. The problems of this study relate to the construction of a system for forecasting sales of industrial enterprises.

Problems of forecasting sales of the enterprise are widely represented in the works of Ukrainian and foreign researchers. Thus, in the work of O. Parkhomenko [1] it is proposed to use the coefficient of elasticity of demand to reduce the error of the forecast. In the work of N. Gurgiia [2] it is proposed to obtain a multiple regression model to predict the sales of meat processing enterprises. M. Oklander and I. Pedko [3] propose to link the choice of sales forecasting methods with the level of novelty of goods. O. Kirilenko and O. Kudrytska [4] propose to use the methods of mathematical statistics in forecasting the development of the logistics services market in Ukraine. O. Kornietsky [5] substantiates the use of forecasting as the first stage in the construction of a logistics system of product distribution in the transport and logistics complex.

Despite the wide range of methods and models for forecasting sales or demand for industrial products, modern research does not pay enough attention to the choice of forecasting methods depending on the retrospective behavior of a number of sales dynamics of a particular product, taking into account volatility. Most products produced in the modern economy are in seasonal demand. Seasonality is primarily related to changes in consumer demand for products in a particular month or quarter of the current year. Demand can have not only a seasonal component,

but in general some variability. Therefore, it is proposed to call variability (seasonal or not) volatility.

At the enterprise level, forecasts of sales volumes in industries and subsectors are guidelines for determining the trend of own sales, as well as comparing industry trends with trends in sales at the enterprise. Usually, drawing up plans for the sale of enterprise products is based on determining the demand for products. This stage may be based on the opinion of experts, such as the head of sales or commercial director, or based on the analysis of data from previous periods.

It is proposed to approach the stage of estimating the demand for the company's products comprehensively, especially taking into account the conditions of demand volatility. For this purpose, the theoretical and methodical bases and analytical tools of forecasting of the maximum stocks of the enterprise in the conditions of volatility of demand are offered. These analytical tools are further presented in the form of an algorithm in three stages, the feasibility of which is theoretically substantiated.

At the first stage, information on the volume of sales of the enterprise in monetary or physical terms is analyzed to identify seasonal indices and trends. Sales volumes should be reported monthly or quarterly.

Seasonal indicators of sales (monthly or quarterly) are arranged in chronological order and analyzed for the presence of seasonal fluctuations and the presence of trend data (Table 1).

It is possible to check the presence of seasonal fluctuations in sales volumes, both according to the schedule of the corresponding series of dynamics, and according to the autocorrelation coefficient. To calculate the autocorrelation coefficient, which determines the presence of seasonal fluctuations in the dynamics of sales of the enterprise, in the last column of table. 1 the first differences in a number of dynamics of sales are calculated. With the help of such calculations the trend is excluded from the initial data, ie there is a purely seasonal component.

Table 1 – Form for collecting information on sales of enterprise products

Year	Quarter / month	Sales volumes UAH / pieces	The first differences
2015	1	y_1	–
	2	y_2	$y_2 - y_1$
	3	y_3	$y_3 - y_2$
	4	y_4	$y_4 - y_3$
…	…		
2019	1	y_{17}	$y_{17} - y_{16}$
	2	y_{18}	$y_{18} - y_{17}$
	3	y_{19}	$y_{19} - y_{17}$

Next, it is necessary to verify the presence of seasonal fluctuations by calculating the autocorrelation coefficient of the fourth order (1) for quarterly data and the twelfth order (2) for monthly data:

$$r(4) = \frac{\sum_{i=1}^{N-4}(Y_i - \bar{Y}_i)(Y_{i-4} - \bar{Y}_{i-4})}{(N-4)\sigma_i\sigma_{i-4}}, \quad (1)$$

$$r(12) = \frac{\sum_{i=1}^{N-12}(Y_i - \bar{Y}_i)(Y_{i-12} - \bar{Y}_{i-12})}{(N-12)\sigma_{i-12}}. \quad (2)$$

There are two possible situations:

- the autocorrelation coefficient indicates the existence of a sufficient relationship in the data, then r (4) or r (12) is greater than or equal to 0.5;
- the autocorrelation coefficient indicates a lack of relationship or a weak relationship in the data r (4) or r (12) less than 0.5.

In the first case, in the second stage, seasonal indices are determined and the trend is estimated. In the second case, the second stage determines the presence of a trend in the source data.

In the second stage, seasonal indices are obtained in the case of determining seasonal fluctuations in the first stage and trend parameters are determined.
In the case of *seasonal fluctuations*, the initial data to obtain the trend is recommended to obtain by the method of decomposition of the time series (Table 2).

Table 2 - Initial data to obtain a trend in the case of seasonal fluctuations in sales dynamics

Year	Quarter / month	Sales volumes UAH / piece	Sliding average	Relation to the goat average	Seasonal indices	Data adjusted for the season
2015	1	y_1	–	–	S_1	y_1/ S_1
	2	y_2	–	–	S_2	y_2/ S_2
	3	y_3	x_3	y_3/ x_3	S_3	y_3/ S_3
	4	y_4	x_4	y_4/ x_4	S_4	y_4/ S_4
…	…	…	…	…	–	…
2019	1	y_{17}	x_{17}	y_{17}/ x_{17}	–	y_{17}/ S_1
	2	y_{18}	–	–	–	y_{18}/ S_2
	3	y_{19}	–	–	–	y_{19}/ S_3

The moving average in the table. 2 for quarterly data is calculated by the formula:

$$x_k= (y_{k-2}/2 + y_{k-1} + y_k + y_{k+1} + y_{k+2}/2)/4. \quad (3)$$

Seasonal indices for a particular quarter are the average of the moving average relative to that quarter. For monthly data, the algorithm is similar. The calculation of the moving average begins in the seventh month of this year.To obtain a trend, all levels of a series of sales dynamics are numbered from 1 to n. For example, in Table 2 from 1 to 19. It is further assumed that the dependent variable in obtaining the trend is the data adjusted for the season, and the independent is time, ie the level of a time series.
The linear trend has the form:

$$\hat{Y} = a_0 + a_1 t.$$

The resulting trend is assessed for accuracy, reliability and adequacy.

The accuracy of the model is evaluated by two indicators:

- the coefficient of determination R^2, which must be greater than 50%, in order for the model to be considered accurate;
- the ratio of the model error to the data scope:

$$\frac{S_{yt}}{y_{\max} - y_{\min}} * 100\%,$$

which must be less than 30% for the accurate model.

The model is tested for reliability in two stages:

1. Reliability of the model as a whole, ie testing the hypothesis that in the general population all the coefficients of the model for independent variables are zero. The probability of such a hypothesis is determined by the significance of F-statistics in analysis of variance. If it is less than 0.05, then the null hypothesis is rejected, ie the model has at least one non-zero coefficient for independent variables.
2. Reliability of the coefficients of the model, ie testing hypotheses that each of them in the general population is zero. The probability of such hypotheses is tested using the p-value of the corresponding t-statistics. If it is less than 0.05, then the null hypothesis of zero equality of the corresponding coefficient for the independent variable is rejected.

The model is checked for adequacy using the autocorrelation coefficient of first-order residues $r_1(e)$. If it is less than 0.5, the residuals do not show a strong bond, otherwise the model cannot be considered adequate.

If the trend turned out to be accurate, reliable and adequate, then it is possible to obtain a point forecast that does not contain seasonal fluctuations, ie a forecast without seasonality. To do this, in the trend model instead of t the following periods are substituted.

Multiplying the trend forecast data by seasonal indices, we obtain the forecast taking into account seasonality.
If the trend was unsuitable for obtaining forecasts, ie inaccurate or unreliable, then to obtain a point forecast the average value of the last year is calculated. The average value is considered a forecast without taking into account seasonality for subsequent periods. To obtain a forecast taking into account seasonality, it is multiplied by the corresponding seasonal indices.
If at the first stage the *seasonal fluctuations in the initial data* were not detected, the initial data for obtaining the trend model are the initial data. They are followed by a trend model, which, as in the previous case, is tested for accuracy, reliability and adequacy.
In the case of obtaining an accurate, reliable and adequate model, it provides an accurate forecast for future periods. If the model is inaccurate or unreliable, the point forecast is obtained by calculating the average value for quarters or months taken for the year.

At the third stage interval forecasts of demand for the company's products are obtained and the logistical risks of forecasting the maximum stocks of finished goods are assessed. To obtain interval forecasts of sales volumes, the forecast error is first determined. There are four possible cases:

1. A time series of volume of sales is characterized by seasonal fluctuations and an accurate, reliable and adequate trend. In this case, from the trend error and seasonal model errorthe largest is selected and it is used to build confidence intervals of the forecast.

Let us denote $\widehat{Y}$ the retrospective values according to the trend, and the retrospective values according to the seasonal model. Then, the errors of the trend and the seasonal model are found by the formulas:

$$s_{yt} = \sqrt{\frac{\sum_{i=1}^{n}(y_i - \hat{y}_i)^2}{n-1}} \text{ – trend error} \qquad (4)$$

$$s_{yts} = \sqrt{\frac{\sum_{i=1}^{n}(y_i - \hat{y}_{is})^2}{n-1}}$$ – seasonal model error (5)

Let's mark:

$$s_f = \max(s_{yt}; s_{yts}). \quad (6)$$

Then the interval forecast is calculated on the basis of point by the formula:

$$\hat{y}_s \pm ts_f, \quad (7)$$

where t can take the values 1, 2, 3.

At t = 1, given the normal distribution of sales of the enterprise around the point forecast, 67% falls in the interval (3.7). At t = 2 – 95%, at t = 3 – 99%.

Thus, at t = 1 the probability of error is 33%, if we take the projected volume of sales of the upper value of the interval, it will be 12.5%. That is, the risk of making a mistake in determining the projected maximum sales will be 12.5%, which can be considered a logistical risk of forecasting the maximum stocks of finished goods.

When at t = 2 the probability of error is 5%, the logistical risk of forecasting the maximum stocks of finished goods will be, respectively, 2.5%. That is, the risk of making a mistake in determining the projected maximum sales will be only 2.5%.

When at t = 3 the probability of error is 0.5%, the logistical risk of forecasting the maximum stocks of finished products will be 0.5%.

2.A time series of sales of the enterprise is characterized by seasonal fluctuations, and instead of the trend to obtain a forecast used the average for the last year - $\overline{y}$, which is multiplied by seasonal fluctuations s_i. To calculate the error, the formula is proposed:

$$s_f = \sqrt{\frac{\sum_{i=n-4}^{n} (y_i - \overline{y}s_i)^2}{3}} \quad (8)$$

To obtain interval forecasts, you can be guided by the same considerations as in the previous case:

$$\overline{y}s_i \pm ts_f \quad (9)$$

The logistical risk of forecasting the maximum stocks of finished goods is determined as in the first case.

2. In the third case, a number of dynamics does not show seasonal fluctuations, but is characterized only by a trend model. To obtain interval forecasts, it is recommended to use the formula:

$$\widehat{y}_t \pm ts_{yt}, \quad (10)$$

where $\widehat{y}_t$ – projected sales volumes by trend;

s_{yt} – standard error of the model, which is calculated by formula (4).

The logistical risk of forecasting the maximum stocks of finished goods is determined as in the first case.

4. In the fourth case, a time series of sales of finished goodsof the enterprise does not contain seasonal fluctuations and trends, so the point forecast is recommended to be calculated as the average according to the last year. To calculate the error, the formula is proposed:

$$s_f = \sqrt{\frac{\sum_{i=n-4}^{n} (y_i - \overline{y})^2}{3}} \quad (11)$$

To obtain interval forecasts, you can follow the formula:

$$\overline{y} \pm ts_f \quad (12)$$

The logistical risk of forecasting the maximum stocks of finished goods is determined as in the first case.

Here is a block diagram of the proposed tools (Figure 1).

From the given block diagram (Figure 1), dynamics of monthly or quarterly volumes of realization of production of the enterprises can be typologized by four regularities:

1. The presence of seasonal fluctuations and trends.
2. The presence of purely seasonal fluctuations without a pronounced trend.
3. No seasonal fluctuations, but the presence of a trend.
4. No seasonal fluctuations and trends.

We will demonstrate the tools proposed in Figure 1 on the example of forecasting the maximum stocks of JSC "First Kyiv Machine-Building Plant". The dynamics of sales of finished goods of JSC "First Kyiv Machine-Building Plant" (Table 3) shows a growing trend. We calculate the first differences and determine the presence of seasonal fluctuations in the dynamics of sales by the fourth-order autocorrelation coefficient.

The autocorrelation coefficient r (4) = 0.13, which indicates the absence of a seasonal component in the dynamics of sales.

According to regression analysis, the trend model:

$$\hat{Y} = 12035{,}8 + 752{,}33t,$$

$$\frac{S_{yt}}{y_{\max} - y_{\min}} * 100\% = 18\% .$$

The model is accurate: $R^2 = 0.52 > 0.5$;, reliable: significance F = 0.001 <0.05; p-value = 0.001 <0.05 and adequate r (1) = 0.07. That is, it can be attributed to the third case - the absence of seasonal fluctuations, but the presence of a trend.

Table 3 - Dynamics of sales of finished products of the JSC "First Kyiv Machine-Building Plant", thousand UAH

Year	quarter	Sales volumes	The first	Year	quarter	Sales volumes	The first

			differences				differences
2015	1	7456	-	2017	2	18034	-2548
	2	21202	13746		3	21825	3791
	3	18776	-2426		4	19374	-2451
	4	15145	-3631	2018	1	29926	10552
2016	1	11500	-3645		2	21896	-8030
	2	11448	-52		3	21899	3
	3	14293	2845		4	22328	429
	4	16201	1908	2019	1	24158	1830
2017	1	20582	4381		2	24652	494

In accordance with the second stage of the analytical tools for forecasting the maximum stocks of an industrial enterprise in conditions of demand volatility, we obtain a point forecast for 2019 (3-4 quarters) and for 2020 (Table 4).

To implement the third stage, we calculate the formula (10) interval forecasts for t = 1 and t = 2, which corresponds to 67% and 95% levels of reliability (Table 4) and build graphs of the upper limits of these forecasts with retrospection (Figure 2).

Table 4 - Point and interval forecasts of sales of finished products of JSC "First Kyiv Machine-Building Plant", thousand UAH

Year	quarter	Period	Point forecast	Lower limit 67% confidence	Upper border 67% confidence	Lower limit 95% confidence	Upper border 95% confidence

				interv al	interv al	interv al	interv al
	3	19	26330 ,18	22335 ,64	30324 ,72	18341 ,09	34319 ,27
	4	20	27082 ,52	23087 ,97	31077 ,06	19093 ,43	35071 ,6
202 0	1	21	27834 ,85	23840 ,31	31829 ,4	19845 ,77	35823 ,94
	2	22	28587 ,19	24592 ,64	32581 ,73	20598 ,1	36576 ,28
	3	23	29339 ,52	25344 ,98	33334 ,07	21350 ,44	37328 ,61
	4	24	30091 ,86	26097 ,32	34086 ,4	22102 ,77	38080 ,95

As can be seen from Figure 1, the company can choose a strategy of greater logistical risk, then the logistical risk of forecasting the maximum stocks of finished products will be 12.5%, and the upper limit of 67% of the confidence interval differs from the point forecast by almost UAH 4 million.

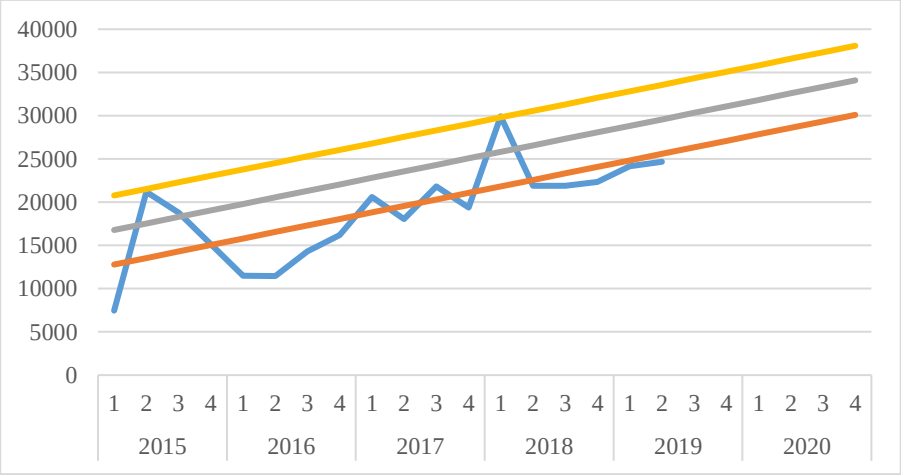

Figure 1 - Point forecast and upper limits of interval forecasts of sales volumes of JSC "First Kyiv Machine-Building Plant", thousand UAH

The company may choose a strategy of lower risk, then the logistical risk of forecasting the maximum stocks of finished goods will be 2.5%, and the upper limit of 95% of the confidence interval differs from the point forecast by almost UAH 8 million. In the case of the lowest risk strategy, the logistical risk of forecasting the maximum stocks of finished goods will be 0.5%, and the upper limit of 99% of the confidence interval differs from the point forecast by almost UAH 12 million.

The logic and structure of risk assessment of inventories of machine-building enterprises in the conditions of volatility of demand for products of machine-building enterprises are substantiated, which are based on: first, on comparison of sales forecasts with aggregate sales forecasts of enterprises; secondly, on the analysis of the dynamics of inventories; third, on the analysis of the turnover of inventories; fourth, on the assessment of risks of formation of inventories. This contributes to the development of a logistics plan that takes into account industry trends in the accumulation of inventories and minimizes the emergence of critical situations of their shortage or surplus.

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1.4. MARKETING INFORMATION SYSTEM OF THE ENTERPRISE AS A COMPONENT OF THE CORPORATE INFORMATION SYSTEM

In modern economic conditions, information is one of the most important factors in the success of an enterprise. It must be correctly interpreted and used to achieve the company's strategic goals. The peculiarity of marketing in B2B markets is that it must take into account the needs of the industrial market directly and the consumer one indirectly. Therefore, the information support of the marketing activities of an industrial enterprise is intended to lay the foundations for ensuring economic efficiency at all stages of the

creation, production and sales of goods, taking into account the requirements of the industrial and consumer markets.

The information support of any activity should perform certain functions, among which are: the formation of databases of primary and secondary information, the organization of a data bank, the organization of the way of storing data, the definition and application of methods for its search, transformation and forms of provision to the user. The criteria for the effectiveness of the information system which performs its function is the degree of usefulness of the information received by the user, minimization of resource expending to receive and use the information.

Management, in the presence of the necessary information, can make rational management decisions regarding the marketing activities of the enterprise and the adaptation of its activities to the requirements of the external environment.

A significant number of works by foreign and domestic scientists and practitioners are devoted to the problems of information and information support. The recognized domestic and foreign specialists in the information support of the enterprise are A. Karminsky [1], M. Jermoshenko [2], M.S. Al-Audat, R. Bazzel, D. Cox, R. Brown and others.

They reveal the value of information in the market economy, its essence and quality characteristics, including ways to minimize risk in order to develop and organize marketing information solutions. A number of scientists propose their own methods for constructing the marketing information system (MIS) - Ph. Kotler's MIS model [3], E. Duliniec's model and E. Li's dynamic marketing information system model [4], the model of E. McCarthy and W. Perreault [5], the model of J. Talvinen [6] with functional, subject, technological, subject approaches.

Rationally, expediently built marketing information systems should help an industrial enterprise to structure information from the external environment, to systematize internal information for optimal work with information requests from the marketing department of the enterprise.

For industrial enterprises, marketing information becomes an impetus for a significant investment of money and time, given

the usually long-life cycle of goods manufactured by the enterprise. As can be seen from the analysis of previous studies, the structuring of the marketing information system (MIS) can be carried out on the basis of different approaches. The choice depends on the strategic goals of the enterprise and the needs of their information support, the industry affiliation of the enterprise and the dynamics of the market, the degree of enterprise diversification and its product's differentiation for the consumer. Marketing activity is one of the activities of an industrial enterprise along with production, financial, innovation, investment and other types. Therefore, taking as a basis the models of structuring information developed by foreign scientists and the researches in the sphere of analysis of the qualitative characteristics of information, further elaboration of the issues of embedding the marketing information system into the general information system of the enterprise is needed. It also requires the formation of an integrated structure of certain information modules.

The application of a modular approach to the marketing information system formation and its integration into the enterprise general information system with a view to the effective use of information in making management decisions on the release of goods at large enterprises requires research and justification.

The main task in the field of information support for the enterprise marketing activities is to build a system for delivering information to managers in accordance with their level of competence and responsibility. Thus, the information should correspond in volume, quality and timeliness to those tasks that should be solved by certain divisions of the enterprise.

Typically, the marketing information system is defined as a set of activities designed to collect, process, analyze, evaluate and disseminate relevant and reliable data for information support of marketing decisions, as well as providing the necessary human and material resources for this process [7, p. 111]. Foreign scientists have developed a number of approaches to the formation of the structure of the marketing information system, among which the most used is a functional approach to the creation of an enterprise

information system, depending on the performance of certain functions.

The known expert of marketing theory and innovation Ph. Kotler in [3, p.128] notes that the structure of the MIS of an enterprise includes such components as an internal reporting system, a marketing research system, a marketing information analysis system, and a system for collecting current external marketing information.

According to the dynamic model of MIS E. Li [4, p.13], it has two main subsystems: input and output, with two data banks that interact with each other. In the model of E. McCarthy and W. Perreault, MIS is defined as a mechanism for the continuous acquisition and analysis of data in order to provide them to the enterprise marketing department. This model, in contrast to others proposed, provides for the creation of an integrated closed system with the central component which is an integral database [5, p. 224].

J. Talvinen's model aims to create an MIS that could cooperate with the systems that already exist in the company, while subordinating all activities to the effectiveness of the marketing management process. The researcher emphasizes that not only MIS is the supplier of information for marketing departments, but also other information systems. He highlights systems that help improve and analyze marketing information: Transaction Processing System (TPS), Management Information System (MIS), Decision Support System (DSS), Executive Information Systems /Executive support System (EIS / ESS) [6, p. 78].

From the perspective of information sources in the information system of an industrial enterprise, one can distinguish data subsystems used in various types and at different stages of activity. Among these subsystems stand out:

- a subsystem of scientific and methodological information, providing scientific and practical workers with methodology and techniques, scientific analysis of the state and development trends of this industry;

- a subsystem of reference information, designed to promptly provide specialists with the necessary data for their work and optimize scientific, educational and production activities;

- a subsystem of legal information necessary to supply information of a regulatory nature, ensuring the reliability and stability of the enterprise position, its functioning, taking into account the requirements of state and local legislation. The subsystem includes legal documents of state and local significance, professional organizations, unions, associations documents, charters of enterprises, patents, explanations and their comments;

- a subsystem of general economic information about the state of the domestic and world economy, the situation in certain industries, trends in economic development, the influence of the state on the relevant industry. The subsystem consists of analytical reviews of the development of domestic and foreign economies, characteristics of economic sectors, enterprises, economic and social forecasts, state and local programs, forecasts of sociologists, economists, political scientists, politicians in relation to the economic situation;

- the financial information subsystem provides data on the status of finance, foreign exchange market, banks, securities markets;

- subsystem of price information, provides data on the dynamics of goods and services prices;

- a subsystem of statistical information, provides specialists with the necessary digital data on modern economy development, the state of industries, the population welfare, demographic data, etc. The system is based on data from the State Statistics Service of Ukraine, similar foreign organizations, sociological and demographic studies of scientific research institutes, enterprises;

- a subsystem of commercial information, which is a complex of information used in practical marketing activities: data on manufacturers and offers of goods and services, the results of marketing and sociological researches, advertising, media reports, information about competing organizations, etc.;

- a subsystem of internal information, including a complex of information resources that reflect the situation within the enterprise: accounting documents, plans and reports, internal documents, data on the availability of goods in the warehouse, sales data etc.;
- a subsystem of service information, including actual**,** factual and reference data on various areas of service and support of marketing activities [1, p. 45].

In the author's opinion, the information system of the marketing activity of an industrial enterprise is directly related to the structure and components of its internal business process, which is the main activity of the enterprise. Figure 1. shows a schematic diagram of the formation of an information system according to the stages of the business process of an industrial enterprise for the goods creation and sale.

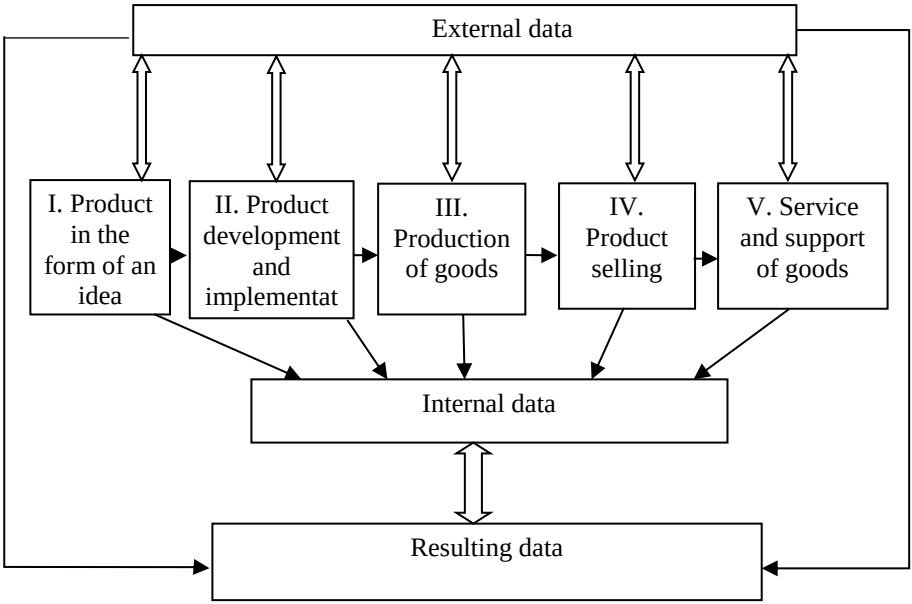

Figure 1. Stages of the business process of an industrial enterprise to create a product

Source: author's own elaboration

The construction of an information system involves the formation of databases, which can be divided into databases of incoming, internal and outgoing information. In our opinion, a modular approach to the systematization of information that concerns all business processes of an enterprise and areas of activity, including marketing, is expedient.

According to this, each of the databases should consist of certain information modules (IM), the number and composition of which should be set in each specific case and it can be changed as needed. The modular approach uses, on the one hand, the functional principle of information accumulation and allows increasing the official and personal responsibility for the quality, reliability, expediency and timeliness of the information provided to the corresponding module. Another principle of creating information modules is the correspondence of information to the structure of the business process. Information in the aggregate of the corresponding information modules is formalized in a convenient form and verified for further effective use by a single information support center.

Each of enterprise management levels require different marketing information for planning its activities depending on the goals and objectives that are put forward by strategic and operational management to solve tactical problems. It should be noted that for large enterprises, which are usually industrial enterprises, the allocation of the operational and strategic levels of MIS makes it possible to increase the efficiency of management, including the marketing activities of the enterprise. And at the same time there is a certain hierarchy, limited access to information at the enterprise.

To ensure the effectiveness of the information system, certain principles of its construction must be followed, namely:

-inter-conditionality of information sources, which ensures the integrity of the information array, which is used in the business process of the enterprise;

- balance of external and internal sources of information, which contributes to the completeness and consistency of information support of the enterprise;

- the legality of information, which affects its reliability;
- openness of internal information of the enterprise, which increases information transparency and «quality» of the information environment of industrial enterprises;
- the consistency of information sources, which affects the purposeful, orderly and conscious work with information and ensures its relevance in the context of the preparation and implementation of marketing decisions [2, p.67].

The matrix of information modules can be as follows (Table 1).

The use of all the information modules listed in the matrix, or some of them, will depend on the specifics of the enterprise, its organizational and management structure, and the ability to collect and process information. The modular structure of information optimizes the movement of information between different divisions of the enterprise «vertically» and «horizontally», creating a system with transparent and free access to the necessary information.

Table 1 - Matrix of information modules for the formation of the marketing enterprise information system

Stages of the enterprise business process (Si)	Type of information	Types of the enterprise activity by functions				
		marketing (M)	production (P)	research and development (R&D)	financial (F)	investment (I)
I-V	external data	MI (Si Mex)	MI (Si Pex)	MI (Si R&D ex)	MI (Si Fex)	MI (Si Iex)
	internal data	MI (Si Min)	MI (Si Pin)	MI (Si R&D in)	MI (Si Fin)	MI (Si Iin)
	resulting data	MI (Si Mres)	MI (Si Pes)	MI (Si R&D res)	MI (Si Fres)	MI (Si Ires)

The given matrix represents one of the options for the structure of the enterprise information system with the ordering of information by stages of the enterprise business process, with

referring information to the input, internal or resulting and functional activities of the enterprise.

Marketing activity is just one of the activities of any industrial enterprise in a market economy, but all types of activities, the level of enterprise planning (strategic, operational, tactical), as well as all stages of the process of creating and selling goods, need marketing information.

At the stage of creating a product idea, information should be accumulated in the relevant information modules:

- input information - IM of search activities (characteristics of product, technological, raw material, organizational, marketing and infrastructure innovations, cost of patents, know-how, scientific and methodological decisions in the field of marketing, etc.), IM of buyers, customers and competitors (portfolio formation of pending orders, qualitative and quantitative characteristics of similar products);
- internal information - IM R&D (engineering and technical researches and developments, marketing research).

At the stage of product implementation, databases are used:

- input information - IM of resource requirements (means of production, subjects of labor, employees - requirements for qualifications, experience, level of wage), IM of financial support (conditions for granting and repaying a loan, inflation rate, interest rates on deposits, investors intentions regarding investing funds using the method participation in capital and securities purchase);
- internal information - IM of development activities (parameters of technical specifications, technical proposal, draft design, technical design), IM of technical and economic indicators (production capacity, quantitatively and qualitatively composition level of staff, composition and accuracy class of technological equipment, etc.)

At the stage of production of goods, the same IMs are used as input information as for stage II, and internal information is displayed in the IM of production (production time, delivery, deviations from planned indicators, information on the stages of the innovation life cycle, indicators of the enterprise's operating

activity, etc.), IM finance (volume of production's data, costs, prices, availability of own funds, etc.).

At the fourth stage - implementation on the market - the input information is used in the form of marketing IM: buyers, customers and competitors (when calculating indicators, the deviation from the primary information of stage I is taken into account), the internal information database includes IM finance, IM production.

IM of service and support of goods stage requires the accumulation of input information both from the previous stage (through feedback) and external market information (consumer perception of the goods, consumer wishes, the expediency of changing the characteristics of the goods, the number of refusals and rejects, etc.). The resulting information, in turn, is either input information for the next stages of the production of goods' process, or is formed in accordance with the needs of users.

A characteristic feature of marketing information is that the lack of information regarding the goods, subjects of trade, the processes of sales and promotion of goods, etc. can be perceived as the absence of these elements and fall out of the marketing potential assessment process.

That is, the trend of collecting marketing information should be a gradual «narrowing» of the amount of information from excessive (to prevent unaccounted information) to sufficient at a certain point in time or for certain needs of users of target information.

The information saturation of the market space causes the need to use the growing capabilities of information technology. Some of these capabilities are already embodied in certain information products (corporate information systems (CIS), analytical Internet systems, software products, etc.). But the increasing volume and complexity of marketing information that enterprises use in their activities indicate the need to find appropriate ways to organize information in accordance with these needs and the concept of research. Table 2 shows the characteristics of the existing corporate information systems of the exogenous direction.

Table 2 - Characteristics of corporate information systems (CIS) that take into account exogenous factors

CIS	Definition	Scope of application	System capabilities
CRM (Customer Relations Management)	a strategy based on the use of such management and information technologies in which companies accumulate knowledge about customers to build mutually beneficial relationships with them	- Sales Force Automation (SFA); - Marketing Automation, (MA); - Customer Service Automation & Support, CSA/CSS	- database of contacts with the client (client's history); - automatic formation of commercial offers on the client base; - database on the company's products, prices, market conditions, competitors; - analysis of profits and losses, budgeting; - forecasting and analysis of the sales cycle, - means of analysis and formation of the target audience, generation of potential customers lists and distribution among sales agents; - monitoring the progress of orders
CSRP (Customer Synchronized	the concept of enterprise resource	- customer integration into the	- new market trends, competitive

Resource Planning)	management, which takes into account the synchronization with the client (taking into account the wishes at the stage of ordering and making changes to production schedules in limited capacity conditions)	enterprise management system by introduction its requirements into the business management system; - production planning, which focuses on market activity rather than production activity.	pressure, problems in customer service, pricing, demand; Identify which products are more problematic, which improvements are most frequently asked by buyers, which services offered can be beneficial to the buyer
Product Configurator Modul	The module contains business logic, rules for creating specifications of order, equipment composition, and possible technological routes depending on various conditions	- planning of production and all activities through the planning of customer orders for the organization of dynamic production	- estimate the cost of an order for a specific product for a specific consumer;
APS (Advanced Planning and Scheduling)	extended adjustable management of production schedules in conditions of limited capacity		- calculation and optimization of production schedules and optimal equipment utilization

	and time intervals		
BI (Business intelligence)	concepts and techniques for improving business decision making using systems based on business data; Concept and methods for Improving business decision making with factual information based support systems	- sales analysis; - warehouse and logistics management	Combines data from the market in which the company operates (external data) with data from sources within the company, such as financial and data transactions (internal data). It allows to establish: - how sales can be increase by quickly finding growth drivers and managing managers' motivation; - how can production be increased, inventory balances minimized, planning improved, order settlements optimized, etc.

Sources: compiled on the basis of [8,9]

CRM systems are widely used to automate marketing in the B2B sector. The main value of CRM systems is to manage various types of relationships with customers of an enterprise based on their preferences and receptivity to the marketing activity of the enterprise. Thus, it is possible to implement an emphasis on an

individual approach to each client of the enterprise. Taking into account the peculiarities and differences of business models, CRM should be adapted to one of them - B2B or B2C.

As a rule, large enterprises use ERP systems to implement business processes. ERP systems are focused on the main aspects of the production and commercial activities of the enterprise, such as production, planning, finance and accounting, procurement and personnel management, sales, inventory management, order management for production and delivery of products, the provision of various services, and so on. Such systems are created to provide management with information on the basis of which management decisions are made, as well as to create an infrastructure for electronic exchange of enterprise data with suppliers and consumers [8, p.104].

According to the materials of the APICS Association, a modern enterprise management system that complies with the ERP concept should cover:

- module Supply Chain Management - SCM. In MRPII it is DRP (Distribution Resource Planning);
- module Advanced Planning and Scheduling - APS
- module Sales Force Automation - SFA
- automatic module responsible for system configuration (Stand Alone Configuration Engine - SACE)
- module Finite Resource Planning - FRP
- module Business Intelligence - BI
- module Electronic Commerce - EC
- module Product Data Management - PDM.

This complex is based on the ideology of a component architecture, which implements connection to the basic ERP package through the corresponding interfaces of specialized modules responsible for e-commerce, OLAP, DSS, sales automation, etc.

For example, in Ukraine more often used such systems as BAS ERP, SAP R3; Galaxy ERP; SyteLine; Parus ERP; Oracle E-Business Suit; Microsoft Dynamics AX; DeloPro. Products that provide for the organizing interaction possibility with customers, suppliers, partners are BAS ERP and Microsoft Dynamics AX

(module for optimizing interaction with suppliers, partners, customers), Oracle E-Business Suit (procurement, sales and work of warehouses; delivery of orders; interaction with clients); effective solution from Ukrainian developers is DeloPro, integrated CRM system is focused on startups and companies engaged in wholesale and retail trade, provision of services, production.

Not all configurations imply the presence of CRM in the basic version, but all have the opportunity to add some modules, which are exposed as separate software, but at the same time they are easily integrated into the general ERP system package. Or use the capabilities of the built-in ERP module «Operations. Sales»: these modules coordinate the pricing policy, configure and process incoming orders, build a sales system, promote product and organize after-sales service.

In large industries, the main task of which is to create a high-quality product and comply with all the nuances of a complex technological process, ERP is usually implemented. And in order to systematize data on transactions and improve control over the sales department, ERP integration with a third-party CRM system is configured via API.

The information support of an enterprise in the context of information and technological development should combine information flows, information base and information processing technologies.

Concepts and techniques for improving business decision making using systems based on business information, known as BI (business intelligence). They are techniques and tools for translating raw information into meaningful, usable form. BI-systems are most effective when they combine data from the market in which the company operates (external data) with data from sources within the company, such as financial and operational (internal data). In its combination, external and internal data give a complete picture of the business, or the same «structured data» or analytics that can be obtained from only one of these sources.

T. Davenport notes that BI distinguishes the following stages [9, p. 246]:

1. Information search

2. Analytical processing in real time (OLAP),
3. Tools for warning about deviations from expected indicators
4. Business intelligence
5. Business reporting.

BI is typically used for the following business tasks:

Measurement - evaluation of selected indicators, which informs business leaders about the progress in achieving goals.

Analytics includes: Data Analysis, Process Development, Statistical Analysis, Predictive Analytics, Predictive Modeling, Business Process Modeling, Data Origins, Complex Event Processing, and Disciplinary Analytics.

Corporate reporting (CR) creates an infrastructure for strategic reporting, enables strategic business management. CR often includes data visualization, management information systems, and OLAP technologies.

Collaboration Platform represents the different areas (both inside and outside the business) that allow you to enable collaboration across shared data and electronic data interchange. Knowledge management assumes that the company is managed by strategies and lessons learned.

It is advisable to apply the capabilities of BI to the implementation of a marketing information system in an enterprise. A significant degree of differentiation and ramification of external and even internal information of the enterprise requires the provision of intelligent data processing in the form of data storage, data integration, data analysis and data presentation. Such opportunities are provided by the concept of BI (Business intelligence) as part of software tools (Table 3), each of which performs a specific function.

Table 3 - Definition and composition of Business intelligence

Analytical agency	BI definition	BI composition
Gartner Company	1996 - software tools operating within the enterprise and providing functions of access and analysis of information	• data warehousing;

	located in the data warehouse, and also ensure the adoption of correct and reasonable management decisions	• OnLine Analytical Processing, OLAP; • Enterprise Information Systems, EIS; • data mining; • query and reporting tools
	today - appropriate applications, infrastructures, platforms, tools and best practices that provide access to information and its analysis in order to optimize decisions and manage performance	
Independent analytical company Forrester International Data Corporation (IDC)	Broad definition - a set of methodologies, processes, architecture and technologies that transform raw data into useful and meaningful information that is used to make decisions that are effective in relation to the strategy, tactics and operations of the company	• QRA — end-user query, reporting and analysis; • advanced analytics software
	Narrow definition - data preparation and data usage - a set of methodologies, processes, architecture and technologies that use the result of the information management process for analysis, reporting, performance management and information delivery	

Sources: compiled on the basis of [10]

The expediency of applying a modular approach to the formation of a marketing information system as part of an enterprise information system is justified in a number of scientific works of domestic and foreign scientists. As a result of studying this issue in the activities of the enterprise, a modular approach to the formation of the IMS was proposed as part of its general information system.

The structure of an enterprise information system can be formed, on the one hand, on the basis of combining information modules into input, internal and output bases, and on the other hand, it involves segmenting information modules by stages of the main business process enterprises. The third source for the formation of information modules are the functional areas of the enterprise: marketing, production, innovation, financial, investment. To implement an information system at any enterprise, it is possible to use corporate information systems of various levels of complexity and functionality, depending on the needs of the enterprise.

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CHAPTER II.

STRATEGIES FOR INNOVATIVE DEVELOPMENT OF REGIONAL SOCIO-ECONOMIC SYSTEMS.

2.1. OVERVIEW OF THE CLUSTER DEVELOPMENT IN THE REPUBLIC OF MOLDOVA

Introduction

The idea of industrial clusters, formulated by M. Porter, includes the unification of companies of the same industry, linked by a strategy of vertical integration: suppliers, manufacturers, financial institutions [1].

According to Porter, this concept refers to geographically concentrated companies, firms in related industries, which both compete and cooperate with each other, creating a single interaction process [1]. M. Porter came to the concept of an economic cluster from an analysis of the competitiveness of individual sectors of the economy. One of his main ideas is the assertion that geographically concentrated and competing interconnected groups of enterprises can represent a fairly powerful competitive force in the global economy. Such clusters affect the growth of competition between enterprises - members of the cluster in three ways: by increasing the productivity of companies, creating innovative solutions in the relevant area of business, and stimulating the development of activities.

According to Enrigt, a cluster is "a group of commercial and non-profit organizations that have an interconnected sphere of production and non-production activities and services, concentrated around key production, for which group membership is an important element of individual competitiveness" [2].

The result of the interaction of the cluster members is synergy, which is the source of cluster growth. As the foreign experience shows, the “critical mass” of organizations of different industries that make up the cluster is at least 30 enterprises. Only in this case is a “synergistic effect” provided in the process of

interaction between cluster members [3]. The synergistic theory formulated in the work of Eggerson allows us to conclude that the emerging integration network allows one to obtain a result that exceeds the sum of the results of the activities of disparate firms. Ansoff identifies 4 types of synergism [4]:

• synergy of sales - the use of the same channels and related infrastructure in the sale of distribution products in the sale is manifested when a company, selling several products, uses the same distribution channels, manages sales through one center, uses the same warehouse;

• operational synergy - is the result of more efficient use of fixed and working capital, labor, distribution of overhead costs, etc.;

• investment synergy - is a consequence of the joint use of production facilities, common stocks of raw materials, transfer of R&D costs from one product to another, the use of the same equipment, etc.

• synergy of management - manifests itself at the moment of developing new products or entering a new industry. When the experience and knowledge accumulated earlier can help in solving new problems that arise when a firm enters a new competitive environment.

Establishment of clusters in the Republic of Moldova (RM) is at its early stages [5]. The mechanisms of their establishment are not clearly defined, and namely: definition of the development concept, of the basic elements and management tools, evaluation of their effectiveness [6]. According to national legislation, scientific-technological cluster represents a group of individuals and legal entities created on the basis of the merging agreement concluded between the accredited organizations in the field of science and innovation and/or accredited high educational institutions, other non-profit organizations, on the one hand, and economic entities, local public administration authorities, patronage associations or professional associations, individuals, financial institutions, international organizations, domestic and foreign investors, on the other hand, in order to carry out activities in the field of scientific research, education and technology transfer

of scientific results and innovations, their exploration through economic activity [7].

The main reasons for the insufficient development of the Moldovan industrial clusters are the following [8]:

• Low level of participation in these processes both of large companies and companies from SME sector, absence of a leader who would promote the group interests;

• Lack of cooperation between business community and local authorities and R&D organizations;

• Limited access to business information as a result of lack of trust between domestic and foreign partners;

• Insufficient support from outside and absence of self-financing of modern infrastructure projects by businesses.

EU Cluster Policy Experience

The development of cluster policy directly depends on the level of innovation orientation of the country's economy. The efficiency of the national innovation system of the EU member states is characterized by the value of the composite innovation index (the weighted average of 27 indicators).

- The first group of “innovation leaders” includes 5 countries: Denmark, Finland, Luxembourg, the Netherlands and Sweden (productivity is more than 125% of the EU average).
- The second group of “strong innovators” (productivity from 95 to 125%) is represented by countries: Austria, Belgium, Estonia, France, Germany, Ireland and Portugal.
- The third group - “moderate innovators” with productivity from 50 to 95% includes the countries: Croatia, Cyprus, Czech Republic, Greece, Hungary, Italy, Latvia, Lithuania, Malta, Poland, Slovakia, Slovenia and Spain.
- The fourth group of countries of "weak innovators" includes two members - Romania and Bulgaria (below 50%).

Researchers Marchand and Magouret identified three types of European regions [9]:

1) centers of consolidation and concentration of knowledge;

2) industrial production areas;

3) regions, in the development of which new technologies are practically or completely absent.

It is recommended to use the following as basic indicators for assessing innovativeness:
1) human potential, educational level and dominant agglomeration effects (the share of employed citizens with higher education, the share of students in the population);
2) the total potential for the formation of new knowledge and technologies (the share of those employed in R&D, the number of potentially commercializable patents);
3) the total potential for the introduction of new and advanced technologies (the ratio of the number of patents used to the number of issued, the share of the manufacturing industry in the GRP);
4) the potential for the diffusion of innovation and consumption of information and communication technologies (ICT) (the share of people employed in agriculture, the level of internalization).

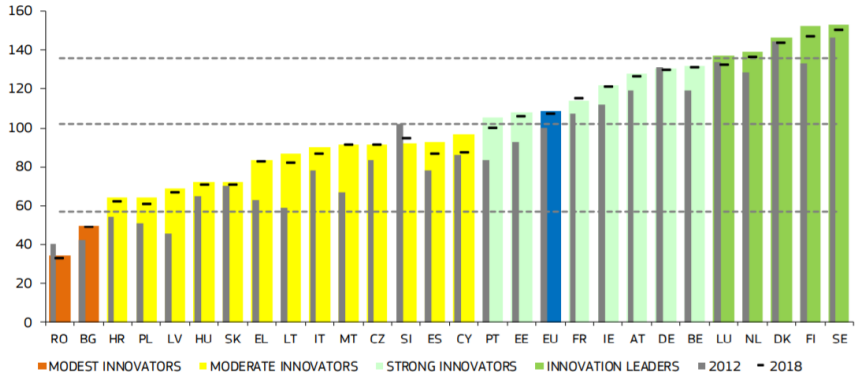

Figure 1. Effectiveness of innovation systems in EU Member States
Source: The European Innovation Scoreboard report. Luxembourg: Publications Office of the European Union. URL: https://ec.europa.eu/docsroom/documents/41941

Figure 1 shows the indicators for 2019 that characterize the innovation systems of the EU member states in comparison with the indicators for 2018. Groups of countries are geographically concentrated, namely: “innovation leaders” and “strong leaders” are located in northern and western Europe, “moderate innovators” in southern and eastern Europe, and “weak” ones in southeastern Europe. Performance teams tend to be geographically concentrated: innovation leaders and most strong innovators are

located in Northern and Western Europe, while most moderate innovators are in Southern and Eastern Europe, and all are modest. Innovators in Eastern Europe.

There are about 2,950 specialized clusters in the EU, which cover 19% of the employed and 22% of the wages in the EU member states with jobs, and the effect of cluster specialization affects the increased wage level by about 13.5% [15].

Research shows that high-growth firms are the backbone of clusters in creative, digital, mobile and knowledge-intensive industries - 77% more high-growth companies are located in these types of specialized clusters. A high-growth firm is a firm that initially has at least ten employees and has an average annual turnover or employment growth of at least 20 percent per year. Therefore, in the study of the cluster potential of the industry, it is necessary to identify such firms and focus on the interfirm relationships they form.

Cluster initiatives in Moldova

Scientific and technological Clusters

The Agency for Innovation and Transfer of Technology (AITT) Academy of Science of RM supports joint research activity between enterprises and educational institutions through grants and innovation vouchers in areas, such as nanotechnology, renewable energy, agriculture and food industry [10].

AITT is also coordinating a network of academic incubators and scientific parks, which have been created in recent years and represent the basis for the functioning of 10 (existing and emerging) scientific and technological clusters, whose role is to identify the needs for establishment of scientific technology parks (STP) and innovation incubators (II). A number of (emerging) "micro-clusters" have been identified in the interviews focusing in particular on unlocking cross-innovation potentials. Mostly of them create collaborative R&D and innovation projects, e.g. in the fields of nanotechnology and new materials, food processing and applications of renewable energy technology in agriculture [7].

Scientific and technological cluster "Academica", whose members have concluded an association agreement in 2007. At the same time, two structures of innovation infrastructure were created:

STP “Academica” and II “Inovatorul”. Cluster brings together 19 partners.

Educational and Scientific Cluster “Universcience”, created in 2011 under an agreement between 20 partners, continues to provide training to the scientific staff in various fields.

Moldova - Lithuanian Innovative Technologies Cluster with participation of 1 foreign and 5 national partners served as the basis for creating the Moldovan-Lithuanian Innovation Incubator “Media-Garage” in 2014.

Emerging Scientific and technological Cluster of Agricultural Production. Science and Technology Park “Inagro”, specialized in ecology and intensive agriculture, was established in 2008 after merging of 4 partners.

Cluster of science and technology in the IT field created in 2015 from 5 “IT4BA” partners (IT Incubator for Business Application) at the Academy of Economic Studies of Moldova.

Science and Technology Park “Elchim-Moldova” was created in 2013 as association of 10 partners. Main of them: JSC JV plant «TOPAZ», the Academy of Sciences, the Scientific Research Institute "Eliri" SA, Research Institute of the ASM, Agency for Innovation and Technology Transfer, Universities of Moldova. The purpose of the cluster - the concentration of scientific, intellectual and material resources to solve the problems of creating innovative high-tech equipment and technology for electrophysical and electrochemical methods of processing materials, and training of workers, engineers and scientists in this area [11].

Scientific and technological cluster in IT industry. In 2012, 2 innovation incubators were created: II “Itech” of the Academy of Economic Studies of Moldova and II “Inventica- USM” of the State University of Moldova.

Science and Technology Park “Micronanoteh”, specialized in the field of microelectronics and nanotechnologies, was established in 2009.

Innovation and Educational “InnoCluster” was created in 2012 by merging 6 partners operating in ATU Gagauzia, who

proposed creating II “InnoCenter”, functioning on the basis of the Comrat State University.

Based on the studies described in the previous chapters, we focus on one of the types of knowledge cluster – Innovation and Education Cluster “InnoCluster”, which is present in the regions of the countries with underdeveloped industry and innovative infrastructure. The leading role in the development of this structure belongs to the Comrat State University (CSU), which implements educational programs, innovative projects, conducts information campaigns, by merging entrepreneurs-producers, intermediaries of innovations, as well as research groups and scientific institutions.

Based on synergies, the benefits for organizations to join the cluster are obvious. The nucleus of the EIC “InnoCenter” of the Comrat State University - will act as an advisory body for creating the necessary connections between various actors and stakeholders. It may include organization of seminars, conferences, group discussions, lectures, etc., while ensuring the participation of the University, relevant entities of local and national industry, scientific-research institutes, civil society and government.

Joining the efforts of II “Nord” established in 2012 and II “Innovative entrepreneur” (2013) led to the creation of the cluster in the northern region of the country on the basis of the Moldova State University “A. Russo” from Balti.

However, the majority of areas identified above only partly meet the necessary preconditions for a broad-based cluster approach. In particular, key criteria related to the critical mass and regional concentration of “actors of innovations” as well as the availability of innovation initiatives and patenting, investment attraction, development of internationalization processes and existing clusters management and support methodology mechanisms cannot be fulfilled posing major challenges for cluster development measures [10]. Financing model of development cluster initiatives due to the strained public budgets in Moldova would need to strongly reply upon international funding.

Agrotourism Clusters

Cluster "Lower Prut" (“Lunca Prutului de Jos”) located in the south of Moldova and includes several localities (sity Cahul and

villages: Slobozia Mare, Giurgiuleşti, Văleni, Pelinei, Găvănoasă, Cotihana) within a radius about 50 km. Management activities within the Cluster provide joint-stock company "Fortuna", which coordinates the activities of cluster partners - museums, nature reserve, hospitality services, recreation and etc.

Cluster "Northern Harmony" („Armonia Nordului") locatedin the north of Moldova - sity Soroca. Members of the cluster: management company AO "SORAGROINFORM" and regional center of the National Agency for Rural Development (ACSA). Cluster operates on a medium and long-term strategy with main objectives: providing training and consultancy; preparation for EU integration of the rural population; sustainable development of tourism competitive by modernizing and improving the marketing of tourism products; promoting tourism and forms of cooperation and association in the field; building partnerships nationally and internationally.

Cluster "Road reefs" ("Drumul recifelor") located in the North of Moldova and managed by the company "Land Museum" in the town Edineţ. Cluster is an association of legal entities and individuals from across Edineţ. The offer includes accommodation, food and entertainment from across Edineţ. Within the cluster are 5 members which have an agreement to work together to achieve the following objectives: improving the cooperation between cluster members and a benefit mutually beneficial activities hosting visitors and tourists in Edinet and Balti; promote a unique brand of the cluster; development activities and implement projects to improve the innovative capacity and competitiveness in the regional market, especially SMEs and research units, development and innovation; etc.

Cluster "Vilador" managed by the company "PRISVIO" LTD located in the administrative block of goat farms in Slobozia - Magura, Bursuceni village, Sangerei rayon. The cluster comprises an area of approximately 25 km and includes the villages in Falesti, Telenesti and Sângerei rayons. The cluster is founded by two legal entities and four individuals (on accession stage are still five legal entities and physical one). Cluster promote agricultural tourism; environment protection; schooling and training association

members and beneficiaries; support and promotion of cultural activities; human capacity building and environmental sustainability projects in the areas of agrotourism [11].

Moldovan experts in the field of innovations distinguish the following priority areas for innovative entrepreneurship and initiation of cluster processes: nanotechnology and new materials, biotechnology, medicine, information technology, light industry, manufacturing and processing of ecologically clean food, wine and touristic industry and others. Moldova also participates in a number of international cooperation programs supported by partners and donors.

For example, the USAID program aims at enhancing the quality of products, introducing innovations, stimulating export and institutional environment in industries such as - winemaking, tourism, light industry and IT industry. On the basis of the project implemented jointly with the Technical University, the IT-industry Association, support of the Swedish and US Embassies and private companies, the IT- Centre ("Centre of Excellence in IT") is currently in the construction stage.

Cluster-oriented measures in Moldova

Drawing from the mentioned initiatives, preliminary research and the interviews carried out, in particular the following areas can be identified that could be targeted by cluster-oriented measures in Moldova:

Automotive with a focus on the FEZ in Balti: Building upon major investments in the areas of wiring components and systems, measures could aim at extending value chains (e.g. electronics, injection molding, metal components), skills development and fostering linkages between foreign investors and domestic suppliers.

IT with a focus on Chisinau: Building upon the projects mentioned above, cluster development measures could focus on developing the innovation-oriented ecosystem (e.g. strengthening linkages between businesses and academia, promoting spin-offs and start-ups, training and skills development) and upgrading the industry profile.

Wine with a focus on the wine region(s): Building upon existing structures and initiatives (e.g. National Office for Wine, National Wine Fund), cluster development measures could focus on areas such as quality management and internationalization fostering linkages to other wine clusters or centres of excellence abroad.

Light industry focusing on different regions reflecting the more widespread geographic distribution: Building upon a longstanding industrial tradition and various competitiveness enhancement schemes (e.g. by USAID), cluster development measures could focus on strengthening business-academia partnerships, on upgrading business models and developing new fields of application, e.g. in the automotive industry [12].

Fruit and vegetable processing focusing on Edinet Industrial Park: Building upon the existing concentration of processing companies, cluster development efforts could focus on upgrading value chains and strengthening linkages between food processing and agriculture.

Mechanism of development of regional clusters: example ATU Gagauzia

Implementation of the regional development strategy, ensuring development of innovation capacity, shall be accompanied by coordination of efforts for creating an innovative infrastructure, developing innovative entrepreneurship, improving interaction of the regional administrations with the existing components of the innovation infrastructure: research-scientific and educational centers, innovation infrastructure, infrastructure for financing innovations, innovation companies.

The mechanism of organizational and methodological support for managing implementation of the concept in the interests of socio-economic development of the region requires, first and foremost, the definition of the "smart specialization" of the region – which means selecting the areas that will make the greatest contribution to the development of the region through the support of research and development within the selected specialization.

This category might include not only high-tech or dominant industries in the regional manufacturing, but also areas whose

investment and development will contribute in the future to the development of the region. For example, ATU is a touristic and recreational area of activity, which has none of the two characteristics mentioned above, but which clearly has the development potential, as well as certain specializations determined by experts: agricultural biotechnology, and energy efficiency.

The state in this concept has three functions: 1) creation of conditions for coordination and selection of the "smart specialization", 2) monitoring cluster development from perspective of the specialization selected by the regions, 3) identifying the needs that have emerged in related to the selected specialization (e.g., education), and introduction of appropriate incentives and support measures [13]. Innovative Development Council, which was created in Gagauzia, may take over these tasks.

Wine - tourism cluster with a focus on Gagauzia region. Given the centuries-old tradition of winemaking development of wine tourism is important especially in the South of Moldova region (Gagauzia region). The wine tourism brings revenue side entities operating in agriculture, other related micro industries such as restaurant business, hospitality tourism and popular crafts. It means increasing the standard of living of the rural population, also brings to the region more jobs and higher income.

Mapping the region's clusters allows predicting the development of the following networks: "Innovation-Education" cluster represents – interaction with enterprises that order innovations, public authorities, educational and scientific institutions, financial institutions. The purpose of the "Agro-industrial" cluster represents - increase of grain production in the region; expansion and development in the region of agro-industrial production; expansion and development in the region of processing industries; integration of the region in the global agro-industrial market [14].

The purpose of the "Tourism and recreation" cluster represents - creation of a recognizable and well-known brand and an attractive image of Gagauzia, comprehensive development of touristic and supportive infrastructure; integration of the region in

tourist border areas; addressing the major social and demographic problems of the region.

"Wine" cluster, which is characterized by the "leadership" strategy of the main sector of export specialization of the region - wine-making, which implies introduction of domestic innovations in this area, support and development of research activity.

Conclusion

The cluster identification problem is solved in the EU member states in two ways: by statistics, by identifying through the principles of geographical proximity the enterprises with related activities, or by "cluster initiatives" - the process of initiating cluster establishment [15]. The first approach aims to supporting companies - industry leaders in the region, usually the exporters. The second approach represents the strategic bailout of certain regions. At the same time, there is no universal policy in the area of regional cluster development. Each region should develop its own criteria and cluster development support mechanisms: tax credits for research and development, low-interest loans, grant programs for research and development, training of staff, etc. Governmental structures should provide complex support in the form of cross-industry cluster development support programs, which should combine several areas.

The mechanism of implementation of state policy aimed at supporting the establishment and functioning of clusters is based on the following main elements:

1. Elaboration of the legal basis for establishment and development of clusters.
2. Scientific and methodological support for the development and implementation of cluster policy.
3. Promoting cluster idea and training key individuals at the stage of cluster establishment.
4. Financing cluster policy.
5. Identification of key organizations participating in implementation of cluster projects.

Accelerating the pace of innovation development requires creation and development of new structures of interaction between economic entities at the regional level. The efficiency of the

economy is determined by the degree of development of innovative processes, and gaining new knowledge and applying it in the productive sectors of the economy and social sphere are equally important components.

The research conducted in RM shows that innovative culture is underdeveloped and, as a rule, enterprises do not know to what level of quality and originality of their products they should strive in order to occupy a leading position at the domestic and international markets. At the same time, enterprises of RM are characterized by: low level of management, disinterest in innovations, low qualification of staff, etc. These factors contribute to the low level of competitiveness of enterprises and require urgent measures to ensure survival of the Moldovan economy in the conditions of globalization.

It is necessary to develop organizational - economic mechanisms for governing innovative development that can ensure a higher degree of interaction between education, science and business. We believe that it is necessary to develop the mechanisms of such interaction based on the establishment of education innovation clusters.

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2.2. ANALYSIS OF THE LEVEL OF DIGITALIZATION IN THE REPUBLIC OF MOLDOVA: PROBLEMS AND PROSPECTS

The world is changing under the influence of information transformative technologies and innovative business models, which are actively supported and developed by management information tools. The changes that are taking place are large-scale and impressive. And there is a lot of creative, scientific, technical and entrepreneurial work behind it.

`Gradually and steadily, digital technologies penetrate into all economic processes and thereby have a significant impact on the very essence of the economy. In most cases, the increasing use of modern information and communication technologies leads to the emergence and development of new effective management technologies, entrepreneurial practices, and successful businesses. The usual, traditional ways of economic activity are transformed and optimized, saturated with information flows and inevitably accelerated. At the same time, both process and structural changes occur.

Effective and systematic use of innovative digital methods, technologies and tools has led to an understanding of the special priority of theoretical study and a gradual practical transition to a new level of economy.

The actuality of digital transformation both at the level of individual businesses and at the level of entire sectors of the economy creates a growing interest in the problems and opportunities, risks and benefits that become possible within the digital economy.

The digital economy is a form of organization of people's economic activities based on digital and electronic technologies and directly implemented through e-commerce, cloud technologies, digital platforms and network business. It includes services for the provision of online services, online stores, information sites, network communities and other forms that allow you to generate income through the processing and provision of information, as well as through the digitalization of manufactured goods and services. [3]

The digital economy opens up new opportunities that can change the life of humanity for the better. Thanks to the development of electronic technologies, the consumer can quickly receive more high-quality services and goods.

Currently, more than half of the world's population has an Internet connection. As of the end of 2018, 51.2 percent of individuals or 3.9 billion people used the Internet. This is a significant step forward towards a more open global information society. In developed countries, every four out of five people have

an Internet connection, which almost corresponds to the level of saturation. At the same time, there is still ample room for growth in developing countries, where 45 % of the population uses the Internet. The 47 least developed countries of the world continue to have relatively low Internet penetration rates, with one in four out of five people (80 %) still not using the Internet. [4]

Thus, a business that fails to establish interaction with consumers on the Internet will not be able to withstand competition and will be forced to leave the market. Under the current conditions, building the country's future is impossible to imagine without digitalization. This also applies to the Republic of Moldova. The Ministry of Economy and Infrastructure and Infrastructure of Moldova in the field of information and communications technology aims to develop information society and communications, the information technology industry, the digital economy, cyber security, the internet governance by promoting policies directed towards ensuring a sustainable growth of the ICT sector. Consider the rating of the Republic of Moldova.

Figure 1 shows that the Republic of Moldova is not even in the top 50 countries in the rating for all digitalization indicators. The specificity of a state's shifting to an information society is determined by political, social, economic and cultural particularities. That is why the way of creating the information space of the Republic of Moldova is a special one. Consider in more detail the state policy in this area. The telecommunication market in Moldova was liberalized by 2004. By 2014, the market consisted of 30 fixed services operators, 3 mobile services operators, 55 Internet providers and 148 television services providers.

Moldova legislation in the ICT sector is mainly aligned to the European Union legal framework. In 2010, the Program of Broadband Internet Access Development 2010-2013 was approved. Its goal was to overcome the digital divide between rural and urban areas. The following target indicators were set: 20 per cent of fixed-broadband penetration and 20 per cent of mobile broadband penetration by 2013.

on a number of indicators of digitalization (Fig. 1)

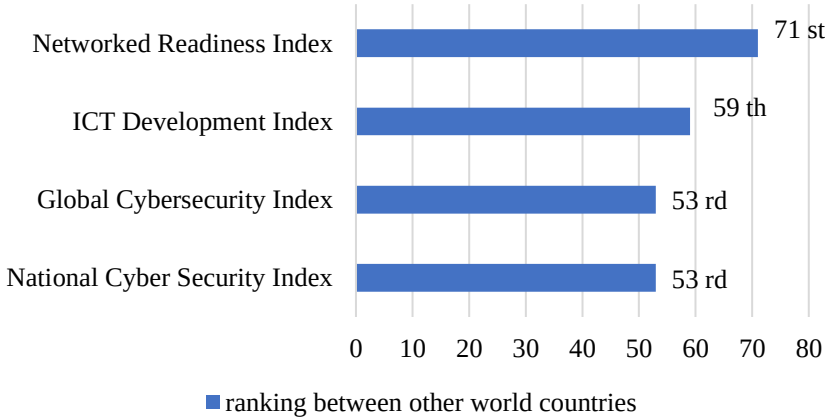

Figure 1. Ratings of the Republic of Moldova by digitalization indices in 2019

Source: National Cyber Security Index. Moldova (Republic of). URL: https://ncsi.ega.ee/country/md/?allData=1

The corresponding indicators reached 13.4 per cent for fixed-broadband subscriptions and 47.3 per cent for mobile-broadband subscriptions by 2013. The programme facilitated subscriber number growth, Internet infrastructure availability and electronic services development. In 2013 the government approved the national strategy of information society development, Digital Moldova 2020. [4]. Government Resolution No. 857 of 31.10.2013 [1]. This document drew directions to ensure a systemic development of the information and communications technology field in the next years, assuring the valorization of the facilities provided by the Information Society for the convenience and well-being of the citizen.

The goal of strategy - providing favorable conditions for the development and expanded use of ICT potential in all areas: public, private, business, and everyday life of citizens. The vision of the strategy - creating by the year 2020 an advance information society, in which the use of information and communication technology facilities, extended access to modern ICT infrastructure. The rich digital content and performing information services will lead to the

economic competitiveness, good governance and, therefore, to the increasing of the welfare of the population.

The strategy was structured on three pillars, each of which reflects the most important issues of the sector and develops actions in that field to achieve the objectives:

Pillar I: Infrastructure and access – the improvement of the connectivity and access to the network;

Pillar II: Digital content and electronic services - promoting the generation of digital content and services;

Pillar III: Capacities and the usage – enhancing the literacy and digital skills to enable the innovation and stimulate the usage.

Let's consider how effectively the «Digital Moldova 2020» Strategy was implemented.

- The number of internet users in Moldova decreased by 6,846 (-0.2%) between 2019 and 2020.
- Internet penetration in Moldova stood at 76% in January 2020.
- There were 1.40 million social media users in Moldova in January 2020.
- The number of social media users in Moldova increased by 187 thousand (+15%) between April 2019 and January 2020.
- Social media penetration in Moldova stood at 35% in January 2020.

Several platforms, including MCloud, MConnect, MPay, MSign, and MPass, are now operational, and key public services are being re-engineered and digitized, resulting in increased citizen confidence in online services—the adoption index for electronic services developed with Bank support was over 75 percent in 2019. Digital services have been even more critical since the outbreak of the COVID pandemic, enabling uninterrupted access to key services for businesses and citizens.[7]

However, the positive changes in the field of digitalization of the socio-economic life of the Republic of Moldova are still very far behind the level of the European Union. Figure 2 shows the dynamics of information technology exports as a percentage of total exports of all goods.

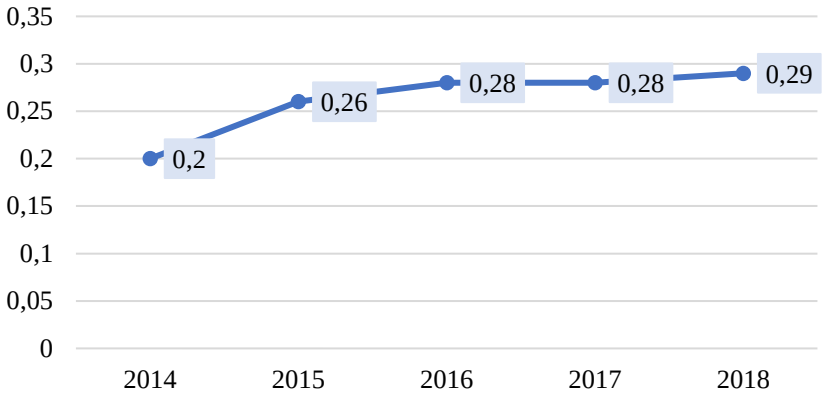

Figure 2. Information technology exports in Republic of Moldova, % of total goods exports

Source: The Global Economy. Moldova: Information technology exports.

Figure 2 shows the low share of information technology exports in the Republic of Moldova. For the entire period of analysis, the value of this indicator does not even reach 1% in the entire volume of exports of the country. The dynamics of the indicator has a positive value, but it is minimal - only 0.09 % for the period 2014-2018.

Further, the dynamics of personal computers used by legal entities of the country and the dynamics of personal computers of legal entities connected to the Internet.

From the presented diagram, it can be seen that the dynamics of the number of personal computers and personal computers with Internet access is positive. The average number of personal computers used by legal entities is 216497 computers for the period 2014-2019. The number of computers connected to the Internet is less – an average of 170,375 units for the period 2014-2019, which is 46,122 computers or 21% less.

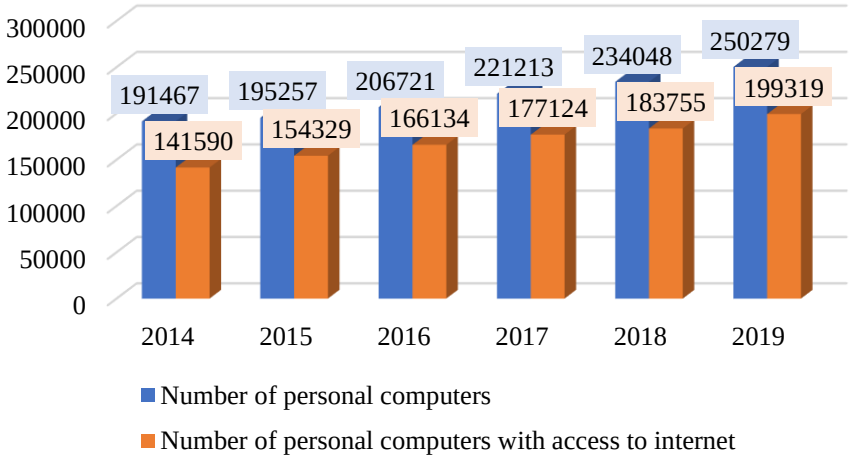

Figure 3. Number of personal computers and access to internet of legal entities in Republic of Moldova
Source: Statistical databank "Statbank"

One of the serious business tools that allows you to withstand the competition, today is a website. In other words, it is a full-fledged electronic representation of a company or firm that helps to significantly expand the market, increase sales, and increase brand awareness. Consider the dynamics of legal entities of the Republic of Moldova using the website in their activities (Fig. 4).

The presented figure shows that the average number of legal entities in the Republic of Moldova is 54,205 enterprises for the period 2015-2019. Also, the average number of legal entities that have their own website is only 2,499 enterprises, or 4.6 % of the total number. The lack of websites leads to economic and image losses. Today, every serious market participant should have their own website. In addition, almost always in the text of paper and outdoor advertising, in commercials on TV channels, not only the product or service itself is promoted, but also the company's website.

The company's website and other digital platforms create new opportunities for companies to participate in trade, including for micro, small and medium-sized enterprises. They can help

improve efficiency by reducing transaction costs and information asymmetries supported by rating systems. This, in turn, leads to lower consumer prices, increased market access, increased competition, more efficient use of underutilized resources, and increased flexibility of service providers.

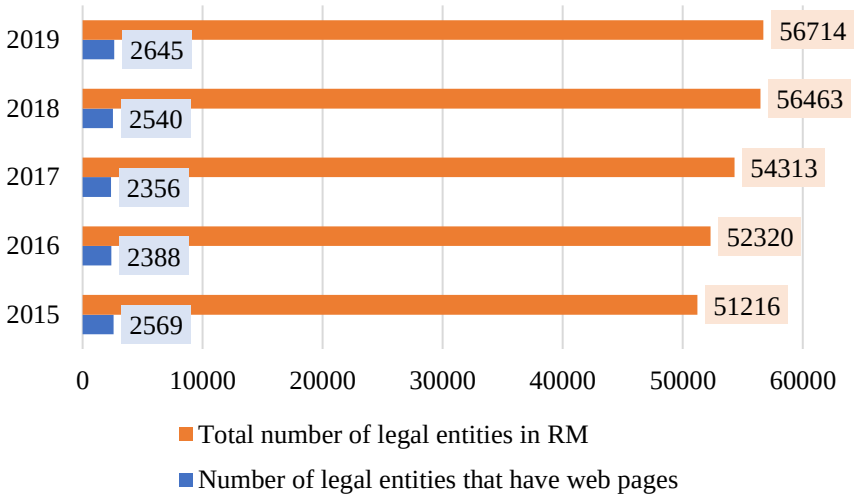

Figure 4. Number of legal entities in Republic of Moldova and number of legal entities that have web pages
Source: Statistical databank "Statbank"

Let us consider the dynamics of the labor force in the information and communication field of the Republic of Moldova (Fig. 5). The presented diagram shows the positive dynamics of employees in the field of information and communications. The share of employees in this industry in the total amount of all employees in the country is about 3% for the entire analyzed period. Vacancies in this area in 2019 amounted to 1011 jobs.

It should be note, that the Ministry of Education, Culture and Research is also working to upgrade the ICT curricula and infrastructure in schools, and seeks to develop human capital. The number of graduates in ICT related fields – about 6500 annually – are also higher as a share of graduates compared with regional peers, such as Bulgaria, Hungary, or Romania.

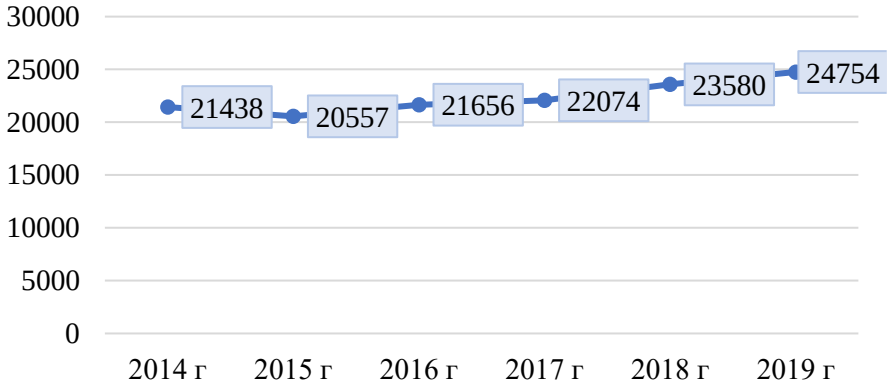

Figure 5. Employed in the field of information and communications, people

Source: Statistical databank "Statbank"

However, the share is smaller than the EU. Also, employers and industry representatives are critical of the quality of many of these graduates and the relevance of their skills to industry requirements. Concerns remain that a focus on improvements in higher education alone cannot make up for the weaknesses in primary or secondary schooling. Also, the Ministry of Education, Culture and Research efforts are increasing to expose younger students to digital technologies, but these are yet ad hoc and not fully integrated into the curriculum or teaching system [9].

Sustainable dynamics of the country's technological development is impossible without ensuring the effective use of digital solutions in innovation activities. In modern conditions of international global competition, digital solutions allow high-tech market participants to quickly introduce and commercialize innovations and get superprofits [2]. Unfortunately, the level of innovation activity in the Republic of Moldova remains low, as evidenced by the innovation index (Figure 5).

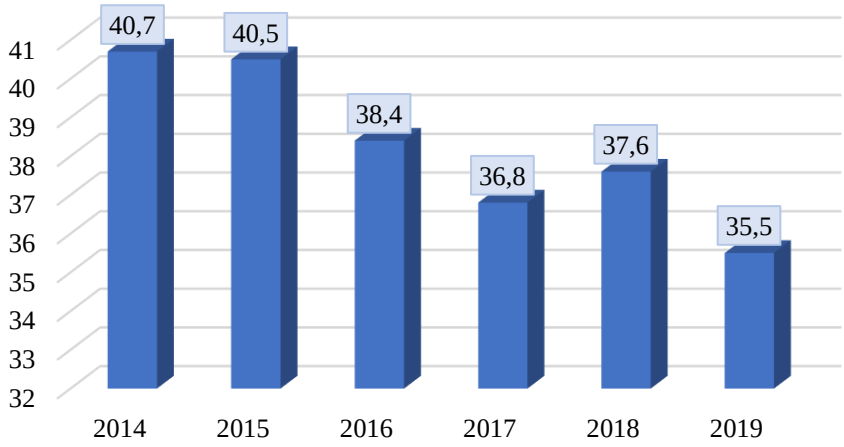

Figure 5. The dynamic of Innovations Index of Republic of Moldova
Source: The Global Economy. Moldova: Innovations index.

The Global Innovation Index includes two sub-indices: the Innovation Input Sub-Index and the Innovation Output Sub-Index. The first sub-index is based on five pillars: Institutions, Human capital and research, Infrastructure, Market sophistication, and Business sophistication. The second sub-index is based on two pillars: Knowledge and technology outputs and Creative outputs.

Figure 5 shows that the innovation index in the Republic of Moldova for the period 2014-2019 did not exceed the value of 40.7 (2014). In general, the dynamics of this indicator is negative. In 2018, the innovation index was 37.6, which allowed Moldova to take 48th place among 126 countries. In 2019, the innovation index in Moldova was the lowest value in the last 6 years - 35.5, and Moldova ranked 58th among 126 countries. From the analysis, it can be concluded that the low level of digitalization of socio-economic life in the Republic of Moldova has a negative impact on the level of innovation in the country.

Let's highlight the main problems that hinder digitalization in the Republic of Moldova:

- Broadband Internet access is not implemented at the required speed throughout the whole territory;
- Large gap in rural and urban access to services of this industry;

- Untapped opportunities of transit through the territory of the country (MVNO-Mobile Virtual Network);
- Low level of education and literacy of the population (especially rural population) in the field of digital technologies;
- Low level of information in the environment of small and medium-sized enterprises, about the opportunities offered by e-trade for direct and rapid access to consumers of goods and services, respectively-a low level of investment in this branch of the economy;
- Bureaucratic and political obstacles to rapid economic transformation. In particular, customs and tax procedures that are too complex and discouraging to promote e-trade and e-exports;
- Slow competition and insufficient supply for online payment processing services, in particular on the e-export dimension;
- Underdeveloped courier market and low level of use of opportunities offered by the postal sector-both for domestic and international trade.
- Difficulties in attracting private investors to the industry caused by the unstable political situation and the low degree of investment protection.

In order to benefit from digitalization and minimize the risks associated with it, the Government should adopt an integrated approach that includes a multi-stakeholder dialogue. It is important to continue and scale-up ongoing programs and efforts as a collaboration of the public and private sectors, supporting the IT industry to improve quality and shift to higher value-added products and services.

In addition, policies and strategies for the digitalization of socio-economic life should focus on the creation of the infrastructure, human resources and regulatory norms necessary for this. Should identify a few pilot sectors to test out training approaches for businesses and individuals (workers) to improve their digital competencies and skills; set up a program to link local IT expertise with businesses to identify and implement digital upgrades, potentially with a focus on SMEs.

Educational programs should be developed to train professionals who are able to use digital devices and have the skills

needed in the digital economy. Should be advanced training programs for IT professionals to work with cloud services, big data and the etc. Moreover, opportunities for growth are present. the EU-Moldova Association Agreement could help to grow trade links, and the country is starting to receive attention from global industry analysts.

Many stakeholders (public and private) agree that there is potential for employment within the IT industry to more than triple over the next decade, if infrastructure (e.g. IT parks), the business climate, and skills training programs keep up. These workers will play a crucial role in the further digitalization of the country [9].

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2.3. FAMILY BUSINESSES IN THE REGIONS AND THE STRATEGY FOR THEIR DEVELOPMENT – THE CASE OF THE CZECH REPUBLIC

Introduction

Family businesses play a critical role in sustainable economic development, job creation and support for the regions and their competitiveness within the framework of individual economies. Family businesses have long constituted the backbone of the world economy. The contribution of family businesses to the regional and international market is contingent on how they are able to utilise their family-specific resources [1]. This may result in a competitive advantage for functioning family businesses, for those that are still awaiting their start-up or those that have international operations. The understanding and knowledge available to family businesses has an impact on the regions where they operate, as well as on their competitiveness in a globalized economy. Family businesses are currently very relevant in the Czech Republic.

This is reflected by the academic sphere and by state and non-governmental organisations in cooperation with the owners of the family businesses. The Czech Republic is currently experiencing its first ever modern intergenerational exchange in its family businesses. The older generation of founders is leaving the management and ownership and a new generation has arrived to continue the family tradition and further develop the business. The issue of family businesses resonates more in some areas thanks to this fact. The majority of Czech family businesses are medium-sized enterprises.

They operate in all the republic's regions, where the subject of their business activities often reflects the local conditions. The focus and business activities of these family businesses are not only set by tradition, know-how, the local conditions and the market's requirements and opportunities, but also by the economic, legislative, ecological or political aspects. As such, a responsive business environment is important, as is the incorporation and adaptation of the business to both the local context and the national economy and the courage to expand internationally. The objective of this paper and the research is to provide more information on the status of Czech family businesses in the regions and to summarise the current strategy for their development. International success, future prosperity and expansion usually start from the regional level of the given country.

1. Literature review

Family businesses are one of the most widespread forms of businesses in the majority of countries in the world [2, p. 73]. In his book "Centuries of Success", O'Hara posed the question as to whether a more durable and universal institution than the family business actually exists. He answered his own question thusly: "The family business existed before multinational corporations. The family business existed before the Industrial Revolution. The family business also existed before the Greek and Roman Empires" [3].

Significance of family businesses for the world economy is essential [4, p. 10], contribute their indispensable influence on world trade [5, p. 410]. Consequently, they are important contributors in the regions [6, p. 21]. Family businesses, farms and trades are now presented and perceived by the public as sources of regional development. The links between family businesses and the traditions in the individual regions enables them to quickly adapt to the market economy in the given area [7, p. 75]. The smaller the family business and its region of operations, the tighter the bonds between them. [8, p. 39].

The history of Czech family businesses is long and successful. It began among aristocratic families such as the Houses of Schwarzenberg, Kinsky, Sternberg, Kolowrat, Czernin,

Lobkowicz and others during the Middle Ages. They had heirs and descendants who subsequently assumed the management of these extensive assets and worked to revive and administer the property which they subsequently opened up to the public [9, p. 55]. The aristocracy was later joined by craftsmen, farmers, millers and innkeepers [10, p. 101]. During the pre-war era, Czechoslovakia ranked as one of the most developed countries in the world.

Its political system was based on a strong democratic tradition, while its market economy was open and stable with a developed private sector consisting of small and medium-sized enterprises. Czechoslovakia's industrial production was significant in branches ranging from light industrial products such as textiles, clothing and footwear through to machines, devices, fuel, foodstuffs and glass. This favorable development was interrupted by the communist regime in 1948 and the prospering private sector was nationalized. Many of the nationalized enterprises included former traditional Czechoslovak family businesses with famous names such as Baťa, Kolben and Petrof. The loss of their businesses not only meant the loss of a means of sustenance for the aforementioned families, but also an end to the progress achieved by their predecessors, often over many generations.

The "Velvet Revolution" of 1989 created a new chance for the revival of traditional family businesses [11, p. 23].

According to European Family Business, the share of family businesses in European countries falls between 38% (for example in Lithuania) and 90% (for example in Estonia, Slovakia and Cyprus). The share of family businesses in the Czech Republic is 87% [12]. According to the ongoing SUFABU (Succession in Family Businesses) project and its preliminary results, the share of family businesses in the Czech Republic is about 80% [13].

There are several countries in Europe where one specific definition of a family business predominates (for example, Cyprus, Iceland, Ireland and Malta), while it is possible to come across several definitions derived from legal references, expert reports, academic research and joint agreements in other European countries (for example, Denmark, France, Italy, the Netherlands, Norway, Poland and Romania). Some of the definitions involve

stricter requirements. The authors have identified more than 90 definitions [14, p. 38-39].

The Czech Republic has defined the institution of the family business since 2019. The government of the Czech Republic approved the definition of a family business on 13 May 2019. This was approved in Resolution no. 330 of the Government of the Czech Republic. A family business is a family-owned business corporation or a family-owned trade [15]. The definition of family businesses that are part of the MSE segment has several benefits. It is important for statistical records and assessments undertaken from a macro and micro-economic point of view, for the comparison of branches and national economies and for any subsequent support for this specific segment.

The economic benefits can also be considered to include increased competitiveness, the creation of the prerequisites for the company's economic growth over the long term and increased employment, increased interest in the company within society and the reduction of any differences between the individual regions [16].

2. The methodological framework

The objective of this paper and the research has been to outline the status of Czech family businesses in the regions and to summarise the current strategy for their development. International success and future prosperity and expansion usually start at the regional level of the given country. This paper has also set itself the ambition of explaining the issue of family businesses in the Czech Republic to its readers.

The basis of this paper involves an explanation of the paper's main topic, that being family businesses in the Czech Republic. As has been stated above, the Czech Republic has defined what a family business is. The definition is as follows: a family business is: family business corporation or a family trade.

1. Family Business Corporation is understood a business corporation where more than one half of its members are members of one family and at least one member of that family is its statutory body or where members of one family directly or indirectly exercise a

majority of voting rights and at least one member of that family is a member of statutory body of this business corporation. Family Business Corporation is also understood a business corporation where the majority of the voting rights are exercised in favors of one family by the trust fund or its trustee provided that at least one member of the family is a member of the statutory body of trust fund or a trustee of the trust fund.

2. A family business is a business where at least two members of one family participate in their work or property, and at least one of the family members holds a trade or other similar authorization or is entitled to do business for another reason.

3. The members of one family for the purposes of family business are considered jointly working spouses or partners, or at least one of the spouses or partners and their relatives up to the third degree, persons with spouses or brothers- and sisters-in-law up to the second degree, as well as related persons in direct line or siblings. If a person, who is underage or not fully legally competent, is among them, it shall be represented in voting by a legal guardian [17].

The data for the research involves quantitative secondary and qualitative primary data. The information for the quantitative data has been acquired from the portal of the Czech Statistics Office (data on the numbers of corporate entities) and supplemented with an expert estimate of the numbers of family businesses. The percentage share for the expert estimate corresponds with the percentile estimate of the number of family businesses in the Czech Republic on the basis of the results of the research undertaken by the SUFABU project. Other data involves qualitative secondary data about family businesses. The data has come from research that has been ongoing at the University of Finance and Administration Prague since 2014.

The main variables in this research are the region where the family business is based, the employees who work for the family business - they may be family members or people from outside the family (this research does not differentiate between them) - and the

main area of corporate activities (this research does not concern itself with the confluence of any business activities and branches). Region: South Bohemian, South Moravian, Karlovy Vary, Hradec Králové, Liberec, Moravian-Silesian, Olomouc, Pardubice, Pilsen, Prague, Central Bohemian, Ústí nad Labe, Vysočina, Zlín.

Employees: number not stated, without any employees, 1-9 employees, 10-99 employees, 100-249 employees; more than 250 employees.

Industry: The production, trade and services not stated in Annexes 1 to 3 of the Trade Act; Plant and animal production, hunting and associated activities, Forestry and wood felling, Fishing and aquaculture, Miscellaneous mining and extraction, Support activities during mining, Food production, Beverage production, Tobacco product production, Clothing production, The production of leather and associated products, Wood processing, the production of wood, cork, wicker and straw products, excluding furniture, The production of paper and paper products, Printing and replicating recorded media, The production of coke and refined oil products, The production of chemical substances and chemical preparations, The production of basic pharmaceutical products and pharmaceutical preparations, The production of rubber and plastic products, The production of miscellaneous non-metallic mineral products, The production of base metals and the metallurgical processing of metals; the foundry industry, The production of metal structures and metalwork products, excluding machines and equipment, The production of computers, electronics and optical devices and equipment, The production of electrical equipment, The production of machines and equipment, The production of motorised vehicles (excluding motorcycles), trailers and semi-trailers, The production of other means of transport and equipment, Furniture production, The miscellaneous processing industry, Repairs and installations of machines and equipment, The generation and distribution of electricity, gas, heat and air-conditioned air, The collection, treatment and distribution of water, The collection and disposal of waste, the treatment of waste for further use, Building construction, Civil engineering construction, Specialised construction activities, Wholesale, retail and repairs to

motor vehicles, Wholesale, excluding motor vehicles, Retail, excluding motor vehicles, Land and pipeline transportation, Water transportation, Storage and Secondary activities in transport, Postal and courier activities, Accommodation, catering and hospitality, Publication activities, Activities in the area of film, video recordings and television programs, Audio recordings, Program creation and broadcasting, Telecommunications activities, Activities in the area of information technology, Information activities, Financial mediation, excluding insurance and pension financing, Miscellaneous financial activities, Real estate activities, Legal and accounting activities, Company management activities and management consultancy, Architectural and engineering activities; technical examinations and analyses, Research and development, Advertising and market research, Miscellaneous professional, scientific and technical activities, Veterinary activities, Activities involving renting and operative leasing, Activities associated with employment, The activities of travel agencies, offices and other reservation and associated activities, Security and investigation activities, Activities associated with structures and landscaping, Administrative, office and other ancillary activities for business, Education, Healthcare, The provision of social care services, Creative, artistic and entertainment activities, Gaming room, casino and betting office activities, Sports, entertainment and recreational activities, Activities involving the organisation of associated entities for the purpose of defending their joint interests, The repair of computers and products for personal use, predominantly for the household, The provision of miscellaneous personal services. Compiled according to the CZ NACE classification (The Register of Economic Entities maintained by the Ministry of Finance of the Czech Republic) [18].

Descriptive statistics have been chosen as the **scientific method** in association with the objective of the research and the acquired data. The fundamental method in descriptive statistics involves a method known as measurement in descriptive statistics. Measurement is a process, by means of which each statistical unit in a selected statistical set (with a scope of *n* statistical units) is

assigned one of k elements in the scale x_1, x_2, …., x_k. The measurement results are the finding that the x_i scale element (i = 1, 2, …, k) has been measured n_i times. The sum of all the n_i values (i = 1, 2, …, k), which is called the absolute frequency, must be equal to the scope of n in the selected statistical set. The statistical probability $p(x_i)$ of the x_i result is then given by the so-called n_i/n relative frequency. The sum of all the relative frequencies must equal 1 [19, p. 19].

During a statistical investigation, we are interested in mass phenomena and the processes in which the investigated natural relations displayed in a large number of elements appear. The statistical units are the elements under investigation. We monitor the properties of the statistical units and the unit variables. The data consists of the sum of the characteristics and the quantities. The method of measurement and the variables must comply with the conditions of validity (whether that which is supposed to be measured has actually been measured), reliability (the reproducibility of the measurements) and objectivity (whether various observers will measure the statistical units in the same way) [20, p. 20-22].

3. The research and discussion

The statistical records and information on the MSE segment, to which family businesses also belong, can be found amongst the records of the Czech Statistics Office. Figure no. 1 below depicts the time series for businesses in 2010-2019. Figure no. 1 has been supplemented on the basis of the expert estimates to include the number of family businesses from the MSE segment. The expert estimate (80%) has been undertaken on the basis of the results of the SUFABU project (mentioned above) which indicates an 80% share of family businesses in the state economy (the right-hand column – Family Businesses). It can be stated that Czech family businesses are significant for the country's economy. Below is presented the development of business entities in the Czech Republic in 2009-2019, see Figure 1 (Source: the author's own work based on the records of the Czech Statistics Office, 2020; the expert estimate of the number of family businesses).

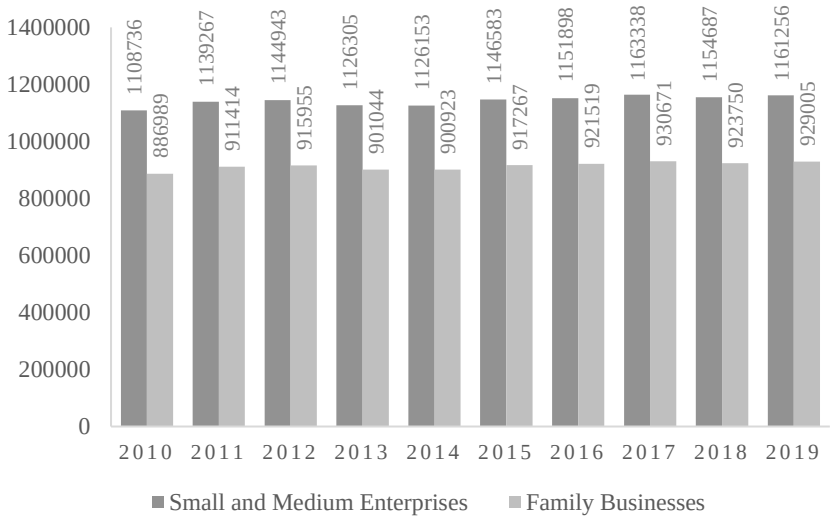

Figure 1. The development of business entities in the Czech Republic in 2009-2019

Figure 1 clearly shows that the number of MSE or family businesses has remained almost uniform over the course of the decade. Family business are active in all the country's regions. The next section of this paper will deal with the operations of family business in the regions of the Czech Republic. A region is taken to mean a higher territorial unit, of which there are 14 in the Czech Republic. The research in this section is qualitative.

The data about the Czech family businesses has been recorded in the family business database which has been created on the basis of long-term research undertaken at the Department of Economics and Management at the University of Finance and Administration. At present (20.11.2020), the database contains 3557 family businesses, so the research sample is therefore N 3557. Figure 2 below depicts a map of the Czech Republic with the 14 specific regions (Source: the author's own work based on http://alannorris.eu/hospital/czech-republic-region-map.ph). Table 1 illustrates the distribution of the family businesses in the database at the University of Finance and Administration.

Figure 2. The regions of the Czech Republic (map)

It is important to point out here that this involves a unique database of family businesses in the Czech Republic, but at the same time it also constitutes the limit of this research. It involves initial research into family businesses by region. The collection of data about family businesses is bound or limited by the very respondents and researchers who are, operate or collect data in the specific regions. Below is presented the representation of Czech family businesses by region and industry, see Table 1 (Source: the author's own work, 2020).

Table 1- The representation of Czech family businesses by region and industry

Region	Industry		
Name	Frequency (%)	Predominantly	Frequency (%)
South Bohemian	6.2	Plant and animal production, hunting and associated activities	17.7
South Moravian	10.3	Plant and animal production, hunting and associated activities	15.9
Karlovy Vary	2.0	Plant and animal production, hunting and associated activities	18.9

Hradec Králové	8.1	Plant and animal production, hunting and associated activities	17.0
Liberec	3.2	Plant and animal production, hunting and associated activities	9.2
Moravian-Silesian	7.6	Food production	10.1
Olomouc	2.5	The production of metal structures and metalworking products, excluding machines and equipment	12.5
Pardubice	5.4	Plant and animal production, hunting and associated activities	13.7
Pilsen	4.5	Plant and animal production, hunting and associated activities	10.5
Prague	14.5	Wholesale, excluding motor vehicles	16.6
Central Bohemian	12.7	Food production	9.3
Ústí nad labem	5.3	Plant and animal production, hunting and associated activities	9.5
Vysočina	3.6	Plant and animal production, hunting and associated activities	23.5
Zlín	7.8	The production of metal structures and metalworking products, excluding machines and equipment	11.2

Most family businesses can be found in the region of Prague (14.5%), the Central Bohemian Region (12.7%) and the South Moravian Region (10.3%) which includes the second biggest city in the Czech Republic after Prague. Prague is also an independent region in addition to being the capital. On the other, the least family businesses can be found in the Karlovy Vary (2.0%), Olomouc (2.5%) and Liberec (3.2%) Regions. As far as the main areas of business for the family businesses with the greatest percentile representation in the regions are concerned, wholesale, excluding motor vehicles, is predominant in the region of Prague, food production is predominant in the Central Bohemian Region and plant and animal production, hunting and associated activities predominate in the South Moravian Region.

The main types of industry correspond to the natural, demographic and technological conditions in the regions. Wholesale activities predominate in Prague and this may be given by the largest number of inhabitants in the republic and the issued trade licenses. This type of industry includes basic trading activities. The Central Bohemian Region, where the food industry is dominant, is home to fundamental industrial locations and is in the immediate environs of Prague where a number of industrial zones are based and where there is a sufficient workforce. Prague has long had the lowest level of unemployment in the country.

The South Moravian Region is distinguished by the most fertile soil in the Republic and as such agriculture dominates. The natural conditions are also reflected in the branches of the companies operating, for example, in the Vysočina Region, which is the main grower of potatoes and cereals. Horticultural and agricultural production is often associated with large farms and rural tourism.

Table 2 - The types of industry for Czech family businesses

No.	Industry	Frequency (%)
1.	Plant and animal production, hunting and associated activities	10.7
2.	Wholesale, excluding motor vehicles	8.5
3.	Food production	6.8
4.	The production of metal structures and metalworking products, excluding machines and equipment	6.0
5.	Specialised construction activities	4.5
6.	Building construction; land and pipeline transport	4.3
7.	Retail, excluding motor vehicles	4.1
8.	Wholesale, retail and repairs to motor vehicles	3.7
9.	Catering and hospitality	3.3
10.	Machine and equipment production	3.2

Nevertheless, it is not possible to generalize these findings without any unequivocal statistical records. The statistical data on the number of family businesses will be relevant, but it will not be available for a few years due to the long period when there was no definition of the term family business. Table 2 shows the predominant industrial branches for Czech family businesses (Source: the author's own work, 2020).

It is possible to include the following among the main branches of industry for Czech family businesses: plant and animal production, hunting and associated activities; wholesale, excluding motor vehicles; food production; and the production of metal structures and metalwork products, excluding machines and equipment.

The Czech Republic is an export-oriented country with developed engineering production, especially automotive [21, p. 312], and a country with extensive agriculture which is significantly dependent upon EU subsidies [22, p. 35]. It is possible to utilize information and educational support and various support programs, tools and mechanisms to develop the aforementioned areas. The following section will deal with these areas of support.

The support options

2. Specific support for family businesses

Since 1 March 2020, family businesses and trades that comply with the definition of a family business may join the "Register of Family Businesses of the Czech Republic". Registration in this project operated by the Association of Small and Medium-Sized Enterprises and Crafts of the Czech Republic (AMSP ČR) in cooperation with the Ministry of Industry and Trade (MIT) enables the registered family businesses and family trades to utilise, amongst other things, beneficial bank products involving discounted loans and guarantees within the framework of the EXPANZE program and the guarantees in the ZÁRUKA 2015 program for MSE that have been prepared by the Czech-Moravian Guarantee and Development Bank (ČMZRB) since 1 April 2020 and will be available until 2023. 394 family businesses had registered as of 20.11.2020 [23].

Registrations are approved by the Committee for Family Businesses and the Registration of Family Businesses consisting of representatives from the MIT, the AMSP ČR, the ČMZRB and the Chamber of Commerce. The registration is subject to a fee ranging from 200 CZK to 3000 CZK depending on the size of the company (the number of employees). Upon registering, the business will receive an AMSP ČR certificate for 3 years as confirmation of its fulfilment of the definition of a family business or family trade and its registration in the Register of Family Businesses of the Czech Republic on the MIT portal [24].

3. Support for small and medium-sized enterprises

According to the MIT, one of the main priorities in the area of support for small and medium-sized enterprises, to which family businesses belong, includes preparation for the future 2021 – 2027 program period. This involves reinforcing the competitiveness of the MSE. It entails the following areas, for example: the acquisition of new technological equipment and machines, including the necessary infrastructure, support for series 5 innovations in the face of the associated digitalization and automation of production (the Industry 4.0 principle); support for services for spin-offs, spin-outs and start-ups, the utilization of the innovation infrastructure (incubators, accelerators); support for MSE advisory services focused on company development, the expansion of business activities and the increased quality and efficiency of production and services with an emphasis on the growth of the market potential; support for the entrepreneur infrastructure for small and medium-sized enterprises (support, for example, during the modernization of entrepreneurial infrastructure and during the revitalization and subsequent re-use of brownfields or buildings that are significantly technically unsuitable as functional business real estate) [25].

A project of so-called shared business support has been created to support MSE at the initiative of eight state institutions involved in support for business. The members of this initiative are the Czech Invest Agency, Czech Trade, Czech Tourism, the Czech Export Bank, the Czech-Moravian Guarantee and Development Bank, the Export Guarantee and Insurance Corporation, the

Technology Agency of the Czech Republic and the Business and Innovation Agency.

The Ministry of Industry and Trade has prepared an innovative business support program entitled The Country for the Future in association with the adoption of the Czech Republic's new Innovation Strategy for 2019 – 2030. This program is the first of the fundamental tools for the implementation of this strategy. It mainly focuses on Clever Investments, the National Start-Up and Spin-Off Environment and the Digital State, Production and Services. It is expected that over 6 billion CZK will be invested in setting up systemic support for establishing and developing technology start-ups, the construction of infrastructure for research and testing in the area of digitalization and artificial intelligence or in small and medium-sized enterprises with the introduction of innovation to their production practices between 2020 and 2027 [26].

The development program is sponsored by the Ministry for Regional Development. The program focuses on increasing the production efficiency and overall competitiveness of small and medium-sized enterprises in the area of processing agricultural products, farms and rural tourism, stimulation of the commencement of active entrepreneurism and agriculture and investments in the establishment or development of non-agricultural activities leading to the diversification of the earnings of agricultural entrepreneurs.

It further supports the creation of new jobs and strengthens the economic potential in rural areas. The intervention also contributes to the new processing of products on the part of farmers and as such to the greater incorporation of farm companies into the agricultural-food chain at a regional and national level. It also significantly contributes to the entry of young farmers into the field of agriculture [27].

The Ministry of Agriculture supports the following projects. Support for education and promotion for the further development of ecological agriculture, the increased production of organic foods and efficient distribution in 2020. The "…A teď česky" platform that provides support for educational activities and

the promotion of regional agricultural products for local growers and producers in 2018. Support for promotional and educational activities in the area of regional products and ecological agriculture as part of the 2017 Year of the Countryside program. Food and Agricultural Trades – the promotion of regional products and organic products as part of the 2016 Year of Trades program. All the programs took place under the auspices of AMSP ČR platforms.

4. Support by the AMSP ČR

The AMSP ČR is a significant representative of the widest possible business segment in the Czech Republic. It encompasses MSE, tradesmen, associations, guilds and groups representing the specific professional interests of small entrepreneurs. An information and legislation service have been created for the members in each segment, as have specific services such as the SOS department which deals with the bullying of small entrepreneurs or an online consultancy focusing on the current issues of Covid-19, electronic tills, GDPR etc. Its priorities include start-ups, family businesses, tradesmen, women in business, business premises, small restaurants, small-scale growers, entrepreneurs 55+, church business activities and rural entrepreneurs. Every year, it announces a program focused on an important area of business, for example the Year of Trades in 2016, the Year of the Countryside in 2017 and the Year of Family Businesses in 2018.

The AMSP ČR supports purchases of regional products as part of its support for the "… A teď česky" platform. According to the AMSP ČR (2020), the use of regional foods and ingredients for their production must become a topic across society. It is not prestigious to consume and produce food from foreign destinations, but to use local resources. This will not only assist local growers and producers, but also preserve the rural features and the natural activities in the countryside.

The AMSP ČR undertook a large campaign in support of the promotion of regional products and organic products with the assistance of the Ministry of Agriculture and a number of important professional associations as part of the Food and Agricultural

Trades project that promoted regional and organic products. The "…a teď česky" campaign has been organized by the AMSP ČR in conjunction with the Fruit Growers' Union of the Czech Republic, the Czech Association of Meat Processors, the Vegetable Union of Bohemia and Moravia, the Union of Vintners of the Czech Republic, the Association of Cooks and Confectioners of the Czech Republic, the Association of Delicatessen Producers, the Czech Union of Brewery's and Malt Houses, the Entrepreneurial Union of Bakers and Confectioners of the Czech Republic and the Fishermen's Association of the Czech Republic. The event was part of the largest entrepreneurial activity of 2016, the Year of Trades, which all the decisive professional associations were involved in and which was supported by the regions, schools and tens of other institutions.

The joint campaign continued in 2017 as the Year of the Countryside, which the AMSP ČR prepared with the Ministry of Agriculture as the main society-wide activity of the year and whose objective was to provide massive support for business in municipalities and in the countryside and to commence a discussion on the main prerequisites for maintaining rural businesses. Support for local producers, agricultural entrepreneurs, ecological farmers and organic producers has long been one of the main priorities for the AMSP ČR and continues to be so today. A wide range of important acts and events aimed at supporting the regions of the Czech countryside have been undertaken to date [28].

5. Conclusion

The basic service providers in the regions, the bearers of tradition and searching for an employer; all these roles are played by family businesses. They constitute the backbone of the local economy. Family businesses contribute to various activities and events in their environs. They perform publicly beneficial activities in the regions where they are based. In many cases, family businesses help build and create a relationship between their employees-citizens and their place of residence through their social activities.

The significance of family businesses is growing in the Czech Republic and customers increasingly prefer local products and services. The term family business is mostly associated with family farms and healthy organic products, market gardens or carpentry workshops, where tables and entire kitchens are created by fathers and sons, but family businesses can also be large corporations. These companies are able to respond flexibly to any changes in demand or to respect the specific characteristics of their given area and as such they are extremely valuable to the national economy. They are a symbol of quality and reliability.

This research has dealt with the local effects of Czech family businesses in the regions. It has discovered that family businesses specially operate at the edge of Prague, in the surrounding Central Bohemian Region and in the South Moravian Region. The predominant areas of industry are plant and animal production, hunting and associated activities, wholesale, excluding motor vehicles, and food production. These branches reflect the natural conditions in the regions, the demographic specifics and the established industries. It is possible to utilize the support provided by the business association and the ministries to support them and enable them to develop.

Investments made in family businesses remain in the regions and thus constitute the basis for their activities as service providers. Family businesses endeavor to balance the needs of the family with the needs of the business and they give preference to socio-economic wealth over a narrow focus on financial objectives. In conclusion, I would like to quote the words of the founder of a family business that specializes in copper products: “Money that is spent locally circulates in the region and often does so several times over. Customers who purchase at the local level enable local companies to develop. These companies then make use of other local businesspeople as suppliers and the cycle continues” [29].

Acknowledgement

The result was created in solving the student project „Intergenerational transfer of family crafts - a challenge for the 4.0 “phenomenon” using objective oriented support for specific

university research of the University of Finance and Administration.

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2.4. STRATEGY FOR ACQUISITION COMPETITIVE REGION ADVANTAGES BASING ON THE SMART CITY CONCEPTION

Economic policy implies a distinct defined responsibility of the regions for their own development, which, like the city center, takes ownership for the economic space unity and reducing its fine detail resolution.

In the context of decentralization of government in Ukraine, the development and implementation of regional development strategy become really special. Modern economic policy provides

for a clear responsibility of the regions to determine further socio-economic way for the unity of the economic space and reduce its fine detail resolution. Basal task of territory planning is to reveal possibilities, to determine the most effective measures for their implementation [1].

Regional development is a complex of conscious actions to manage the elements and the relationship of a particular area, focused on shaping and maintaining changes in economic, social, innovative spheres.

Features and competitive advantages of the territory are formed by the following factors:

Factors of natural and geographical nature, which have a static idea and almost do not change: geographical location, landscape features of a relief, mineral resources, soil condition, climatic conditions, water, forest, recreational resources, etc. The specifics of these characteristics and the level of resources determine the stationary competitive advantages of the region. They complete by the administrative-territorial, socio-demographic, production and economic, infrastructural, ecological indicators of the state of the region.

Administrative-territorial characteristics are administrative-territorial division, population density and base, structure of settlement on the territory, level of demographic exertion, the political situation in the region.

Socio-demographic factors are determined by population density and base on the territory, the level of urbanization, the average age, skills and potential resources, employment structure, the dynamics of natural growth, quantity and directions of the prevailing migratory ways of labor resources in the region.

Production and economic factors are related to the location and development of resourceful forces, specialization of the region's economy, the place of the economy in the interregional division of labor, the presence and level of closed reproduction cycles, admittance to markets, living standards of population and its business activity, features of economic behavior households, the availability and specifics of production facilities, condition and structure house realty, financial situation and other features.

The infrastructural factor is due to the saturation of social, engineering, transport, energy, utilities, telecommunications and IT infrastructure, and as well as knowledge infrastructure and business support. The ecological condition of the territory is determined by the quality of atmospheric air, surface air water bodies and waste management, as well as recovery conditions of ecological systems due to their operation.

Each region has a certain combination of properties. High level prosperity and the presence of unique characteristics determines the competitive advantages certain territory. In this case, in contrast to static factors, competitive advantages that arise as a result of human activity, are dynamic in nature and can to be created, changed and developed over time. This provides possibilities for development of the region under the condition of development and consistent implementation of the strategy of acquiring competitive benefits.

A region is competitive if its indicators show a high-level standard of living, comfortable living conditions, availability and accessibility of cultural, public and common spaces, use of modern technologies, environmental quality and others. These indicators are in different dimensions: economic, social, creative, innovative, environmental, cultural and complementary.

Arranging of houses and its accessibility for the population is an important factor socio-economic development of the country. It means an important role in achieving quality of building industry, as it is the basic part for creating comfortable and safe conditions of human life and performs an important social function. However, in market conditions building activity is a business part, and the strategy of construction organizations refer at obtaining a constant profit from the production and sale of certain housing sorts for different market segments.

The current effect on the realty market makes a situation of commercial conjuncture, the relationship between supply and demand, the level of prices for realty.

The direct connection between the development of the realty estate market and the economic and political poise of the country necessitates a study of the composition and nature of

relations market actors in the process of building the territory, identifying existing problems and ways improving the efficiency of this market.

In Ukraine, demand is a key factor determining the state of the realty market. Modern situation is characterized by a high level of housing needs. According to the State Mortgage Institution [2], there are almost 800 thousand Ukrainian families, with an acute need for housing more than 60% of temporarily displaced persons, in the queue for housing. Annual additional population expense for housing is 81.7 billion, while financial opportunities less than 10% to buy realty without loans.

Therefore, real effective expense is quite limited. The consequences of the economic crisis of 2014-2015 - a significant devaluation of the national utility computing - reduced the ability of the population to accumulation in order to purchase their own housing, and the volume of mortgage lending has reached not yet, a scale that can significantly affect the situation in the housing market realty estate. According to National bank of Ukraine (NBU), bank loans finance less than 10% of purchasing agreements of new housing. The reaction of buyers to the growing uncertainty due to the pandemic was reduction of purchasing activity during quarantine by 40% [3]. As a result, the level deferred demand is growing even more.

Instead, in recent years in the realty estate market there were opposite factors that contributed increasing demand for housing. Thus, demand was stimulated by internally displaced persons, as well as the growing popularity of buying apartments as an alternative investment way. With lowering confidence to banks, reducing the foreign currency deposits, increasing the risk of devaluation of the national currency, part of the bank system has moved into the realty estate market. Nationalization of PrivatBank contributed to this to a large extent, whose depositors sent savings for the purchase of housing.

At this unfavorable development of the fund market, the difficulty of obtaining reliable information about the state of the issuer of securities, the low level of financial literacy and attainment of citizens left real estate investment the most

comfortable and profitable option investment. These factors contributed to the popularity of new buildings, however the potential for their action has already been exhausted. In the future, demand for housing will be suppressed by a prolonged decline income and deteriorating consumer sentiment.

The dynamics of effective demand can be estimated from the annual information of 2015-2020 years, published by the Ministry of Justice of Ukraine, on the number of contracts of sale and purchasing apartments and houses [4]. They are reflected mainly agreements on the secondary market, including the purchase and sale of private homes, as well as part of the agreements in the primary market, for example, which the is a previous one contract of sale and purchasing. Basically, investing in apartments in the primary market might be without notarial registration.

Therefore, the dynamics of real demand for realty estate to analyze is quite difficult due to the absence of complete information on the number of transactions on primary market. However, we will try to assess the changes in this indicator as available information. If during 2015-2019 the number of transactions in the real estate market annually increased, although the growth rate of this indicator decreased in dynamics, then for 9 months in 2020, the number of contracts for the sale of housing was only 93.23% compared to similar period of 2019.

The situation on the realty estate market was also affected by the excitement in 2016-2017, due to the change in the regulatory environment. On June 10, 2017, the Law of Ukraine appeared, it was aimed at strengthening the responsibility of developers and combating illegal construction, which introduced new classifications of buildings and the procedure for obtaining documentation for them [5]. All this has stimulated by developers to put facilities into operation faster.

In the future, the pace of commissioning of new housing has declined markedly. In January-October 2020, the total area of residential buildings put into operation was 75.4% of the level for the same period in 2019 [6]. The slump was due primarily to the reform of the State Architectural and Construction Inspection of

Ukraine (SACIU), which slowed the issuance of certificates of occupancy for finished buildings. According to the NBU, Q1 2020, only half the number of housing construction permits were issued compared to the same period last year. According to the regulator's forecast, this decline should also be short-lived. Once the quarantine is lifted and reform of the SACIU is completed, construction dynamics will get closer to the usual pattern. In the long run, construction volumes should return to their historical high levels [3].

The level of real estate prices is regulatory influencing. As of January 1, 2020. The Ministry for Communities and Territories Development of Ukraine (Ministry of Regional Development) has determined an assessment the average cost of construction is 1 m 2 sq. meters at 12,572 UAH value. [7]. For 2019, this point increased by 6.1% compared to the corresponding period of the previous year. As of July 1, 2020, this point reached to 12,959 UAH and increased by another 3.1% [8]. Increasing the cost of housing construction and requirements for its quality with the introduction from September 1, 2018 of new state building codes (SBC) [9] causes a decrease in the margin of developers and limits real estate price realty. This is confirmed by housing price statistics: for time quarantine real estate on the secondary market fell by only 2.0%. And meanwhile UAH prices for new housing after a small temporary correction returned to the level in the beginning of quarantine. In annual terms, the value of real estate still increased: in late May Housing in the primary market rose by 9.1% yoy in hryvnia [3].

Thus, the current state of the real estate market is characterized by excessive supply, limited level of effective demand for housing and relative stabilization of prices. According to NBU, investors are increasingly preferring high-comfort facilities designed according to the live-work-play concept, while their appetite for economy housing has fallen sharply. [3]. Prepotency of non-price factors of demand formation and strengthening competition among developers creates a situation where they try to offer buyers the best option, which provides the construction site as much as possible advantages over competitors.

One of the major priorities of consumer choice is the location of the new building and how as a result, the developer's desire to ensure the attractiveness of the property is formed according to the specified characteristic. This causes chaotic construction of those areas of cities where housing is in high demand and correspondingly higher prices. This trend has gained so much mass character, which is recognized even at the official level. As stated in the NBU Financial Stability Report for June 2020: "In order to facilitate active market development, it is necessary to resolve another of its core problems, the poor regulation of the primary real estate market. Despite developers holding a large portion of household savings at any given time, effective rules of the game for them are virtually nonexistent. The market remains opaque and disorderly.

This problem has grown increasingly more severe over years as the number of deceived investors and frozen construction sites has risen. The market continues to be risky for both investors and lenders"[3].

Prescribed in the Law of Ukraine "On Regulation of City Planning Activity " the complexity of construction [10] implies adherence to principles such as thoughtfulness, integrity, economy and comfort of living. Introduction of functional zoning territories provides legally competent and economically sound decisions about allocation of urban areas for the construction of a specific functional purpose. But developers are trying one way or another to "turn flank" construction bans and get permission to construction of attractive land spaces. It has gained considerable scale in the most attractive tourist and resort and industrialized cities of Ukraine.

The construction of the "Arcadia" district of the Odessa city, which has been a favorite vacation part of Odessa for guests in the town. Proximity sea with a comfortable beach, lots of greenery, coziness and comfort of living formed an increased demand for housing in this neighborhood. Now there is a significant amount high-rise building, landscaping has decreased significantly, and the available transport, engineering, communal and social infrastructure does not meet the needs that are caused

significant increase in population density.

However, even the directed status of the territory as a recreational area is not always able to change this situation. The residential complex is disguised as a "hotel" or "Health center", while the "rooms" in the building are sold in full private ownership. That is, actually build a house, which according to the documents is a recreational facility. It can be identified by the following features:

- in the project of the complex there are no medical-diagnostic or other similar rooms;
- on the site of the object it is called a residential complex without any points of its sanatorium function;
- apartments in the complex are sold through regular real estate agencies.

That is, the documentation of such construction under the aspect of a resort complex for children with parents is only a cover for illegal construction tower-block residential building. Such violations become widespread conditions of lack of proper control by state and public institutions for development processes and leads to a violation of the principle of equal access of the population to basic social benefits, stratification of the social environment and imbalance of factors development of urban and suburban areas. In the case of placement of new residential buildings on land spaces in existing neighborhoods when conducting border calculations population density must take into account the needs of residents living in the existing residential buildings and new buildings, the level of their provision of facilities and daily maintenance within the neighborhood, as well as the size of land, identified for new construction, while ensuring compliance with urban planning, sanitary norms and fire safety requirements.

However, in real practice this does not happen. Exclusively market mechanism accommodates housing needs based on the balance of demand and proposals in the absence of appropriate regulatory action leads to a violation of interest certain stakeholders. Due to the contradictions between the social burden of the construction industry and commercial principles of its operation there is a conflict of market interest participants, which

is developing in the direction of violation public interests.

There is a problem of mass, unsystematic placement of so-called "planting" houses in already built-up neighborhoods and "development" of recreational construction territories. And although world experience has made the practice of designing residential buildings in formed dense buildings of the historic city center, which does not interfere with pleasure public needs and does not restrict the rights of residents of neighboring facilities, but similar options residential buildings have not become widespread in Ukraine. This is primarily due to the high the cost of such construction and the territory in the central part of the city, as well as the complexity approval of such a project by the authorities, as such projects are difficult to enter in urban planning regulations in force today.

Chaotic construction revealed imbalances in the planning structure of the Odessa city. The road network was unable to absorb the sharply increased level automobilization; the stopped factories formed extensive belts of dead industrial zones, difficult to renovate; lack of designed business districts (quarters) has caused a massive transformation into offices of any kind suitable for these purposes of the premises located in the centers of cities. The total living area fund of the Odessa city is 17690 thousand square meters.

The housing stock of the city has a high level of wear: 658 houses (246.4 thousand square meters where 13161 people live) is considered dilapidated; 308 houses (94.0thousand square meters, where 5533 people live) are recognized as emergency [11]. Construction of new housing buildings of the monolithic type leads to the destruction of old houses, give rise protests from by their residents, increases the level of social tension in society.

Depreciation of fixed assets for collection, treatment and distribution of water and heat is at a high level. Deteriorating of communications, increases the risk occurrence of accidents and energy losses. The city has an acute shortage of transport and engineering infrastructures.

Therefore, an effective mechanism is needed to prevent further spontaneous development, but also the solution of already

existing problems of the city and the formation of new neighborhoods provided a set of necessary infrastructure facilities. Business entities, legislative departments and other sections of society must move to new principles interaction between participants in economic processes in order to form relations that would meet the criteria of sustainable socially-oriented development.

Analysis of the nature and consequences of construction needs to be improved and effective application, in particular by taking into account the need to maintain a single historical and architectural concept of the city, providing a comprehensive infrastructure maintenance of construction sites, extension of service life and achievement energy efficiency of buildings built in previous years.

The Strategy of Economic and Social Development is called to solve these problems in Odessa until 2022 (updated) [11], which is the main long-term consistent City Development Plan.

Achieving the goals of the Strategies will be carried out through the implementation of tasks, namely: transition to electronic document management between city authorities, creation of websites and online services that will provide a dialogue between residents, public associations and the city power; use of alternative (renewable) energy sources, installation meters for hot and cold water, thermal energy in the houses of Odessa, the creation modern environmental monitoring system, safe living of city residents (street safety, property protection), installation of a network of video cameras, creation intelligent traffic control system, control of background concentrations pollutants on the streets of the city, the introduction of a non-cash payment system in the city, electric transport "E- ticket".

In our opinion, the effectiveness of these measures can be increased cause to horizontal interconnection of individual systems, such as energy, water supply, sewerage and waste management, transport system, system security, environmental control and weather reconnaissance systems. The interconnection of these systems will require standardized interfaces and the

application of experience the "smart" city concept of other countries.

The concentration people's increasing in large cities cause an approximation reliability and functionality indicators to the limit values of the existing infrastructure and determines the need for the introduction of advanced technologies for improving the efficiency of the functioning and quality of the city work services. The deteriorating of environmental situation, high crime rate, transport difficulties, vastness of resources - this is a small list of problems, emerging as a result of city urbanization. Most of the above issues can be resolved partially or fully through implementation smart city concept.

The British Standard Institution (BSI) describes smart city as "the effective integration of physical, digital and human systems into an artificially created environment in order to improve the living standards and comfort of residents".

By using the information and communication technologies (ICT) interaction is established between city authorities, city residents and urban infrastructure, therefore forming a unified system that works as integral well-established mechanism. Through the usage of sensors and sensory networks, working in the real time, taking place accumulation and processing of the necessary information from city residents. The collected information is the solution of existing problems. ICT are used to improve the quality of people's life by increasing the level of comfort and safety, productivity and quality of operation by urban services, optimization of consumed resources.

Information and communication technology and others, on the one hand provide a wide range of different solutions to improve efficiency of the city functioning and the provision of urban services, and on the other hand, they implement alternative approaches to energy and water supply, introduction of modern systems for sorting and recycling waste, creating systems of smart transport and logistics systems. It should be noted that all existing concepts and smart city definitions highlight different aspects of functioning urban infrastructure, paying special attention to the implementation of existing social potential.

Currently, there are no general considerations for the degree assessing of the city smartness, so there are several components of smart cities used in international and domestic practice (Figure 1).

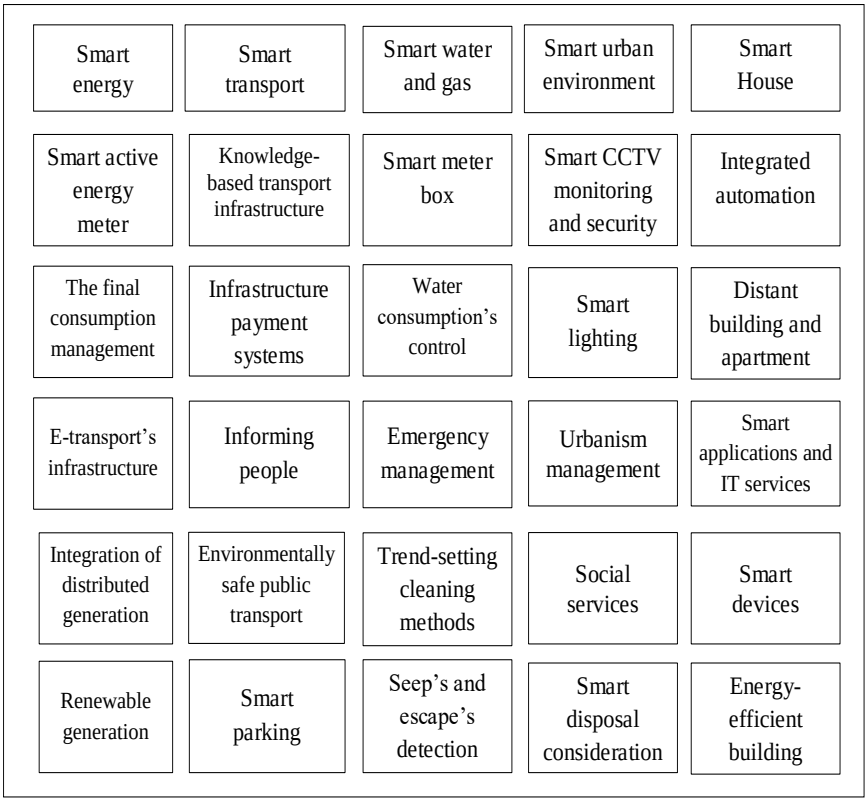

Figure 1. Functional Areas of the Smart City 's Conception

The smart city concept combines specific technological solutions for certain areas of urban life's intellectualization - smart home, smart transport, smart energy, smart urban environment, smart water and gas. This way, infrastructure solutions as part of transport systems' intellectualization can include the introduction of an automatic control system for urban stream of traffic, evolvement of high-speed public transport, e- ticket system, installation of sensors that track free parking spaces, which promotes to unloading traffic, etc.

A stringent part of the smart city's technological solutions is digital infrastructure. It is consistent standards and protocols that arrange device connectivity. Technological and digital components' integration allows you to create digital and inter-tied flamework and applications. For instance:

- integrated resource management flameworks that allow planning basic processes;
- integrated transport systems to redistribute stream of transport and build forecasts of traffic situations;
- integrated management systems of houses, quarters, districts, etc.

Using cutting –edge technologies in the process of urban upgrade infrastructure combined with new digital technologies allow to reduce expenses measurably. For example, in Washington, the PA 2040 project is being inculcated, which govern to introduce internet technologies as to creating smart parking spaces, water quality control, environmental monitoring. Number of resourceful tenders are still under consideration and planning, but already adopted propositions have allowed to cut down lighting costs by 50% [12].

The introduction of smart city technologies increases the effectiveness of urban management through the organization of a unified digital environment that allows you to manage the city as a integral whole. By means of it business arrangements were strengthen. Based on free access to the collected information there are more opportunities for business, as well as to prevent the occurrence emergency situations. By increasing the number of involved people and uninterruptible information analysis, the resilience of the urban system increases.

For example, is technology simulation of fire activity. New York City Fire Safety Department for through the use of such a system, it was possible to achieve the fact that already the first 25% of inspections identify more than 70% of fire- hazardous premises, which is 50% more than before implementation systems [13].

Development of public transport through the modernization of TPT, introduction of high-speed modes of transport, organization of traffic on separate lanes, it will compete with private transport in speed and comfort and increase attractiveness

of public transport. To improve traffic convenience, we should create a system of car parking at the entrances to the city center, distribution of bikeways, systems traffic control and management, various applications to considerate the optimal way, smart traffic lights that checking the intensity of cars' traffic and road user on foot. All these items improve the transport situation and reduce movement time between destination.

In some cities, by way of optimization traffic on the roads, make use of adaptive traffic control systems. In Barcelona, the system changing of traffic lights' work signaling allows to reduce the time of emergency services' arrival at the place of incidents. [13]. The use of automated power circuit, flexible distribution system and smart system of accounting and exigency regulation, renewable energies' implementation, energy efficient appliances, buildings and structures allows you to reduce consumed electricity, losses from interruptions in its supply, reduce the number of accidents and costs of equipment, likewise to improve the quality and reliability of power grids.

In San Francisco to improve the energy efficiency of office buildings by the municipal department of the environment was launched a project that envisage for the organization of an annual benchmarking of energy consumption processes in non-residential buildings of the city and conducting an energy audit every five years. Per in a short time, it was possible to reduce electricity use by 7.9% in 176 office buildings [12].

Increased transparency and visibility are taking place at all levels and sectors of smart city - from the budget process to the formation of the housing cost and communal services. An important positive point is that it is taken the opinion of all concerned party in decision-making, improving the quality of services if there is a reducing price, increasing informing and participation of residents.

An important result of the digital transformation of the urban ecosystem is a radical restructuring of business models and ways to create added value. The introduction and diffusion of digital technologies empower active engagement citizens to participate in urban development. Residents have an opportunity to

finance the urban projects they are interested in, and thus the urban economy receives significant financial resources.

Case in point, in Rotterdam, through a voluntary association of citizens, it was financed the construction of a bridge that made possible to connect the two parts of the city, separated by a motorway. The result was not only the decision of many social problems, but also the growth of economic performance in both parts of the city [14].

In determining the region's development strategy must be subject to the principium of maximizing public advantage. By public advantage is meant a property of urban area to satisfy requirements and ensure the right of every citizen to favorable living and working environment. Construction project of a new residential building real estate should take into account the possible negative effects of development, and redress for them by creating the necessary social, transport, utilities, information and IT infrastructure that will ensure a comfortable person life. Subjects of management, legislative and executive authorities, other parts of society have to move new principles of interaction in order to form relationships that would correspond to criteria for balanced socially-oriented development of territories. It will allow take full understand the interests of market participants, including public interests, receive new competitive advantages and raise the level of region 's competitiveness.

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CHAPTER III.

DIGITALIZATION AS THE BASIS FOR INNOVATIVE DEVELOPMENT OF ECONOMICS PROCESSES.

3.1. DIGITALIZATION OF MARKETING: OMNICHANNEL MARKETING

The postulates of the classical theory of marketing were formed in the 20th century – the concept, categorical apparatus, and the toolset. Over the course of the existence of marketing, one has observed a functional relationship between the development of marketing theory and scientific-technical progress. It is obvious that the ever-changing realities of the economy predetermine moral aging of the theoretical foundations of marketing since the effectiveness of marketing activities depends on the degree of adequacy of its forms to the character of industrial relations.

The new information stage in the post-industrial economy necessitates the modernization of the classical theory of marketing. First, that concerns the marketing toolkit whose evolution is governed by the laws of dialectics. This is the case of the most pronounced manifestation of the law "objection to objection". "Creative destruction" of marketing lays the foundation for digital marketing. The digital transformation is underway, as well as the death of classical offline businesses – if an enterprise is not represented on the Internet, it leaves the market. Thus, there is a task of choosing the most adequate and effective instruments for the personalized interaction between sellers and buyers. The result of permanent changes in the field of information systems is the emerging technological innovations related to digital marketing, which is a driver towards higher efficiency. The new realities call for the consideration of emerging technological innovation from a scientific point of view.

To develop effective marketing strategies under conditions of the digital economy, it is necessary to define the scientific basis for the newest technological innovations related to digital marketing. Prerequisites for such a study are the changes in

motivation, mentality, way, and quality of life, the emergence of opinion leaders in the Internet space, the rise of communities in social networks, development of the market for specialized applications, improvement of systems that manage relationships with consumers. In this case, the rapid pace of technological change predetermines the diversity of views regarding the generalization of theoretical principles of innovations in digital marketing.

The role of marketing in the system of economic sciences is to find solutions to the sales problem. The problem of marketing is the main problem of commodity production, where a significant part of the products of labor is not sold, does not become commodities. Elimination of irrational losses of living and materialized labor is one of the main problems facing economic theory and practice. Marketing is the remedy for this problem.

Marketing theory originated in the United States and is a natural result of the development of economic thought based on the teachings of mercantilism, classical and neoclassical political economy, and marginalism.

There are the following aspects of marketing theory:

– intellectual – genesis and conceptual and methodological foundations;

– structural and content – analysis of the marketing environment; commodity policy; price policy; sales policy; communication policy;

– periodization – stages of marketing development;

– Universalization – universal nature of marketing;

– interdisciplinary – the influence of marketing theory on other disciplines;

– personal – objective and subjective factors in the development of marketing theory.

Two generic attributes make marketing economic science.

The first is to prevent the emergence and optimization of sales problems based on identifying the prerequisites for the transformation of labor products into goods. The second is the complexity and synchronicity of the use of marketing tools. Marketing tools are formed into a marketing mix. Each tool

matters, but marketing goal is achieved when they are used systematically. More than 100 years have passed since the advent of marketing theory. Marketing is evolving in a spiral. Marketing is improving, adapting to the changing conditions of production and at a new "round" of development acquires qualitatively new features.

In the 21st century, with a change in the technological base of production, the emergence of a post-industrial society, a new marketing model has emerged. Accordingly, it is necessary to modernize the periodization of its development. It is advisable to build the periodization of marketing on the following principle: an appropriate marketing concept must correspond to each period.

The marketing concept should become a specific feature of the period. The first period of development of marketing theory should correspond to the period of creation of the historically first – the classical concept. Each subsequent period must take into account the features of the previous period and the shift in emphasis by changes in the method of production (Table 1).

Table 1 – Periodization of the development of marketing theory.

№	Concept	Name of the period	Stage of commodity production
1	The concept of marketing is a philosophy of the seller, based on the focus on meeting demand	Marketing 1900-1970	Mechanization
2	The concept of social and ethical marketing is a philosophy of the seller, based on the focus on meeting rational demand and counteracting irrational demand	Socio-ethical marketing 1970-2000	Automation
3	The concept of omnichannel marketing is a seller's philosophy, based on the focus on meeting rational demand, counteracting irrational demand and forming the maximum	Omnichannel marketing since 2000	Digitization

	number of loyal buyers and promoters of goods		

We single out the period 1900-1970 as the first stage. As a stage in the formation of a classic marketing concept based on customer orientation. The classical concept of marketing arose in the industrial stage of economic development when supply began to exceed the demand and a buyer's market was formed. It was during this period that the foundations of marketing as a science were laid. The content of science is theory: during the seventy years of the first stage, the classical concept and other scientific "symbols" of marketing were gradually formulated.

The second stage of periodization is the period of formation of the concept of social and ethical marketing - 1970-2000. Demand that is not rational or leads to environmental pollution becomes a hazardous phenomenon. In the middle of the 20th century, for the first time in the history of world civilization, society faced the following paradox: scientific and technological progress is an ambiguous process. It has led to environmental problems, overconsumption, and premature depletion of natural resources. The development of productive forces created a society of mass consumption.

Concern over the socio-economic consequences of overconsumption has prompted an increase in the humanization and greening of marketing. At a new "turn" of development, marketing theory acquired socially responsible properties, the implementation of which should ensure the progress of productive forces and production relations. The concept of social and ethical marketing has enriched the classical concept of marketing with ethical and environmental components, taking into account the socio-economic consequences of the future life of society.

The third stage in the development of marketing theory, which began at the beginning of the 21st century, in the post-industrial economy, is the stage of formation of the concept of omnichannel marketing – this is the philosophy of the seller, based on the focus on meeting rational demand, countering irrational

demand and forming the maximum number of loyal buyers and promoters of goods.

In the context of the digitalization of society, the Internet and other digital channels are changing the forms and methods of marketing for the emergence of a new form of marketing – "omnichannel" marketing. Omnic marketing is the integration of offline and online channels, functions, technologies into a marketing system that aims to meet rational demand, counteract irrational demand and form the maximum number of loyal buyers and promoters of goods. So, 21st-century marketing is omnichannel marketing. Offline and online marketing complement each other, with a common goal – to make the best impression on the customer. Omnic marketing trends: mobile commerce; showrooming; webrooming.

Advantages of omnichannel marketing:

– speed online and availability offline;

– mobile devices – a "bridge" connecting the offline and online world.

Due to digitalization, marketing is transformed into a technological discipline. Digital competencies are expected from marketers. Therefore, it is necessary to invest money in the digitalization of marketing.

Digitalization is something that happened back in the 1990s when digital technologies helped improve processes and increase the operational efficiency of the seller. Digital is something that not only increases operational efficiency but also changes the value proposition for customers. The term "digital footprint" is well known. Everything that is done in digital services is a digital footprint. This data (90% of it was created in the last two years and 80% of this data is still unstructured) is "new gold", and marketers have access to it. The term "digital marketing" was first used in the 90s of the twentieth century. In 1993, an interactive banner was used for the first time.

Omnichannel marketing is a synergy of classic and digital marketing.

Technological shifts of the digital economy, the exponential growth of the volumes of information, the need to accelerate the

process of decision making, enhance the culture in the field of information and communication technologies, force enterprises to employ new tools in their marketing activities. And the emergence of more complex tasks on analyzing the growing volumes of information stimulates the proposal of such analytical tools.

Within the digital economy, improving the productive forces of labor occurs primarily due to technological innovation. That is confirmed by that the five companies that have the highest capitalization in the world, Apple, Amazon, Facebook, Microsoft, Alphabet, are the leaders in the implementation of technological innovations in the field of digital channels and technologies.

Digital marketing is a type of marketing that, behind digital channels, using digital methods, allows targeted interaction with the target segments of the market in the virtual and real media.

Digital marketing customs' online channels:

– Internet and add-ons, which provide access to new (computers, tablets, smartphones);

– local fences of enterprises, such as self-sufficient information systems. Progressively see the integration of local fences from the Internet;

– mobile annexes. Previously, manufacturers reported messages sent via SMS whenever they were popular at a time installing branded information or organizing WOW-calls to the phone (WOW-call is a platform that provides Internet and telephony);

– digital TV, with skin rock more and more analog and step-by-step, integrate with Internet add-ons. At the same time, you can go to the Facebook page for additional TV viewing, watch the video on the video, read the news;

– Interactive screens, POS-terminals, which can be used in shops, on streets, near metro cars. It is possible to change the standard advertising calls, and also allow you to change the way you use them, to convey information about your additional help in purchasing through the POS-terminal;

– touchscreens (planchettes), riders, other attachments – special programs for them allow customs chat, gratis, wonder films, go online;

– digital mystery is a kind of mystery, in which a computer is victorious for the stem of an artistic robot: baby, sound, animation, video, games, website, performance, installer There are a lot of traditional types of the artistry of digital technologies, and as a result, it grows between traditional and digital artworks.

The main tools of digital marketing are the following.

– SEO (search engine optimization) is the optimization of a website in search engines. It promotes a website to the first page of queries at search engines.

– Contextual advertising is the context-based banners or text advertising announcements that are displayed directly below the search bar, or to the right of the search query results.

– SMM (social media marketing) is social media marketing, media advertising – advertising messages in the form of static or animated images, which are placed on pages of websites to promote products.

– SMO (social media optimization) is the optimization for social networks, advertising on social networks, blogs, forums, dairies.

– RTB (real-time bidding) is real-time bidding, an auction of advertising announcements in real-time.

– Retargeting is the retargeting, multiple showing of Internet advertising that has been already seen.

– SEM (search engine marketing) is the search engine marketing activities, aimed at increasing the attendance of a website.

– Mobile marketing is marketing activities using mobile devices.

– Viral marketing is the advertising strategy, whereby a person targeted by advertising is at the same time the transmitter of advertising.

– Mailings are the text messages sent by e-mail.

– Big Data technology implies analysis of data arrays of large volumes. By using an opinion analysis in social media, it is possible to obtain results based on reviewing tens of thousands of opinions Big Data – the study of large data sets. The term "Big Data" is associated with the growth of information in the world: 2003 - 5 exabytes (1 EB = 1 billion gigabytes); 2008 – 0.18 zettabytes (1 ZT = 1024 exabytes); 2011 – 1.76 zettabytes; 2013 – 4.4 zettabytes; 2015 – 6.5 zettabytes; 2020 – 40-44 zettabytes. The analysis of big

data allows revealing certain regularities, to find standard algorithms.

Big Data is a phenomenon associated with the emergence in the XXI century of technological capabilities for the analysis of large amounts of data – more than 100 GB per day. Some experts describe the technology of Big Data "4 V":

– Volume – companies have accumulated large arrays of data. In different areas, the amount of information differs significantly, respectively, the relevance of their use of Big Data is different;

– Variety – the technology is based on programs that can process large arrays of data from different sources, in different formats (tabular, ranked, text, images, video and audio files), different degrees of structure (structured, poorly structured, unstructured);

– Variability – the presence of applications of Big Data technology has the ability to take into account changes in incoming information;

– Velocity – the first three characteristics can be inherent in Big Data technology only at high data rates.

The second experts characterize the Big Data technology also "four V", but allocate an alternative set of attributes:

– Volume;

– Variety;

– Velocity;

– Value.

That is, Variety is replaced by Value. In general, the "value" parameter is one of the main ones, which allows us to highlight Big Data as a new phenomenon. It refers to the economic effect that technology provides to users. The difference between Big Data technology is that the processing of input information produces the resulting information of such value that it creates a reliable and sound basis for marketing decisions.

Third experts characterize the Big Data technology "3 V". According to this version, Big Data technology is a high-speed work with large amounts of various information:

– Volume;

– Variety;

– Velocity.

Big Data technology is a means of improving marketing efficiency, as it involves targeting the market. You can carefully analyze customer information, unstructured information from the Internet. When consolidating information from accounting systems and the Internet, a clearer picture of the customer base is obtained, which allows you to solve marketing problems faster.

Big Data is a set of software products, technologies, methods for analyzing structured and unstructured data for solving specific problems. It is an alternative to traditional data management systems.

Techniques and methods of analysis applicable to Big Data:

– Data Mining;
– Crowdsourcing;
– Mixing and data integration;
– Machine learning;
– Artificial neural networks;
– Pattern recognition;
– Predictive analytics;
– Simulation modeling;
– Spatial analysis;
– Statistical analysis;
– Visualization of analytical data;
– Relational control systems;
– Business Intelligence.

Technologies applicable to Big Data: NoSQL; MapReduce; Hadoop; R; Hardware solutions. Typically, big data comes from three sources:

– Internet (social networks, forums, blogs, media, websites);
– Corporate archives of documents;
– Readings from sensors, instruments, and other devices.

Horizontal scalability that enables data processing is the underlying principle of big data processing. The data is distributed to computational nodes, and processing occurs without degradation of performance.

Experience of robots of light leaders in the field of information and communication technologies to provide information, so that in the analysis of the great talent given to the

enterprises of the competitive market, the potential for additional assistance in the worthy marketing value.

It is possible to highlight the following technological innovations of digital marketing over recent time:

– native content;
– artificial intelligence;
– integration of marketing technologies;
– virtual and augmented reality;
– the voice bots;
– Internet of Things;
– video and mobile marketing;
– Affiliate marketing.

Native content. Previously, it was enough to buy a lot of links to a web-site to automatically move it up in a list of search engine's query results. At present, search engines such as Google are actively opposing such an approach. However, creating interesting content by the site owner is getting more complicated. Social networks make it possible for users themselves to generate content, uploading photographs, video materials, and authoring blogs. Some technologies help automate the generation of content, as well as create UGC (user-generated content, created by users). Video content has played a significant role in increasing the attendance of a web site.

Video content has become much easier to produce. Google released the tool YouTube Director, which facilitates making commercials. Their technologies have been developed that automatically adapt content for the target audience, forming a unique newsfeed. Yandex selects music tracks based on the customer's preferences. Radio creates songs to the music fan's favorites, and has released the album "Neural defense".

Thus, digital marketing was supplemented with the notion of "native content". Native in the English language means "natural", "native". The mission of the native content is to create "organic" communication products to increase the target audience and, ideally, increase the volume of sales. The advantages are in that users feel favorably toward such information, they are willing to share it, thereby increasing conversion and sales.

Artificial intelligence as a means of implementation of Big Data. There is the notion of "artificial intelligence" in digital marketing. These are DMP – platforms (Digital Management Platform) that automatically analyze the effectiveness of channels to attract users to a web site, advertising costs, form a portrait of the target audience, find, and propose buyers, and target advertising messages. The theoretical basis for the functioning of "DMP" platforms is the psychometric theory by M. Kosinski.

His theory is based on that human behavior on the Internet is automatically recorded and stored. By analyzing this information, it becomes possible, with a high probability, to predict consumer behavior. The essence of psychological targeting implies that the advertisement announcement is directed only at those who can be interested in it. The system automatically selects sites for advertising, finding the most effective point of contact with the target audience.

The integration of marketing technologies. It implies the development of standards for data exchange, which ensure a synergistic effect resulting from the harmonization of a variety of digital tools. "API" (application program interface) is made for interfaces of different software. Thus, a web site integrates with CRM and CRM integrates with a DMP – platform. Then, when a customer fills out the purchase form at a web site, he at the same time provides information to CRM while a DMP platform determines where the customer came from, the cost of his attraction to the web site, what he was doing at the web site and how to optimize relationships with the customer.

Virtual and augmented reality. Virtual reality is the artificially created reality, which is explored using specialized glasses. Augmented reality implies the inclusion, using the specialized software, in the existing reality of objects through their demonstration in a virtual environment, and providing opportunities to perform certain actions with them.

Thus, when selling real estate, they use virtual projections of apartments that a potential buyer could virtually renovate and furnish. The technology of augmented reality does not require disengagement from the real world and makes it possible to

conduct transactions while saving time, money, human energy, improving the emotionality of purchases, reducing risks.

The voice bots. The voice bots is a call center consisting of robots who ask questions, take and analyze the responses, thereby collecting information for management decision making (Google – "OK, Google", Apple – "Siri", Amazon – "Alex", "Echo", Microsoft – "Cortana").

The Internet of Things (IoT). The Internet of Things is the acquisition and analysis of information from household devices equipped with Wi-Fi or Bluetooth. The household devices connected to the Internet compile databases on behavioral characteristics of users.

The principal direction of digital marketing is the personalized attitude to users. Efficient product sales are driven by the personal address to a potential customer. Personalized communication with a potential customer becomes the essence of marketing, the core of its effectiveness. The vector of development of information and communication technologies implies enhancing the technical capabilities to collect and analyze information about the demographic characteristics, target audience interests, web site-related activity, statistics of purchases, the content used, data on the location of a client. The benefits of digital marketing include targeting; the possibility to estimate effectiveness of a web site; determining the demand based on tracking the requests' subjects; the reactivity of sales.

Digital marketing is beginning to use traditional types of advertising, performing the task of attracting the attention of the audience to enter the virtual world. Examples are QR-codes in advertising posters and magazines, accelerating the pace of adaptation of new technologies, changes in consumer behavior, and the availability of cross-platform content: "Instagram Twitter; Facebook Foursquare Instagram YouTube.

These changes lead to the formation of a new cycle of media consumption. The number of "smart devices" (smartphones, TVs, tablets) with which the digital media product is consumed is growing; which means that favorable conditions are formed for marketers. Sales of smartphones outpaced sales of regular phones;

the laptop segment is expanding due to Internet tablets and electronic readers. The demand for applications, streaming video and audio, games, and electronic versions of media and books is growing, the level of penetration of social networks and the corresponding marketing activity is growing.

As users adapt to digital technologies of content consumption and delivery, the level of demands and expectations placed on products, companies, and agencies in the field of media and cross-platform ecosystems increases.

A new form of marketing agency has emerged – Digital Agencies. Unlike conventional media agencies that provide advertising space, such agencies offer the following services:

1) creation of sites, media and contextual promotion, design, production;
2) development of a comprehensive strategy for the development of the enterprise in the digital environment (examination and promotion);
3) work with online communities (groups and pages in social networks, blogs, forums, specialized sites);
4) organization of event events in a combination of online/offline promotion;
5) transfer of the consumer from online to off-line sphere and back (promotions, activities);
6) experimental marketing: QR-codes, geolocation services, RFD, WOW-calls, augmented reality.

Most media content is consumed via personal computers, laptops, smartphones, tablets, top boxes, Internet-connected TVs and game consoles. The main trends of digitalization of marketing are: automation; targeting and personalization; video content; super supplements; online marketing research.

Automation. The purpose of marketing automation is to use IT solutions to speed up routine operations and achieve results that people cannot afford. The amount of information that a marketer works with has become larger. The cycle of purchasing decisions has become more complicated – customers are protected from "information noise", they need more quality "touches" with the

brand. In response to these challenges, the IT marketing solutions industry is growing.

The following IT systems are developing the fastest:

a) CRM-systems to automate visitor engagement, analytics, data collection and exchange;

b) BI-systems (Business Intelligence) for automation of storage, analysis, visualization of information.

Targeting and personalization. The amount of accumulated data about users on the Internet and modern IT solutions allow you to form personalized relationships with customers. Canonical segmentation is a thing of the past, now it is possible to form customer groups through targeting, make personal offers for them, dramatically increasing conversions. Identify the main customer segments with which you need to communicate in different ways. Having psychological portraits of potential customers and understanding what psychological type they belong to, you can choose the best way to communicate.

Video content. Video content is advertising, live broadcasts, blogging channels, virtual and augmented reality (to promote objects that a potential customer cannot reach). The brain responds to visual images 60 times faster than text, so the video is a more comfortable way to consume content. The visual format is more emotional, bright, with its help you can tell fascinating stories. In addition, video is the main language of the younger generation. By 2021, the share of video traffic will reach 80%. Marketers are stepping up collaboration with video bloggers. For example, video blogger number one, registered under the nickname PewDiePie, has more than 58 million subscribers, which exceeds the population of some countries.

Super add-ons. In terms of the number of active users, the audience of the four most popular messengers already exceeds the audience of the four most popular social networks. Young people are actively flowing into messengers - here they spend 40% more time than on social networks. The modern messenger is a multimedia project: "WhatsApp", "Viber", "Telegram", "Snapchat", messengers of networks "Facebook", "VKontakte". But China is also in the lead here and Tencent's WeChat

application. This media platform is a messenger, social network, dating services, taxi ordering, payment system. WeChat has almost a billion registered private users plus public accounts of companies and government agencies. Fashion blogger Becky sold 100 exclusive turquoise Mini Cooper cars for $ 4.2 million in a few minutes. Blogger Mr. Bags sold 80 pink Givenchy handbags for $ 2,000 in 12 minutes through WeChat.

Online marketing research. The spread of digital technologies causes the "creative destruction" of traditional methods of marketing research and allows you to get the necessary information faster and more accurately by increasing the number of online researches, the formation of qualitative-quantitative dualism in research, limiting the use of focus groups. It is expected to increase the use of virtual online focus groups, which will primarily be conducted from mobile devices.

Online focus groups will become standard. The vast majority of ever-increasing amounts of information is marketing information. Therefore, the history of page visits, advertising, taste, price preferences, social circle, acquaintances, cultural, social, personal, psychological factors of the user allows marketers to make his characteristics as a consumer.

Automation, targeting and personalization, video content, multimedia projects, online marketing research will radically change not only marketing but also the structure of employment in marketing. These trends are focused on improving the availability, convenience, efficiency, taking into account the personalized requirements of each buyer.

In the conditions of digitalization of the economy, the era of omnichannel marketing has come – the model of marketing of the XXI century.

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3.2. DIGITAL DIRECTIONS OF CONSUMER MARKETING RESEARCH

The presence of a large amount of information about consumers in the analytics of the enterprise website, in the CRM-system, in the data of special software products for studying the audience of a particular site, today allows you to learn about them all, or almost all. Online marketing research is possible due to the high level of Internet penetration, according to Kantar, in Ukraine it reached 79% (in 2019 it grew by five percentage points). As the penetration of the Internet into a person's life increases, certain aspects of a person's social and economic behavior change, new communication skills, information retrieval, economic activity, etc. are formed. The field of marketing research on the Internet is also characterized by dynamic changes, the formation of new approaches, ideas and research methods.

Online marketing research has been the focus of domestic and foreign scientists for more than ten years. The vast majority of foreign researchers believe that online research is the main trend not only in quantitative but also in qualitative research. M. Williams and K. Stewart [1], as well as N. James and H. Buscher [2] consider online focus groups as one of the most promising research methods. Domestic researchers also identify the leading role of online research. I. Dubinsky [3] and D. Krakovych [4] substantiate the trends of transition of telephone and personal surveys to the online environment. A. Shashkin [5,6] and D.M. Friedman [7] focuses on the representativeness and quality of

marketing research data on the Internet. D. Pudova [8] identifies the features of modern online surveys, their advantages and disadvantages. A. Shahdaryan [9] explores the characteristics of the modern Internet audience.

The company can both independently research its customers online and involve marketing agencies in online research. Both quantitative and qualitative methods can be used for independent research.

The quantitative methods of online research of consumers of the enterprise include the following:

− detailed characteristics of the audience of the enterprise site, using the tool Google Analytics;

− characteristics of the audience of the competitor's site with the help of special tools;

− monitoring of social networks.

With Google Analytics you can learn:

− how many visitors to the website are now, was today, yesterday, a month or a year ago;

− traffic channels, ie how visitors got to the website;

− what percentage of visitors returned to the website in one, two or seven weeks;

− from which countries visitors were;

− which pages are visited the most;

− how much time on average do they visit the website (page)?

Traffic channels are the sources from which visitors come to the site. They can be free and paid. In the first case, it is a natural increase in users, in the second there is a certain fee for each visitor. There are four main sources of traffic: organic search (*Organic Search*), direct link to the website (*Direct*), the transition to the website from other resources (*Referral*), the transition from social networks (*Social*).

Organic Search is a hit to a website on a search query. A person can search for the name of the company or product and so gets to the website. To ensure the growth of organic traffic, the visibility of the site by keywords in search is crucial. To do this, you need to gather a broad semantic core (keywords by which users

can search for certain products), optimize existing pages and create new ones, add quality and unique articles, ensure that the website is linked not only to other websites but also users in social networks. When the website is linked to websites with the extension "gov" (sites of government agencies), or “edu” (sites of educational institutions), its ranking in the search engine increases.

The second channel of traffic *Direct* is extremely important because it is those visitors who go to the website by direct link, i.e. they have a bookmark with the website address, or enter its address in the browser.

Direct traffic can make up a relatively small proportion of the total number of conversions, but it is very important for any project. This is a kind of indicator of audience loyalty and brand awareness. For the information project, the main share of such conversions are regular readers, and for commercial sites it’s customers who return for new information, look at the latest arrivals in the catalog or make a repeat purchase. Reducing direct traffic is threatening.

It is also important to have information about the number of customers who came to links from other resources *Referral*. The logic of increasing referral traffic is quite simple - the more links to the site will appear in popular sources, the more people will go to it. It is worth placing links on the visited resources, because the probability of conversions from sites that are visited by thousands of visitors a day, will be much higher. Backlinks can be found in articles, comments, forums, forums, active user signatures, emails, and more.

Traffic from social networks *Social* is visitors who came to the website with a link from social networks. The number of such transitions depends on the company's activity in the social network and the quality of interaction with the audience, the ability to guess their interests.

Cohort analysis is also an important tool for analyzing the interest of site visitors. It shows what percentage of visitors who visit the reporting week will return in one, two or five weeks. It is important for the information resource to keep its attention, ie for 70-80% of visitors to return if the news appears daily or weekly.

And the situation when 5-10% of visitors return after the first week is threatening.

You can find out about the audience that visits a competitor's site with the help of such tools as: *MegaIndex*, *Alexa*, *Similarweb*, *Serpstat*, etc. These software tools provide information about traffic on a competitor's site, the geography of its visitors, the intersection of the audience of the company's website with the website of its competitor, the dynamics of visits, keywords and costs for contextual advertising for them and more.

Here you can offer three approaches:

The first approach. Identify your competitors and compare yourself to them by search queries using the *Google Trends* tool. To do this, enter the names of your company and competitors in the search box. The dynamics of requests can be seen for different periods, ie from one hour to several years. You can search across the entire network or for a specific country. The *Google Trends* tool also allows you to compare the considered queries by popularity in all regions of the country.

The second approach. Learn the analytics of your competitor's site using the *Mega Index* tool. Its result includes website traffic, geography of visitors, dynamics of visits, etc.

The third approach. In addition to analytics, find out how the audience of your own website intersects with the audience of competitors. This can be done using the *Alexa service*, which is provided free of charge for a limited time. The service identifies competitors by audience.

Comparing data from Google Analytics with data from a competitor's website analysis, you can identify website problems or tactical actions of the enterprise, develop or improve digital strategy, increase conversions.

Consumer surveillance methods include monitoring social networks. Usually, it is carried out in three areas: social listening (talking about the company or brand), analysis of competitors (talking about competitors), measurement of feelings (monitoring of the media with the measurement of positive and negative feedback). These tools are on the *Social Search* resource.

In addition to monitoring, inclusive and non-inclusive surveys are also used to study the social media audience. *Inclusive observation* is the observation of how users react to certain publications or topics of discussion with a researcher. *Non-inclusive observation* does not require direct contact with participants. That is, the collection of information about the diversity of opinions and views of group members is without communication with them.

Marketing agencies offer many types of research, one of the popular areas of online research is online panels. Until recently, the main disadvantage of online panels was considered to be sampling methods that were "amateur" or spontaneous. Such samples were formed by sending questionnaires by e-mail or posted on websites. Today, marketing research agencies form online panels that fully ensure the representativeness and reliability of the data obtained.

Online research can be used in two cases:

− the target group consists exclusively of Internet users;

− the share of Internet users in the target group is high enough to extrapolate the results of the study to the whole population.

If less than 30% of Internet users are among the target audience, then Internet research is considered impossible. In the case when Internet users make up 30-50% of the target audience, Internet research is considered possible under a number of conditions. For example, for specific categories with suitable panels. In a situation where Internet users make up more than 50% of the target audience, Internet research should be considered as a serious alternative to other methods [10].

An online dashboard is a group of registered Internet users who realize that they have agreed to participate in marketing research on a regular basis. Currently, several large online panels Kantar TNS, Opinion by Factum Group Ukraine, Gemius, GFK operate in Ukraine. Such panels are considered a qualitatively different direction in the development of survey methods of marketing research. Innovative approaches do not refer to survey methods, but to tools for access to respondents.

The main reason for the emergence of online research and the growing share of panel online surveys is the saving factor. And all aspects of this factor are important: saving time, saving financial and human resources. Online research significantly reduces, first of all, the time interval, which is extremely important in today's fast-paced life, when it is necessary to respond as quickly as possible to the needs of consumers, or to obtain operational information for management decisions. None of the traditional survey methods can provide as fast an information gathering as an online survey.

An equally important advantage of online surveys is the factor of accessibility to the respondent. New forms of communication with the respondent, with an interesting visual design of the questionnaire (video, images, animation) stimulate the respondent's interest in participating in the survey and give him a sense of psychological freedom.

Selection of participants in the online panel is both online and offline methods (table 1).

Table 1– Recruitment of panel research participants

Online	Offline
Banner advertising and contextual advertising – attracting panel members either through the advertising network or through individual sites. *SEO (Search Engine Optimization)* – search engine promotion on selected key query group (keywords). *Advertising on social networks* – the use of social platforms as channels to attract new members panels. *Snowballing / referral system* – system when the panel member has opportunity to invite to take	*CATI / telephone recruitment* – inviting respondents to a telephone survey with a random bell. *F2f recruitment* – invitation of respondents after their participation in other f2f surveys. *Targeted recruitment* – targeted recruiting hard-to-reach groups. *Other offline methods* – print publications, BTL events, announcements, etc.

part the second, receiving a reward for it. *Direct mail* – organization of mailing on existing databases.	

Each of the methods of recruitment has its "pros" and "cons" (Table 2). As can be seen from the table, today online recruitment has more "cons" than "pros". Therefore, research agencies form 65% of online panels through offline recruitment, based on a random sample of telephone numbers. Another 35% of panelists find online research using banner advertising with a wide reach of the Internet audience [10].

Automating the process of collecting and processing data from online surveys saves a lot of financial and human resources on coding and cleaning arrays of information, as well as allows you to detect errors in the data collection phase and reduce the likelihood of distortion of information by the interviewer.

Online panels allow for in-depth research of consumer behavior:

− especially when it comes to a narrow target audience (for example, consumers of a particular brand);

− to track the dynamics of the main characteristics of the brand and its competitors, as well as to assess the effect of marketing communications, the main tool is online tracking research, which is based on regular surveys of participants with a certain time lag;

− to increase the level of sincerity of the respondent's opinions, it is also important to use online panels, as they exclude the presence of an interviewer.

Table 2 – Pros and cons of recruitment methods in the online panel

Online		Offline	
pros	− low cost; − high speed of recruitment; − higher response − respondents.	pros	− achieving higher quality standards since it is possible to pre-check the information provided by the respondent; − the possibility of more

			− proportionally involve − respondents from different − Internet user groups: − less active − users, respondents from − lower level of education, etc.
cons	− reliability of the information provided by the respondent, ie it is much easier to provide false information about yourself on the Internet; − difficulty in reaching some groups of the population: older audience, respondents with lower level of education, income, etc .; − skew the panel towards a more active Internet audience.	cons	− high cost; − low speed of recruitment; − less activity in the panel

Online surveys have several degrees of quality control of the information obtained (table 3).

Table 3 – Quality control of online surveys

Stage of control	Content control
Monitoring during the survey	− questionnaires use test questions and statements; − the duration of both the entire interview and individual blocks, tabular questions is controlled; − tracking of cookies, "digital fingerprints".
Data quality control	− the data obtained in the survey is compared with the profiling data and data obtained in other projects;

	− the completeness of filling in open questions and distribution of answers in tabular questions is controlled; − clustering of respondents is carried out: impeccable, careless, suspicious; for the latter, additional telephone control or (in case of gross violations) account deactivation is applied.
Control panel	− restrictions on participation in a certain period are used; − multiple registrations are checked using the built-in Doublet Check functions; − the uniqueness of the panelist at payment of a reward is controlled; − monthly reconciliation of panelists for coincidences on different registration parameters.

Precautionary measures are used in online surveys against poor filling in of questionnaires by panel members:

− *Stopwatch and skimtime*. The technology, which is built into the survey by default, allows you to weed out "Speed" respondents, ie those who answer without thinking. If desired, you can install it separately on any part of the survey and check only it. Questionnaires of "skimmers", thanks to this technology, do not pass into the productive array;

− *Robotrap*. Technology for catching robots that automatically fill in the answers to questions. The page contains a question hidden from the respondent, but accessible. The robot scans the page and answers all questions, including hidden;

− *StraightLine*. A tool for tracking "Straight Lines" in tabular questions, ie when the respondent puts the same answer next to all characteristics / answer options.

Also, the quality of online panel research can be assessed by technical parameters: Panel size.

− *Response Rate*. The level of response of respondents indicates activity and panel viability.

− *Completion Rate*. The level of filling in the questionnaires, this indicator shows the number of respondents who completed the questionnaire.

– "*Loading*" *of panelists*. Defined as the ratio of the number of panelists and the volume of research.
– *Panel extinction index*. Shows % of respondents who left the panel.

The projected increase in the share of online research is also supported by the fact that today the number of channels for users to access the Internet is increasing. According to the study of Internet penetration by Factum Group Ukraine, each Internet user has an average of 1.5 tools and 44% is the total share of mobile users (smartphone, tablet) among all regular users.

Online marketing research has both advantages and disadvantages. Thus, in studies where the respondent fills in the questionnaire on the Internet, or participates in the discussion using tools that are connected to the Internet, identify such strengths and weaknesses (Table 4).

Table 4 – Strengths and weaknesses of online research

Strengths	Weak sides
Speed of research and information processing	Limit for the duration of the interview compared to f2f
Relatively cheap method of research	The target audience is exclusively Internet users
Ability to use high-tech techniques, animations, etc.	Lack of control over the understanding of the questions and the adequacy of the answers by the interviewer conducting the survey
Ability to fill out the questionnaire at a convenient time	

A new area of panel research is online communities. Research firm GfK Ukraine uses online panel research GfK Opinion Planet for online communities. The main difference between online communities and online panels is that online panels are only involved for the duration of the study, and online communities are encouraged to participate spontaneously in the study on an ongoing basis.

Today, research agencies use three types of online communities (Table 5).

Table 5 – Types of online communities

Types of communities	Characteristic
Design	Small volume, short terms (for example, 50-100 participants up to 2 months). Useful for in-depth analysis, with specific goals and objectives
Syndicate	Multi-client "collective" communities about specific areas of knowledge (eg, audience niches and interests). Useful for creating small ad-hoc (special) subgroups in the community on various specific topics. Wide recruitment pool.
Permanent	Long (for many months / years), quite large (200+ participants), created for a specific channel, program, etc. Useful to keep up with industry trends, audience. Creating loyalty. Contact the company as soon as necessary and when necessary.

Opinion Planet is proposed to be used in research on attracting new audiences to the TV channel, or launching a new channel, or testing a new channel strategy (Table 6).

Table 6 – Examples of using Opinion Planet by GfK Ukraine

Stage	Contents of the stage
Attracting a new audience	
Situation	The TV channel wants to expand its audience and attract new viewers, but does not know where to start to interest.
Approach	Creating an online community with representatives different audiences and age groups will find out views and ideas for improving programs and content. From 2 to 4 weeks up to 100 community members can evaluate the concepts of existing programs, keep a media diary and describe their interests. Participants can be segmented and the results compared.

Result	Assessing the views and interests of different audiences, allows you to develop programs that will meet the needs of both individual segments and the audience as a whole.
Launch a new program	
Situation	It is planned to launch a new program or replace the presenter with an existing one, it is necessary to understand how this will affect the level of viewing and whether it will interest the audience.
Approach	Members of the online community, which consists of the current / potential audience of the channel, test the concept of the program or promo, write reviews and note what they liked / did not like. Using a small questionnaire and forum discussions, point out the strengths and weaknesses of the concept and generate ideas to improve the product.
Result	The method allows to understand how interesting the new program / concept of the target audience is. The results will tell you what to look for, whether to launch it now, or whether you need to refine the product. Also, it will interest viewers, give them the opportunity to influence the new product, strengthen their loyalty to the channel
Testing a new channel strategy	
The situation	The TV channel wants to change the image and broadcasting strategy, significantly expand the audience, change the air content and increase ratings.
Підхід	Members of the long-term online community from 3 to 12 months, consisting of current and potential audience of the channel test the overall concept of the channel, evaluate changes in the content of the air, new programs through group discussions, personal tasks, questionnaires and blogs.
Result	As the channel's strategy, new programs and new content are introduced, the TV channel can receive instant feedback and adjust changes in the process. This will keep your hand on the pulse and adjust the direction of the strategy.

A convenient and popular tool for online research is visualization tools. Today, there are numerous developments that research companies offer to their customers. Consider some of them:

1) *Universal video*. A video viewer that can operate in a window or in full screen mode. It can contain various video designs: imitation of the TV screen, mobile phone, etc. Provides the ability to show several videos one after another. The respondent is provided with a slider to evaluate the frame.

2) *Clickspot*. A tool for tracking places in the image that attract attention. The respondent, moving through the image, clicks on the places that are attractive to him, and the system records this information. It is necessary to set a time limit for the task. The disadvantage of this technology is the lack of "positive" or "negative" attitude.

3) *Drag and drop*. Image sorting visualization tool. On the left are cells with names or characteristics, and on the right are pictures that need to be placed in cells. Very suitable for testing concepts.

4) *Highlighter* is a tool designed to select elements of the image according to how much the element liked the respondent. Selection occurs in different colors. It is possible to set time limits for the task.

5) *Store shelf simulator includes*: Preliminary instruction on the use of the shelf. Then - independent purchase of goods. It is possible to view the selected product in more detail from two sides. Each action of the respondent is recorded (review, purchase, return to the shelf, number of purchases). You can specify the minimum and maximum amount that the respondent can spend.

According to analysts of marketing agencies, in the future it is possible to move to a qualitatively new format for collecting data on consumers (information about consumer purchases, behavior on social networks, etc.) and the disappearance of the need to collect information through direct surveys. The actual information that researchers can obtain from various media (mobile devices, bank cards, social network profiles) will provide comprehensive information about consumer preferences,

frequency of purchases, shopping cities and more. This is facilitated by the growth of consumer information (fixation of geolocation, purchasing activity on the Internet, profiles on social networks)

The latest trend is a combination of online surveys with a technometric approach. These technologies are used, for example, in counters to record the contact of the respondent with the advertising message. There are certain methods for evaluating the effectiveness of Factum Group's AdOpinion Recall advertising and methods for analyzing the brand's consumer profile on Social Media Portrait, which, in addition to respondents' answers, record factual information that allows comparing, for example, actual and declared behavior.

Ukraine's Internet audience is also the subject of research by research companies. For example, Kantar TNS annually conducts a pool of ongoing research to study conscious media consumption. According to them, today an active Internet user spends 7.4 hours a day in contact with various media. And 68% of this time is accounted for by contact with the Internet [9].

The more time a user spends online, the more money they have to access the Internet. The distribution of Internet means among Ukrainians is as follows: 91 – stationary means (computers and laptops), 15% - tablets, 36 - smartphones [10]. According to global trends in most countries, the share of time on mobile devices exceeds the time on fixed devices for all age groups. According to global trends, young people (16-24 years old) spend 70% of their time online with mobile devices [8].

The conclusion that can be drawn from the following information:

− online research is a promising area of marketing research, which with the growth of the Internet provides more accurate information;
− the structure of the population by sex, age, education and city of residence practically coincides with the structure of Internet users, which allows to form representative samples for online research;
− panel studies are mostly moved to the online environment, although panel survey participants are mostly recruited offline;

− increasingly widespread are not only online panels, but also online communities, which with the advent of special platforms, social networks and blogs are used in marketing research for a wide range of tasks;
− online surveys use technical capabilities to control the conduct of the interview, prevent errors in entering information, control the truthfulness and attentiveness of respondents and save the information automatically;
− online research has incredible opportunities for information visualization, which allows you to design a variety of research areas: online stores; evaluation of commercials; testing the concept of the TV channel, etc.

The spread of the Internet to all spheres of human life, the increase in Internet users, the structure of the Internet audience, which is identical to the structure of the country's population, determine today the trend by which marketing research is increasingly moving to the Internet environment. The study identified the main areas of research of the audience of your own site and the competitor's site, social networks, the main trends of online surveys on the Internet, both in quantitative terms as online panel, and in qualitative as online community. In panel studies, the role of information visualization is growing. Due to the ease of participation (the respondent uses any gadget and can be anywhere during the survey) and the attractiveness of visual questionnaires, the response rate of the study also increases.

The presence of built-in tools to verify the "truthfulness" of the respondent's answers and control the correctness of the information obtained significantly increases the value of the data. Automatic systems for storing answers in the form of databases, speed up and facilitate the analysis and interpretation of the information obtained. Online communities are a new phenomenon in marketing research, which is still not widespread in Ukraine. Due to the active position of community members who take part in the discussion, there is a synergistic effect. The difference between such a discussion with an offline focus group is the unlimited discussion of research issues by community members and participation in the discussion of a much larger audience.

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3.3. THE ROLE OF THE POP-CULTURAL PHENOMENON IN THE MANAGEMENT OF THE REFLEXIVE TOOLS OF MODERN INFLUENCER MARKETING STRATEGIES IN THE CONTEXT OF DIGITALIZATION

Digitalization and transformation of modern business, as well as the use of digital technologies to optimize business processes, including their marketing component, became a catalyst for unlocking the marketing potential of social digital platforms. Social networks, Internet resources, product placements, video hosting sites, gaming platforms along with economic organizations, brands and opinion leaders, have a marketing influence on consumers. The transformation of the offline world to the online world is growing exponentially, and consequently, corresponding changes accompany marketing strategies and tools. With users' addiction to digital and the influence it has, strategies of the use of influencers to promote a product have become double-edged.

A new stage in the development of influencer marketing, which is characterized by direct channels of communication with the consumer, has transformed marketing from an activity aimed at satisfaction of market needs into a cultural component of society. This, combined with popularizing influencers, turns influencer marketing into a pop-cultural phenomenon. Thus, the use of reflexive tools within influencer marketing strategies that are in the public interest will be the driving force in the interaction between the consumer and the influencer. Management in using this kind of marketing tools is an obligatory integral part of modern influencer marketing strategies.

The aim of the article is to determine the role of the pop-cultural phenomenon in the management of reflexive tools of marketing strategies that use influencers. The year 2020 is associated with the spread of global pandemic, which is

unprecedented in today's environment and whose economic, political and social consequences have been continuing. Quarantine measures contributed to changes in life processes, transporting them from the real world to the virtual one.

This manifest itself in all spheres of human life (entertainment – streaming services have replaced cinemas, household – online shopping and food delivery, professional – the rise of Zoom communication). However, the main function of information technology, by definition, is informational. The severity of the current crisis has heightened the need for reliable and accurate information, which the society tend to seek from independent, non-commercial sources. If the independence and lack of profit of modern influencers can be questioned, then the tendency to trust them and the impact they wield have strengthened their position.

The original definition of influencer marketing is a form of social media marketing that involves support and product placement from influencers who have perceived expertise or social influence in their field [1, pp. 10-11]. It was formulated by D. Brown and N. Hayes and is actively used today. The Ukrainian and Russian approaches to influencer marketing copy the American model. Marketers V. Budozhapova and S. Danilova define influence marketing as a tool for reaching out to the audience on social networks with the help of famous personalities [2, p. 14].

The focus on the opinion leadership is justified by the work of many scientists. For instance, according to the theory of propaganda by H. Lasswell, which was based on the thesis about a common reaction to propaganda influence, as well as the vulnerability of the average person’s consciousness [3, pp. 117-129], it can be concluded that the author considered the audience, in fact, helpless in front of the media impact that is implemented in well managed crisis conditions. Such studies in the field of communications as works by P. Lazarsfeld and by J. Klapper have questioned G. Lasswell's thesis about the helplessness of the object of communication in the face of the overarching impact of the media [4, pp. 27-32; 5, pp. 12-25]. According to P. Lazarsfeld's theory of limited effects, each community or group of people has

its own opinion leaders who may come from different social groups, respectively, their message can be interpreted and used in different ways [6, p. 16]. Social networks, which organically entered human life, began to serve as a space for that kind of information messages.

However, the established paradigm of influencer marketing is outdated.

One of the primary arguments in favor of the need to rethink the definition of influencer marketing is the scalable integration of social media and the IT-sphere into a person's daily life. Only two areas of business use the word "user" to define their consumers: drug-trade and IT. People's addiction to digital gives influencer marketing the potential to penetrate into people's minds directly. The information revolution, as a metaphor, is expressed as the revolutionary impact of information and communication technologies on all spheres of society, is chronologically determined by the last quarter of the twentieth century.

Combining the effects of previous revolutionary inventions in the information sphere (printing, telephony, radio communications, personal computers, the Internet), the fact of being of the information revolution has created a technological basis for overcoming any distances for the transmission of information, for combining the intellectual abilities and spiritual forces of mankind. 2020 has become a new evolutionary stage of the information revolution.

Information, which can be defined as data, regardless of the form of its presentation, has become more accessible and at the same time more in demand. Influencer marketing, which is related to informing the consumer directly and constructing new meanings (either straight or in disguise), ended up in an optimally developed socio-cultural ecosystem.

The information environment, which is expressed as the aggregate of hardware and software facilities, processing and transmission of the information, as well as the existing conditions for the implementation of the development and use of information and communication technologies, contribute to the development of processes that were behind barriers previously. It's not only about

personal barriers that have been destroyed by the publication of personal content on social networks, but also about barriers to information verification.

Disinformation has become the norm for consumption by society, which serves as a platform for massive manipulation of consumer opinion, and, consequently, demand. Influencer marketing tools are the response to society's information needs. The information demand has also changed. Previously, it was a need for information which is necessary to solve a specific problem or achieve a certain goal. Now the information need is determined by the satisfaction of interest, obtaining information about what is popular, and not about what is necessary. Thus, influence marketing, integrated into the information society, becomes a part of life, a reflector of people's culture, or even a component of last one.

Limiting influencer marketing to social media is a conceptual relic of the past. The variety of social products, most of which (if not all of them) are characterized by digital technologies, allows us to consider the influencer marketing as a permanent process with an unlimited number of platforms. A music streaming service, video hosting or game library, along with a social network, can be called an information repository. It is a system for storing both data and metadata.

Due to the increase of number and variety of hardware and software tools, processing and transmission of information, the information environment is expanding, and the information inequality is declining. The boundaries of social differentiation associated with information literacy, namely the possession of the knowledge and skills that are necessary to searching, organizing, interpreting, evaluating and creation of information, continue to blur, or even disappear at all.

The Internet and information technologies have become cheaper, and the usability factor has made them more accessible to people of all ages and with any level of education. Thus, an audience that is opened to the impact of influencer marketing tools transformed from elite to mass. Information technology, a set of methods, software, hardware and linguistic facilities, the purpose

of which is the use of information, take place in the life of every person.

Moreover, the original conditions of influencer's competence have also lost their relevance. If in the past the influencer had to prove himself in a certain area in order to have the power on their target audience, which was identical to the consumers of the products of this area, nowadays this principle has been gone off. The mass effect and the audience coverage are more valuable indicators.

The reason for the act of moving the issue of competence to the background is the blurring of the spheres of activity and professional overlapping, which corresponds to modern realities. This is reflected both in brand collaborations (Red Bull and GoPro or Apple and MasterCard) and in the skills of modern professionals (a marketer needs to know the basics of web layout in order to add the code of Google tools or management skills that become a necessity in almost any profession).

Another reason is informational freedom both on the part of the communicator and on the part of the recipient. Censoring of the influencer's message is minimized, and free access to content is feasible even taking into account linguistic, cultural, social and competent barriers. The development of information culture, knowledge and skills necessary to interact with information on the network is due to the development of the technologies necessary for this. Thus, the information society maximizes the impact of information, adapting to modern realities.

The definition of an influencer has also long gone beyond the scope of an opinion leader. Opinion leaders are people who are distinguished by their high social status and better awareness in the eyes of their followers and, thereby, have an impact on understanding of the content and meaning of mass communication messages [7, p. 25]. However, not only a person can have a high level of impact on consumers, but also a popular idea, phenomenon, community, geographic point on the map, absolutely everything that has a mass audience [8, p. 173]. Content, as the information filling of any information repository, has multifunctional characteristics.

As an information product that satisfies information need, content plays the role of an independent information unit, but if we are not talking about a service with paid functions (an online cinema or a gaming library), then the content will have communication functions, which corresponds to the conditions for using influencer marketing tools. And product placement, advertising integrations and other native tools allow us to have an impact on the audience even with the help of an information product in its primary manifestation. The influencer marketing paradigm shift could be seen in the Table 1.

Table 1 - The influencer marketing paradigm shift

Factor	Past	Present
Platform	Social networks	Any digital platform or IT-product with an information function
Principle	Competence and authority in a particular field	Viral effect
Influencer	Opinion leader	Popular

Scalable integration of communication channels into the everyday life of the consumer is not an ultimate goal and, obviously, is not the final result of digitalization. A more valuable manifestation of the transition of interaction between the brand and the consumer to the digital environment is the resource of attention.

"Never before in history have 50 designers – 20–35-year-old white guys in California – made decisions that would have an impact on two billion people. Two billion people will have thoughts that they didn't intend to have because a designer at Google said this is how notifications work on the screen that you wake up to every morning." [9]. These words belong to Tristan Harris, Former Google Design Ethicist, Co-Founder & President of The Center for Humane Technology.

Internet companies, that are hegemonic industry (Google, Youtube, Facebook), do not charge a fee for registration or use and give their product for free (Table 2).

Table 2 - Top-10 sites by traffic in October 2020

#	WEB-site	Number of visits per day, million	Average session duration	Average number of pages visited per session
1	GOOGLE.COM	84 181	11m 19s	8.6
2	YOUTUBE.COM	32 636	21m 35s	11.1
3	FACEBOOK.COM	24 338	10m 45s	8.5
4	BAIDU.COM	5 858	06m 16s	8.3
5	TWITTER.COM	5 807	11m 19s	12.1
6	WIKIPEDIA.ORG	5 278	03m 51s	3.0
7	INSTAGRAM.COM	5 238	08m 04s	11.7
8	YAHOO.COM	3 550	07m 40s	6.3
9	YANDEX.RU	3 490	10m 45s	8.5
10	PORNHUB.COM	2 851	08m 39s	7.5

* The column "Number of visits per day" does not show the number of unique visits. Every visit on each device is counted [10].

Free use of sites from the Table 2 is nominal. The thought that had been voiced in 1973, and then had been being transformed due to the development of technology, today might sound like this: "If you do not pay for a product, then you are the product."
Today B2B-sphere is less about products and services and more about people, their time and attention. The original purpose of this was spreading of information. Nowadays it is more like forming opinions and analyzing users'/consumers' reactions. The source of tools and channels for influencer marketing strategies will only end when the Internet breaks (never).

The downside of the existing information eco-system is the difficulty of keeping the consumer's attention. The struggle for attention and time, that users of digital platforms are willing to spend on the perception of information about a brand, product, idea, is intensifying due to an abundance of information product. The problem of modern influencer marketing is a consequence of the reasons why it has gained weight. It is the lack of a universal information tool that could have an interest so scalable that it is

viral potential and impact are not limited by time, geography, and personal characteristics of the target audience.

The first reason this problem arises is the lack of monopoly among influencers. The influencer marketing strategies of competing companies are becoming less distinguishable: similar influencers and opinion leaders, repeating platforms and the same tools (giveaway, product placement, multi-roll, etc.). Differentiating influencers according to the degree of impact could be a temporary solution because the environment for marketing influence is dynamic and changeable.

The object that was popular on the Internet yesterday could be completely forgotten today. Generating new influencers is the same irreversible process as evolution, which is accompanied by the cruel rules of Darwinism. The strongest one wins in the struggle for user attention. Therefore, developing an influencer marketing strategy, it is needed to focus not on the situational popularity of the influencer, but on its longevity.

The second reason, due to which the integration of marketing tools is limited by the communication channel, is the multi-topic nature of information flows. The purpose of social products, which act as platforms for influencer marketing tools, is not to promote a particular brand or product. Marketing activity is limited by the perception of the platform audience. The effect of viral marketing remains desirable, but does not massive. In isolated cases, when an element of an advertising campaign manages to overcome the barrier of perceiving information as advertising, is classified as “content” by the audience, a viral effect may occur.

But it will be directed at a specific advertisement and not at the brand's products. After making sure that the promotion with traditional influencer marketing tools becomes less effective (due to the struggle for users' attention and the perception of advertising as an imposed opinion), the need of using new tools and forming new strategies becomes obvious. The proposed solution to the problem could be the reflective management of consumer opinion.

Reflexive management is informational impact on objects, for the description of which it is necessary to use such concepts as consciousness and will. These objects are both individuals and

associations of people: family, group, country, nation, society, civilization [11, p. 55].

In a broad sense, reflexive management is the impact on the entire system of values, goals and the way of thinking of managed objects. It is based on the motivational mechanism.

In practice, reflexive management tools can be divided into two bordering concepts:

1) the art of manipulation (by consumers of products or content);
2) controlling social mood.

The subject-object model of reflexive management is connected with the existence of the desired scenario from the managing side and tools for impact on the object which ensure the execution of this scenario. However, manipulation in its pure form is impossible without a link between the influencer and the managed object. The lack of monopolization among influencers differentiates users of the IT-product, which plays a role of a platform for implementing influencer marketing strategy and, therefore, brand users. It is obviously, the model of reflexive influencer marketing is missing one link. It is a tool that has the most universal characteristics:

- popularity;
- virality;
- maximum possible lack of differentiation of perception;
- consumer participation in generating or evaluating information.

To determine the topics that have a popularity resource the analysis of the top repeated search queries in the Google Chrome browser was made. Google Chrome remains the most used browser on the territory of Ukraine during the study period (for December 2019 75% of Ukrainians use Google Chrome as the main browser) (Table 3).

Table 3 - Top-10 Popular search queries on Google in Ukraine

#	2013	2014	2015	2016	2017	2018	2019
1	Matchmakers 6	Fizruk	Donetsk News	Euro 2016	Fizruk 4 season	World Cup 2018	Game of Thrones 8 season
2	Movies 2013	Gromadske TV	50 shades of gray	Fizruk season 3	Bachelor 7	Major season 3	Zelensky
3	Bachelor 3	Channel 5	Zhanna Friske	Major Season 2	NAZK	Eurovision 2018	Julia Nachalova
4	The power of returning home	News Ukraine	Kuzma Scriabin	Eurovision 2016	Movies 2017	School Season 2	Zavorotnyuk
5	Roksolana the magnificent century	No censor	Russian spring	Suicide squad	Anonymizer	Policeman from Rublyovka3	Election results 2019
6	Eurovision 2013	Donetsk News	Kitchen Season 5	Game of Thrones 6 season	Game of Thrones 7 season	Kemerovo	Decl
7	Fast and furious 6	Maidan online	Fast and furious 7	Kitchen Season 6	Eurovision 2017	Movies 2018	Chernobyl
8	Klitschko Povetkin	Espresso TV	Ostanniy Moskal	Bachelor 6	Olga Season 2	Marina Poplavskaya	Debate
9	Iron Man 3	Russian spring	The power of Feriha's love	Pokemon Go	Youth Season 5	Bachelor 8	Poroshenko
10	Meteorite in Chelyabinsk	Dollar exchange rate	Bachelor 5	Olympic Games 2016 in Rio	Kiev day and night Season 3	Olympics 2018	Eurovision 2019

* Search queries are presented in their original form

** - the information product made in Ukraine, - the information product made in Russia, - sport, - famous personalities, - information product aimed at the whole world, □ - search queries that are related to the socio-political climate of Ukraine.

*** Top is compiled by the author and is based on annual browser reports [12].

**** The reason for the frequent search query "Chernobyl" was the TV-show with the same name on the HBO streaming service.

The results of analysis of the top repeated search queries which are presented in the Table 3 demonstrates that only 27% of search queries are related to the socio-political information background in the country and at the same time are not related to the popular component of mass culture. The part of 73% is a search for information about cinematography of Ukrainian and Russian production, popular personalities, sports and sporting events in other words pop-cultural phenomenon which is aimed at the perception of the mass consumer of an information product around the world. The last component of search queries (in this case: cinema, gaming, music events and comics) accounts for almost a third of all popular search queries in the Google Chrome browser over the past seven years.

Taking as a basis the popularity analytics, an obvious trend is the production of mass culture. The exception was 2014, which is associated with military and political actions in the east of Ukraine.

Pop-culture (popular culture, mass culture, majority culture) is the culture of everyday life, entertainment and information that prevails in modern society. It includes such components as the media (including television, radio and the Internet), sports, cinema, music, popular literature, visual arts, etc. The content of mass culture is determined by daily events, aspirations and needs that make up the life of the majority of the population (in other words the mainstream) [13, p. 32].

Pop-culture, by definition, cannot be uninteresting for influencer marketing strategies. This is due to the following characteristics of pop-culture:

- reflection of the values of society;
- meeting information needs;
- integration into everyday life;
- use platforms that are identical to platforms for influencer marketing tools.

The next criterion for finding a universal information tool that could play the role of a form for reflexive management of consumer opinion is virality. Virality or viral potential can be

interpreted as a characteristic of content that determines the likelihood that users would want to share it. It should be noted that the concept of popularity is different from the concept of virality. To analyze content that has viral properties, we use reports of Twitter as a public platform for the exchange of opinions.

From January 1, 2016 to December 31, 2019, billions of tweets were analyzed to identify the most frequently used hashtags and then correlate them with the topic of discussion [14]. The results of analysis are demonstrated in the Table 4.

A significant rise of retweets and virality is seen in the discussion regarding the following topics:

- health,
- sustainability,
- business,
- blended reality,
- fanaticism,
- representation of the modern person.

The indicator of the involvement of social network users in the discussion of these topics increased by more than 300%. The undisputed percentage leader was the topic of blended reality, but it is important to notice that the interest in XR-technologies was not caused by so much interest and information needs of users. The real reason of it is technological progress and scalable implementation of mixed reality. In fact, the leadership of XR-technologies could be questioned. However, it does not negate the fact that the number of discussions and social involvement has taken off (Table 4).

Table 4 - Top 18 topics with viral effects among Twitter users

№	Object	Subject	Increment
1	Data-Driven Bodies	Health apps	+255%
		Fitness trackers	-74%
2	Holistic Health	Whole-body wellness	+390%
		Pharmaceutical solutions	-50%
3		Mental health	+22%

	Being Well Together	Physical fitness	-75%
4	DIY Spirituality	Eastern spirituality	-50%
		Alternative spirituality	+154%
5	In Awe of Nature	Nature exploring	+42%
		Storms	+106%
6	Cosmic Fascination	Cosmic Fascination	+21%
		Astro-science	+110%
7	Ethical Self	Green/ethical nutrition	+190%
		Pollution due to food production	+277%
8	Sustainable Steps	Climate change	+173%
		Reusable goods and plastic	+31%
9	Clean Corporations	Corporate-authored Tweets	+19%
		Consumer-authored Tweets	+360%
10	Creative Currency	Something self-created	+246%
		Emerging creative pursuits	+195%
11	Hustle Life	Creative ways to earn a living	+471%
		"Side hustle"	+295%
12	Connecting Through Video	Video that connects people	+173%
		"My live stream"	+145%
13	Blended Realities	Uses of VR/AR beyond gaming	+27%
		XR	+9424%
14	Future Tech	Tech and efficiency	+61%
		Tech and connectivity	+188%
15	Tech Angst	Tech ethics	+158%
		Fear of robots and automation	+103%
16	Fandom	Expressions of fandom	+233%
		"Stanning"	+332%
17	Gender Redefined	Gender roles	+176%
		Derogatory terms around gender	-57%
18	Represent Me	Representation and equality	+306%

For more detailed analysis of the selected objects of discussion and determination of the optimal one for using reflexive management in context of influencer marketing strategies, it is possible to assign a nominal coefficient of importance to the objects. Comparing the most discussed topics on Twitter and information needs that are satisfied by discussing these topics with the categories of human needs according to Maslow we can do it:

1) Basic needs.

“Holistic Health” corresponds to Physiological Needs. There is discussion of dietary nutrition, proper sleep, antibiotic and probiotic use.

“Clean Corporations” is consistent with Safety Needs. There is discussion of sustainable materials, recycling, environmental pollution by vehicles.

Topics related to basic human needs have a lower coefficient. This is argued by the fact that physiological and safety needs constitute the base of Maslow's pyramid. Considering topics of discussion as a potential tool for influencer marketing strategy, it makes sense to focus on those that correspond to more important categories of human needs: psychological needs (social connections, communication and support, joint activities, recognition, achievement of success and appreciation) and self-fulfillment needs (cognition, self-actualization, self-expression, self-identification).

2) Psychological needs.

Discussions on topics such as “Being Well Together”, “Connecting Through Video” and “Gender Redefined” are only indirectly related to Maslow's social connection needs, and the increase in discussion does not exceed 300%. A topic that truly expresses a person's need for social connections, support and professional success is “Hustle Life”. Cambridge Dictionary defines side hustle as a piece of work or a job that you get paid for doing in addition to doing your main job.

A significant part of the tweets within this topic are expectedly associated with specific “hustles”: crowdfunding, joint

employment or banal economy. What has really come to light in the analysis of engagement and virality is the essence of "hustles": podcasts, art, anime, cosplay, fan-art, and the board game Dungeons and Dragons (DnD). Being in search of new sources of income, users have learned to monetize their passion for pop-cultural manifestations. Game streaming has become the main content trend of Twitter, and the attraction of followers is not carried out with advertising, but it is with the support of the community and hashtags: #affiliate #anime #art #cosplay #drawing #dnd #fanart #fashion #NewPatron #podcast #sidehustle #sketch #startup #SupportSmallStreamers #thrifting.

3) Self-fulfillment needs.

The need for new knowledge was expressed in the discussion of "Blended Realities". There are mixed reality in education, immersive business models and interactive digital art. Artists are using XR technology to create paintings, writers are doing to generate ideas, and more automated processes are emerging in music production. Mixed reality technologies are in demand not only in the field of pop-culture, but the number of discussions of "AI and arts" has increased by 360%, while the same indicator for XR-education is only + 99%.

The topic "Represent Me" covers the issues of discrimination against social minorities, while the discussion of "Representation and equality" is directly came to the manifestation of pop-cultural phenomenon in cinema. Cinematography, as one of the most popular influencers, evident reflects the mood of society and broadcasts models of a person's presentation in society. The fact that the topic has become one of Twitter's most viral topics is a testament to the powerful impact that pop-culture has.

The latest trend is "Fandom". Digital platforms have strengthened the bond between pop-culture expression and fan community, strengthening the fandom's position in society and allowing users to identify and express themselves as fans of any pop-cultural manifestation. There has been an increase in the use of the hashtag #stanning, through which fans express their

allegiance, comparing love to pop-culture with addiction. The aspect of virality in campaigning from the side of the army of fans to vote for a particular element of pop-culture during events of competitive nature (award ceremonies, determination of top places in the charts, etc.) is clearly demonstrated. The increase in such tweets is 410%.

Fan tourism mentions increased by 39%. Fans travel to the locations where movies and TV-shows have been filmed to immerse themselves in the fictional universes of which they are fans. This is becoming more affordable because locals monetize the area by organizing fan-tours. #Dubrovnik became the leader in hashtags in this field due to the fact that it is the place, where such popular films as “Robin Hood”, “Star Wars: The Last Jedi” and “Game of Thrones” were filmed.

The trend in fandom discussions that has grown the most is the expansion of impact and opportunities for pop-cultural expressions that are the idol of the fandom. The growth percentage of tweets was 741%. Fans have begun absorbing information that pop-cultural influencers broadcast and promote better. Influencers are not only opinion leaders, but also pop-cultural genres (music, cinema, art), and sometimes fictional characters. User trust is attributed to the secondary benefit they receive from a pop-cultural product. It is self-expression and self-actualization through the “fan” label.

The next trend is fan-art. The increase in discussions was 129%. Fan-art is the most interesting in terms of viral potential, since the habit of sharing fan-art with followers is an indicator of influencers' good form. Thus, viral coverage is increasing due to the reposts of accounts with a multimillion audience. The obvious disadvantage of using this trend for marketing purposes is the difficulty in creating content. Fan-art is a manifestation of talent. Unlike the ability to travel to places where famous films were shot, talented visualization of pop-cultural manifestation is the use of hard-to-find resources and skills of artists, rather than the ability to pay and the services of a tour operator.

The latest trend, the discussion of which increased by 102%, is associated with a concept of "LARPing". A live action role-playing game (LARP) is a form of role-playing game where the participants physically portray their characters. In this case, influencer marketing goes beyond the online world, entering the territory of event marketing, which only maximizes the impact of pop-culture as an influencer. Thus, pop-cultural trends have a higher coefficient of importance factor than Twitter trends that reflect basic human needs.

The next characteristic that an information tool which is suitable for the link between influencer marketing and the consumer should have is the lack of differentiation of perception at the highest possible level. Modern society can be characterized by a permanent desire to compete and fight to achieve the highest benefits and advantages. This occurrence can be observed among the activities of world influencers: religion, politics, etc. In contrast to the cultural manifestations of society, which divide it into "left" and "right", the pop-cultural phenomenon could be characterized as uniting the world community of different countries with different historical, cultural (including religion) and political values.

"Avengers: Endgame" as the highest grossing film, is the foundation of the next part of the research. The box-office can be considered as an indicator of success in the field of cinema. The last part of "The Avengers" set a number of records in different countries in terms of the rate of accumulation of box-office (the fastest 0.5, 1.0, 1.5, 2.0, 2.5 billion US dollars), general box-office (both in particular countries and around the world – $ 2.8 billion), fees from pre-premiere screenings and the premiere (Table 5).

Table 5 - First weekend box-office of "Avengers: Endgame"

Country	Box-office, $million	Country	Box-office, $million
China	330	Brazil	26

United Kingdom	54	Spain	13
South Korea	47	Japan	13
Mexico	33	Vietnam	10
Australia	31	Ukraine	2

* During the first weekend, the Ukrainian box-office was ₴ 56 million. The dollar exchange rate at the date of the film's premiere was 26.81 [15]

Taking into account the fact that the film became the world-wide box-office record holder, it can be objectively asserted that the film “Avengers: Endgame”, as a pop-cultural manifestation, was in demand not only in the domestic film market. Moreover, comparing the indicators of Ukraine, which are presented in Table 5, with the indicators of the highest-grossing film of Ukrainian production, it could be concluded about the preference of the world pop-culture to the national one. The film "Viy" grossed $4.6 million on the Ukrainian market for the entire time of distribution. For a similar indicator of “The Avengers” it took two weeks for Ukrainian cinema audience [15].

The record set in the Ukrainian cinema market for the largest number of people attending the screening of one film also belongs to the final part of “The Avengers”. It is 1 million 134 thousand people. World pop-culture, the main supplier of which is the United States, prevails over national manifestations of pop-culture. Consequently, the integration of the pop-cultural phenomenon into the marketing strategy neutralizes the differentiation of consumers entailed by the used influencer marketing tools. Concepts such as “nation”, “mentality” and “history” are weakened by such concepts as “popularity” and “culture”.

The last point that a universal information tool for influencer marketing strategies must correspond to is consumer participation in the generation or evaluation of information. Similar to influencer marketing, where influencers compete for user attention, the survival of the fittest exists in the world of pop-

culture. The market for literature, cinema, graphic novels (comics), music and gaming is oversaturated. There are reputable sources of information that direct and focus the audience's attention (Academy Awards for Cinematography or Pulitzer Prize for Literature), but the choice is made to a greater extent by content consumers. It also could be true that the society is limited in its choice, and has the ability to perceive only the proposed content.

At the same time, society at the level of the existence of fandoms or more local institutions (down to individual posts on social networks and collections on streaming services) takes part in generating pop-culture. This is expressed primarily with non-financial indicators: the assessment of pop-cultural manifestations, petitions, hashtags, fan-art, etc. Secondly, it is done with the profit of the company which produces the pop-cultural product. The consequence of this occurrence could be the situation when Lucasfilm continues to release films and series inside the setting of the Star Wars universe and J.K. Rowling continues to publish materials based on the Potteriana.

Conclusions that were obtained as a result of writing a scientific work:

1) Modern society, as well as the processes that are characteristics of the modern world, create an optimal information atmosphere. There is the presence of recipients' interest and the ability to transmit and form meanings from communicators using a huge number of communication channels.

2) The influencer marketing paradigm has changed. Platforms for influencer's activity have overstepped social networks, the concepts of "influencer" and "opinion leader" have ceased to be identical, and the principle of competence has been replaced by the indicator of virality.

3) The information environment is characterized by a high level of competition for user attention, and existing influencer marketing tools are losing their relevance due to increased consumer self-awareness.

4) Reflexive management, as the concept of covert manipulation of the mass through information tools, is becoming more relevant and in demand.

5) The problem of the lack of a universal information tool is expressed in the differentiation of influencers and content consumers depending on various factors (platforms for communication, a short life cycle of the usable influencers and absence of user loyalty).

6) After analyzing the data, it was revealed that the marketing potential of the pop-cultural phenomenon (the impact of pop-cultural manifestations on society) allows the use of pop-culture as an information tool in the context of influencer marketing. Pop-culture has the necessary characteristics for this: popularity, viral effect, lack of differentiation in perception and consumer participation in the generation and evaluation of information.

7) The integration of pop-culture as a reflective tool into influencer marketing strategy (reverse product placement) can be a solution to the problem of limited influencer power caused by the above factors.

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3.4. CURRENT TRENDS OF PUBLIC RELATIONS IN DIGITAL MARKETING

Current trends in development of global economy, digitalization, fierce competition, increasing consumer demand, as well as new requirements for doing business in connection with the pandemic increase the importance of digital marketing. It is extremely important for business to be actively represented in the Internet, to increase the positive attention and loyalty of consumers to the company and its products. An important catalyst for this is public relations, which aims to improve the image of the company and its brands in the long run. Digital public relations tools make it possible to achieve better, faster, cheaper communication goals of the company in relation to target audiences.

The development of digital technologies has changed people's lives. Consumers are spending more and more time in the Internet. The amount of information is growing. In today's world, businesses need to communicate more effectively with their customers to win their favor.

For Generation Z, born between the second half of the 1990s and the second half of the 2000s, modern technology is an integral part of life. This audience gets different names that, one way or another, characterize it - Google babies, "instant generation". The latter term was introduced by W. Terkel. He notes that these are "crowds of young buyers who grew up with an insatiable need for digital technology and do not know how to function in an analog environment that does not immediately respond to their every whim" [1, p. 37].

This trend is confirmed by a Google study in 2019, which found that mobile queries "better" and "now" increased by more than 125% over the past two years, and queries "where to buy" and "near me" by more than 200% [2]. For the next generation of Alpha, born after 2010, as a rule, all basic needs are already met. These children coexist very organically with digital technology and are also not used to waiting, because technology makes it easier to get what you want. In a few years, they will become independent buyers, whose behavior will be different from previous generations.

The growing role of digital technology has been influenced by the pandemic. People spend a lot of free time at home, leaving the usual entertainment. The business, if possible, reorients its core business online. 2020 has shown the importance of online activity for any business. Therefore, in the fight for consumer attention should monitor trends in digital marketing and use modern tools of public relations, aimed at creating long-term profitable relationships with the target audience.

Problems of digital marketing are studied in the works of Ukrainian scientists M. Oklander, O. Yashkina, S. Ilyashenko, N. Ilyashenko, V. Pylypchuk, I. Lylyk, N. Savitskaya, foreign

scientists F. Kotler, K. Welsh-Phillips, N. Hollis, J. Bernoff, Charlene Lee and others. Current trends in public relations in the context of digitalization require further study. Businesses need to use effective public relations tools to build long-term relationships with their target audience.

The tasks of public relations on the Internet include:

- raising the image of the company and strengthening the brand;
- increasing the number of loyal audiences;
- increasing the competitiveness of the company and its products, selection among competitors;
- positioning of the enterprise, creation of its image, reputation management;
- informing target audiences about the development of the enterprise, innovations, achievements.

Digital technologies provide the following opportunities for public relations:

- affordability;
- the ability to reach a specific target audience without wasting resources;
- speed of preparation and implementation of PR-strategies;
- fast communication with the target audience, dynamic communication, the ability to instantly respond to user feedback;
- no territorial restrictions, the ability to quickly interact with the audience at any distance;
- the ability to correct information;
- availability of information about the company and products at any time.

Online relations tools, as well as offline, aim to create and increase an audience that shows empathy for the company and its brands. Therefore, public relations is an important component of branding policy. It helps to create the right perception of the product and the brand in the minds of consumers.

The essence of the brand is not only in the important parameters of product quality, rational properties, but also in its emotional perception. And the latter significantly affects the

decision to purchase and assess the rational characteristics of the product. Creating the necessary emotional atmosphere is the goal of public relations.

Emotional marketing or "impression marketing" is receiving more and more attention. The achievements of neuroscience and psychology are used to achieve the goals of public relations.

Research using functional magnetic resonance imaging has shown that when evaluating brands, consumers mainly use emotions, not information (rational characteristics in the form of product quality parameters, actual data on the product, brand) [3]. Emotions control people's behavior. Among a large number of products that can meet the same need, the consumer will choose the brand that evokes an emotional response.

Social networks are under the active scrutiny of public relations specialists. Most Internet users visit them daily, spending an average of 2 hours and 24 minutes. More than 4.5 billion people use the Internet, of which 3.8 billion were active users of social networks in January 2020. This is 49% of the world's population. In just one year, the increase was 9.2%. 321 million new people was on social networks. The most popular social platforms in the world are Facebook and YouTube. [4]

As of October 2020, the number of active users of social networks was: Facebook - 2701 million, YouTube - 2000 million, Instagram - 1158 million, TikTok - 689 million [5].

It is activity in social networks that helps to establish contacts with the consumer, learn more about his opinion, influence his perception of the brand, the company. According to a study by the Global Web Index in 2020, consumers are interested in studying products through social networks when making a purchase decision [4]. This provides significant potential for attracting attention to companies and brands.

Public relation in social media can be divided into three branches - site change itself (SMO), marketing in social media (SMM), social advertising ("Social Ads").

SMO (Social Media Optimization) - translated from English means site optimization for social networks. In other words, this is a set of activities that need to be conducted on the site to effectively promote social networks.

SMO-optimization is important in working with social networks. It helps to increase brand loyalty, attract consumers. To do this, create content that will interest the target audience, will influence its desire to share it. In order for the consumer to do this, it is necessary to install the appropriate buttons that allow you to repost content to a particular social network. On the main Internet resources of enterprises set links to their accounts in social platforms.

SMM (Social Media Marketing) - The use of social platforms as channels for promoting the brand and solving other business tasks. In the SMM, the focus is on the social platforms itself.

SMM aims to create content that is relevant to the target audience. It is desirable to entice users of social networks to the necessary activity with content: likes, comments, reposts, following links, etc. It is effective to create viral content that the consumer wants to share and information about the company or its product spreads quickly.

Seeing the increasing popularity of social networks, it becomes more appropriate to advertise your product or to inform the consumer exactly there. At the moment, social advertising uses the user profile information and places ads for him that suits him exactly.

Promotion in social networks has a number of significant advantages over other methods of Internet marketing. Among these, the first thing to consider is the effect of placing links to the company's website. Advertising in blogs on famous sites can give much more than links on the main pages of the company's websites.

When creating content, consider the following:

- relevance and significance for the consumer. Of course, you should provide content regularly, but it is not advisable to just fill

the space. Uninteresting and useless texts and photos from free resources that do not emphasize the individuality of the company, not only do not attract the attention of the audience, but can also cause a negative reaction in the form of unsubscribing from the page. In addition, it should be borne in mind that the period of attention to the post is short due to the download of content on social networks. You can continue it by creating such unique and interesting, unusual posts that encourage the user to repost, leave a comment or at least like;

- high-quality visual accompaniment of texts. It is better to have your own professional photos, illustrations, videos that reflect the spirit and philosophy of the company, its style. This attracts the attention of consumers, sets the company and its products apart from competitors, affects the formation of the brand image;
- regularity of content output. You should have a publication plan;
- easy to understand content construction. A clear understanding of the target audience for which the posts are created.

Despite the possibility of reposting Instagram posts on Facebook, keep in mind that the audience may vary. For Instagram, the visual concept is extremely important, the text is not too long. However, the days when only photos were important are over. Now the picture should be a story, quality text support. It is not advisable to exhibit photos and pictures without text. The role of video content is growing.

Facebook is traditionally read more. However, care should also be taken with the length of the text. As a rule, too large a text should be very interesting to read to the end. Therefore, if possible, some large information can be divided into several publications. This will keep the reader's attention and his desire to follow the company's page. Research shows that duration is also important for video content. Shorter videos are more likely to get feedback [4]. It should also be borne in mind that different content on social networks can help the user to signed for all of them. The same content does not need such a need for the consumer, so he can

follow the company only in one network, which reduces opportunities for the enterprise.

You should pay attention to the trend of video content. According to a study by Hubspot, users prefer video about products than mailings, photos. This affects the purchase decision. 96% of users between the ages of 18 and 34 watch videos several times a week, and 75% of millennials watch at least one video a day [6]. Thanks to IGTV it is possible to work on video for more than one minute. In addition, the vertical format is convenient for smartphone users. Wyzowl study showed that 87% of users hold smartphones vertically, 95% of information is remembered when watching videos [7].

It is advisable to pay attention to subtitles when creating a video. Not always when visiting social networks, the user can turn on the sound. Subtitles will allow you to watch the video in this case. 85% of Facebook users prefer to watch videos without sound [7].

When working with social networks, they take into account the algorithms they use.
The world's most popular social platform, Facebook, takes into account ranking signals that include data about the behavior of the user and other network members. These include: what the user likes, what he shares, whether he watches videos, how many new posts are currently available, and so on. The main signals are:
- with whom the user interacts more often;
- the popularity of the post;
- type of post - with video, link, photo or other.

Thus, in order for business content to be visible on the Facebook platform for the target audience, it is advisable to try to increase user interaction with the company's posts. Create content that will be viral, like to like, repost, visit the company's page. You should also publish posts when your target audience is online. It is advisable to make video content lasting no more than three minutes. Facebook's algorithm gives preference to video content that is original and has not been transferred from another source.

The regularity of publications is important, their frequency is a signal of ranking, but not to the detriment of quality. You should make a plan for providing content. Facebook's algorithm prefers to display the content of groups on the network, so it is advisable to create groups based on the company's page. It will also allow you to interact more actively with your target audience.

Instagram is a fast-growing social network that provides many business opportunities. In the algorithms for constructing the feed, Instagram uses three main factors for ranking:

- user interest. Hashtags, words, photos are recognized by artificial intelligence. It is analyzed which content the consumer likes and leaves comments;
- novelty of posts, the date of publication is taken into account;
- relations. The content of those pages with which the user interacts more often is shown (notes, goes to the page, puts likes, comments).

Previously, some account holders used bots for likes and subscriptions to promote their pages. This is a dishonest method of account development, so Instagram tools are now working to find, delete or block such accounts.

An important tool of public relations is to work with opinion leaders. If earlier on the Internet we worked more with large and medium-sized influencers, now the trend is to cooperate with micro-influencers, who have from 1,000 to 100,000 followers. Despite the small audience, the advantages of such a tool are significant:

1) the impact on a specific target audience, the niche occupied by the micro-influencer. No waste of resources. The effectiveness of public relations strategies increases when interacting with potential customers. Followers of micro-bloggers trust them. Their audience is maximally involved. While users subscribe to major bloggers at times out of sheer curiosity and do not always trust them, they perceive their posts as promotional.

Not surprisingly, because their content is not always legible, cheating is used. The main indicator of an account is its

involvement in its content. Involvement takes into account the percentage of likes and comments in relation to the audience that has subscribed to the account. This figure is lower for large accounts than for medium and small accounts. A micro-influencer may have an engagement rate of 5 to 15%, while a large blogger may not even reach 1%;

2) a closer connection of the micro-influencer with his followers, because he has more time for it, more open to feedback;

3) affordability. It also provides an opportunity to collaborate with several micro-bloggers.

Corporate blog is one of the effective PR tools. First, it shows professionalism, desire to develop and enhances the company's image, trust in it. Second, keyword optimization will attract search engine audiences. It is advisable to monitor what problems consumers are interested in and write about their solutions. Comments to the articles show the interest of the audience. To distribute the content, buttons are installed to repost the blog article to the appropriate social networks.

Regular content publishing is important in running a corporate blog. It is a tool for interaction with various target audiences. First of all, the purpose of the blog is aimed at forming a positive perception of the brand and the image of the company. With a blog you can:

- to involve consumers in dialogue, to keep in touch with the target audience;
- collect the necessary information from the comments to the post;
- show the openness of the company;
- to influence the increase of consumer confidence in the brand and the company;
- to influence the perception of the brand by the audience;
- increase consumer loyalty;
- to help build long-term relationships with the consumer.

Since the formation of a positive image of the company and its products and services is the main task of public relations, working with criticism and negative feedback is extremely

important. To do this, they constantly monitor mentions of the company and its products on the Internet. Among the errors that negatively affect the perception of the company and its products, there are the following:
- aggressive reaction to the consumer's problem, an attempt to make the buyer guilty;
- ignoring consumer claims;
- attempts to remove all negative feedback and create intentional positive ones. In some cases, deliberately creating negative feedback on products and services of competitors (black public relations).
The consequence of such actions:
- a negative image of the company in the minds of consumers;
- fear of the risk of purchasing products or services of the organization;
- the rapid spread of negative information on the social network due to active commenting, reposting.

If the company is afraid of negative feedback, trying to remove them completely and creates artificial positives, it is also a dangerous situation. It arouses the suspicion of consumers. Therefore, it is better to be more open, friendly to criticism, try to solve the problem of the buyer. This gives confidence to the company. In the minds of the target audience creates the image of a company that respects the buyer, able to resolve misunderstandings. So, shopping in such a company is safe. In addition, it is feedback that helps to make the business better, better meet the needs of consumers, improve products and services in a timely manner.

The trend of public relations in recent times is to strengthen the social activity of enterprises, their responsibility to society, business ethics. Corporate philosophy is submitted to the target audience.
Companies try to convey the information that the purpose of their existence is not only commercial, but social. This is helped by the creation of certain content on social networks, storytelling,

publications on other resources of the Internet - the media, thematic portals.

Requirements for the content of business content have increased. According to a study by Sprout Social in 2017, 51% of consumers said they would no longer be loyal to the brand, whose content annoys them on social networks. 27% of the surveyed audience will block the content, 26% will ignore it. 23% of consumers are willing to boycott the brand due to misconduct and will never buy its products again. [8]

Users make demands on the moral values of companies. The philosophy of doing business, its transparency and honesty, affects the choice of a product by consumers.

The trend of public relations in digital marketing is the use of storytelling. Storytelling in marketing is a method of conveying information to the target audience by using emotional stories to motivate certain actions and increase loyalty to the company and / or brand.

American branding expert W. Terkel notes in "All About Them": "The brand position is the place you occupy in the minds and hearts of your real and potential customers. And if you do not know what your brand is, you can be sure: they also do not know it "[1, p. 215]. According to him, thanks to storytelling, “you will not only tell customers why they should deal with you, but also give them the opportunity to tell others about the benefits of your products or services. Make the story as fascinating as possible, then it will interest the listeners.

Moreover, it is easier for people to remember it and pass it on to others with the same pleasure and enthusiasm as you” [1, p. 104]. At the same time, W. Terkel introduces a new concept of "storytelling" (story - story, selling - sale), realizing that "people adapt the story to themselves: add something to your brand, introduce new characters, while spreading your ideas", thus they contribute to the dissemination of history and information about the product or company, attracting new fans [1, p. 104].

Consumers are attracted by authentic brands that have an

individuality, which can be attributed to "human traits" that coincide with the consumer's own internal perception. A brand is a product with a "history". In times of distrust of information, advertising appeals, it is the metaphorical storytelling, which conveys information through the use of emotional stories, is perceived by the audience. Storytelling unobtrusively pays attention to the brand, the company, its development history, values. It does not directly encourage the purchase of a product, as advertising, does not broadcast indisputable statements, but aims to encourage consumers to make the right decisions as a result of their own thoughts. Content that they like, the audience itself begins to distribute and such stories become viral, increasing their effectiveness in influencing the consumer.

Viral marketing – is the impact on the target audience of consumers, the promotion of advertising of goods and services is reflected at the expense of the target audience, which voluntarily engages in the dissemination of information about the subject of marketing. This advertising communication, so affects a person that he is "infected" by the idea and deliberately or consciously distributes information about the product, service, and it becomes active its advertising carrier.

McKee R. and Jeras T. provide their term - "storynomics", which means the whole set of business practices that are based on storytelling and lead to financial results. They argue that investing in emotional marketing stories is more effective than investing in advertising, which consumers often try to avoid. Storytelling requires fewer resources and the target audience itself begins to distribute relevant content.

Storytelling uses text form, video, audio, pictures and their combinations. Sticky stories go viral, increasing the effectiveness of this communication tool.

The era of personalized marketing requires brand interaction with the audience. This also affected storytelling, forming a new trend in it, when the audience is not a simple listener, but part of the story, taking part in it. Describing this trend,

Google Zoo director Japp M. proposed a new term - "hypertelling" ("hypertelling"). It is associated with changes in the psychological behavior of consumers, with the development and spread of technology.

The use of AR - augmented reality provides many opportunities, gadgets with its support are becoming more affordable. According to Convince and Convert, in 2022, 3.5 billion mobile augmented reality users are projected worldwide, that is 44% of the population [9]. Augmented reality allows you to combine the real world with the world of a particular company, brand. This interactivity will allow you to unobtrusively introduce certain products into everyday life.

Storytelling requires quality and emotional content, the presence of honesty, relevance, closeness to the audience. In any method of constructing a story, you should refrain from imposing your views, mentoring tone. One should not draw conclusions that are already obvious. It is advisable to use metaphors that not only adorn the story, but also very well perceived by the subconscious. Well-thought-out stories evoke feelings of trust and motivate action. They help solve consumer problems and make him an accomplice to history. Storytelling is able to unite groups of people, to satisfy their need to be involved in something important.

Common to each story are: character definition (real or fictional);

- the presence of intrigue;
- the presence of the plot: the connection, the development of tension and escalation of the conflict, the culmination, the denouement.

Particular attention should be paid to the choice of the object of history. This can be business development, product creation, production, history of those who use this product and more. Consumers' attention is drawn to truthfulness, conflict and its resolution. And here the hero of history is important. In practice, not all of them are real characters, so if it is a fictional personality, it is advisable to add more touches to his image.

So that he is perceived as existing, with its advantages and disadvantages, desires and difficulties in his life, personal qualities and dreams. Its creation takes into account the portrait of the target audience: who he is, how and where he works and rests, what are his dreams and worries, what values and interests, how he spends his free time and his hobbies, how he distributes money, etc.

The intrigue and the plot need to identify those emotional triggers that will attract the attention of a potential audience, will be motivators in the desire to know the end of the story and perform certain actions.

Storytelling shows that a person can change throughout life, inspire, support. People want to be involved in such stories. That's why storytelling in public relations so unobtrusively attracts and motivates people to be committed to a brand, certain products, a company. Therefore, books, articles, films with the success stories of certain people, company executives often become popular and reach a large audience. Such stories often go viral and spread quickly.

The construction of a story to draw the attention of the target audience can be in the form of a monomyth ("the path of the hero", described by J. Campbell). According to the monomyth, the hero, before changing qualitatively and winning, goes through several stages:

1. Ordinary life in your world. This is the beginning, the conditions in which the hero is.
2. Inner call. There is something unfavorable in the life of the hero, which makes him think, puts in front of a significant choice - to change or leave everything as it is.
3. Refusal of a call. Changes do not come immediately. At first the hero refuses, he has some resistance. He is overcome by his own doubts, his habits prevail, his way of life is formed, although he has certain shortcomings. The call is not supported by the people around the hero.
4. Meeting with a mentor. This is an important moment in the life of the hero, which will affect his will and will motivate him to

action. Both a real person and a book or a film can act as a mentor. This is important support that gives strength and shows that change is possible. From this time life is divided into "before" and "after". The call has become stronger, it can no longer be ignored.

5. Crossing the threshold. The hero goes beyond the ordinary world and sees its other sides. He makes the first path to a new life.

6. Meeting with "dragons" and allies. Changes are not easy. The hero faces obstacles, conflicts, for the easy overcoming of which he does not yet have sufficient knowledge and experience, and next to him "dragons" in the form of fears, doubts. Those who are on the side of the hero will come to the rescue - the support of experts, acquaintances. The Allies will not allow us to turn back.

7. The point of "death". If the hero was able to overcome the "dragons" and overcome obstacles, he reaches the "point of death" - a turning point with the most difficult, fateful decision.

8. A gift of strength. If the point of "death" is passed, the hero gets a new experience. He has something that will help in the future. It can be a new life principle, habit and more. It's like his "insight" in the way of the hero.

9. Trial. The path is not completed. But in the new trials, the hero uses his "gift of strength." He reacts to the circumstances in a new way, acts at a qualitatively new level and succeeds in this.

10. The way home. The hero has changed, the acquired knowledge and experience become part of his daily life. He perceives the path traveled as a valuable "lesson".

11. Skill. The hero continues to improve his knowledge and experience. He practices a lot to improve his skills and become a professional.

12. History of power. The hero designs his path in the form of a "story" and shares it with others, with those who supported him and with those who need support. He passes on his knowledge for the benefit of others.

As a result of this transformation, the hero of the story used by marketing content can create a new product, business, or qualitatively develop an existing one, become a leader for a certain

audience, change lifestyle, supporting the consumption of certain goods or use of certain services.

In storytelling also use other techniques:

- when receiving the "mountain" everything begins as in the "path of the hero", in the text a chronological story. However, it all ends in failure, the failure of the hero. But the conclusion of history is that everything was not in vain, the experience gained is valuable and will be used in the future. This is learning from mistakes;
- in the reception "frame" within the main story there are several other story lines. They have a better effect on the understanding of the main story, the central concept;
- reception "Sparklines" (as it was and as it could be). The story raises a problem, describes the contrast between reality and the desired, "ideal" result. The story should convey emotionality, motivate the audience to action;
- reception "in medias res" ("beginning from the middle") - in the beginning it is a question of a condition of the hero in the center of history, it is the most fascinating moment. The goal is to intrigue the audience, motivate them to read, listen, watch. Listeners' questions - "why did this happen", "how will it end";
- the method of using converging ideas shows how several parallel stories turn into a certain result. This is how partnerships and innovative products are formed. They are the result of the work and path of individuals who have come together at some point to realize a common idea;
- "false start" reception - the story begins as if predictably, then the unexpected ends and begins again. Suddenness captures the attention of the audience, which no longer knows how the plot will end. Often these are stories of failures, after which the hero has drawn conclusions and is ready to act from the beginning with some experience;
- when taking a "petal", the main idea combines several stories. The technique is so called because it is like a "flower", the center of which is the central idea, and the petals are separate stories, connected or not, but they necessarily lead to a certain concept,

confirm it.

When writing a story, it is advisable to use the pyramid of neurological levels of R. Dilts, which describes the hierarchy of levels of processes that affect the actions and interaction of individuals and groups. Levels of the pyramid from the top to the bottom [10, p. 73-92]:

1. Identity. Answers the question "who am I". This is the level of mission, the purpose of existence. Values and beliefs create a sense of identity of an individual or organization. Processes of this level provide awareness of the essence of the role in relation to larger systems, part of which is a person or

2. Beliefs and values. Answers the question "why, why". This level provides motivation that allows you to achieve certain results in this environment. This level creates reinforcement that supports or suppresses certain abilities or behaviors. This is a definition of what is important for a given individual.

3. Abilities. Answers the question "how". Defines behavioral strategies, skills, abilities.

4. Behavior. Answers the question "what does". Defines specific behaviors, actions and reactions.

5. Environment. Answers the questions "what", "where", "when". Has a strong influence on attitudes toward the world and interaction with it. The environment determines the external context and the limiting factors in which people operate.

Identity is formed as a result of certain beliefs and values. The latter, in turn, are associated with a certain group of abilities that are associated with patterns of behavior that are related to environmental conditions. The most significant changes take place at higher levels, which can be used in the formation of history.

Digital marketing is transformed with the development of information technology in the world. Digital public relation tools provide opportunities to achieve loyalty of the target audience in the long run. And all this with the optimal marketing budget. At the forefront are the possibility of personalization of public relation tools through the receipt of data about the consumer, his social

graph, geolocation.

Thus, the current trends of public relations on the Internet are based on transparency, honesty of doing business. Consumers who are oversaturated with information demand quality content, useful and interesting. It is important to broadcast to target audiences through the tools of public relations philosophy of the brand and the company that supports socio-ethical standards.

The importance of brand authenticity is growing. Its essence can be conveyed through storytelling. It's important to stay in touch with your target audience. This is helped by activity in social networks. It is necessary to consider algorithms of their work, and also modern tendencies of content.

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3.5. CRM AND CEM IN THE CONSUMER RELATIONS MANAGEMENT SYSTEM

In the process of growth of individual enterprises and the economy as a whole, any level of management requires the development and implementation of a certain system, because local government and individual methods cannot cope with the new volumes. An equally important factor, which is a consequence of the previous one, is that the expansion of business boundaries inevitably entails an increase in resources that have clear indicators and boundaries. Another important point is the need to level the subjectivity in management and achieve a state of effective work, subject to certain economic and psychological laws. The most significant factor is the global development of digital technologies, which have penetrated into all spheres of life and business.

The main trend of modern business can be described as follows: "every contact with the customer must be expressed in sales." Therefore, there is a need for the right system of data collection and processing, which will help increase the quantity and quality of sales, while meeting the needs of customers.

There are 2 main systems that are technically implemented in separate software products: CRM (customer relations management) and CEM (customer experience management).

The pace of development that has been demonstrated has continued in the reorientation from a transactional program to an interactive one, which involves the large-scale use of social tools to interact with customers and buyers. Thus, the intensive development of social networks and any feedback tools, gives impetus to further improve the CRM system. CRM - a system - a set of programs that allow you to collect and store information about customers, analyze it and draw certain conclusions, just provide this information to employees in a convenient way [1].

In our opinion, this definition is quite complete and comprehensive. However, it does not say that in addition to the technical side of the process (set of programs), CRM is primarily a management system, the implementation of which requires certain programs, and not vice versa. That is, in any case, the idea and understanding precedes the development of specific programs, which are mainly tools. The task of CRM: to obtain on the basis of accumulated data information that can be used directly to increase the profitability and efficiency of doing business, forming on the basis of this data, new and additional services for different groups of consumers. The processes on which CRM is based are clearly shown in Figure 1.

Thus, CRM is more than a computer program. Moreover, this system is a completely independent process that has a certain cyclicity. And, it is quite difficult to say that CRM is a tool for modern management. Most likely, classic management becomes part of CRM. This development and subordination of traditional marketing and management tools is explained by the fact that CRM is based on the most global goal - the maximum satisfaction of consumer needs, through the proper collection, processing and analysis of information about their wishes.

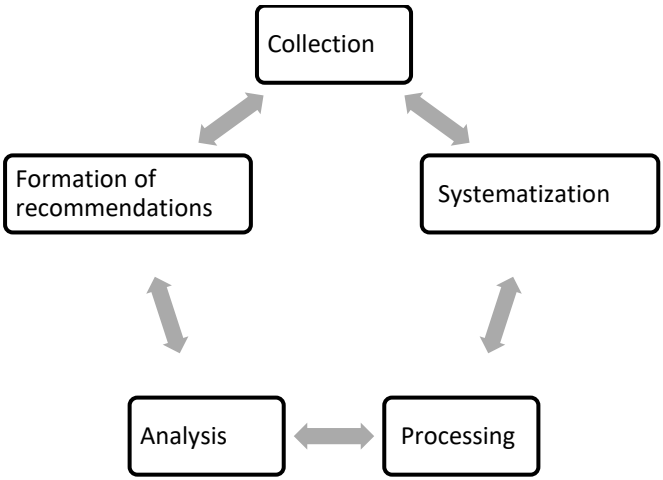

Figure 1. Processes underlying CRM

Despite the fact that the understanding of CRM originated relatively recently, the manifestations of this system have existed at different times at different levels. The main prerequisites that led to the rapid development of CRM-systems are:

- rapid business development and increase in the scale of enterprises;
- popularization of social tools for communication with consumers;
- accumulation of a large amount of information to be systematized and processed;
- globalization of the economy as a whole;
- integration of individual structural units within the enterprise to solve business problems;
- unpredictability of consumer behavior, which leads to the need to have an increasing amount of information to be able to develop individualized marketing solutions to meet the needs of consumers;
- automation of most processes in the enterprise, as a consequence, the introduction of an updated culture of entrepreneurial activity.

The above preconditions would inevitably lead to the formation of a single system that would allow to collect, systematize information on interaction with the consumer, as well as to formulate recommendations for further action in this direction.

Consider CRM from a software point of view and its basic concepts. Basic concepts related to CRM [2, p.190]: "Customer", "Buyer", "User", "Customer", "Attraction", "Satisfaction" and "Withholding". "Customer" is a term in CRM that can be used when talking about a specific person. The customer often acts as a player for the order.

"Buyer" - a term used in the case when the customer is the company. He can buy or buy goods / services.

"User" - one who uses the goods and services purchased from you.

"Client" - someone who has something to do with your company (this includes all previous roles).

"Involvement" - an activity aimed at forming arguments for making a choice in favor of the company and the presence of intentions to make a purchase.
"Satisfaction" - an activity that is directly related to the sale of goods / services and the absolute support of this process.
"Maintenance" - activities aimed at maintaining a positive image of the company in the after-sales period. The main purpose of this activity is to ensure a lasting interest in the company, which as a result is converted into resale and will have a material effect.

In our opinion, these concepts are actually basic. However, the disadvantage of this list is that it does not provide a global understanding of the essence of CRM. We propose the following structure for presenting information on CRM, which will provide the most complete basic concepts. In Figure 2 shows the main structural blocks and the purpose of each of them for implementation in the activities of an industrial enterprise. Thus, CRM consists of 3 blocks. Functionally, each block is connected with the next and has its own characteristics. Visually, these features are shown in Figure 2.

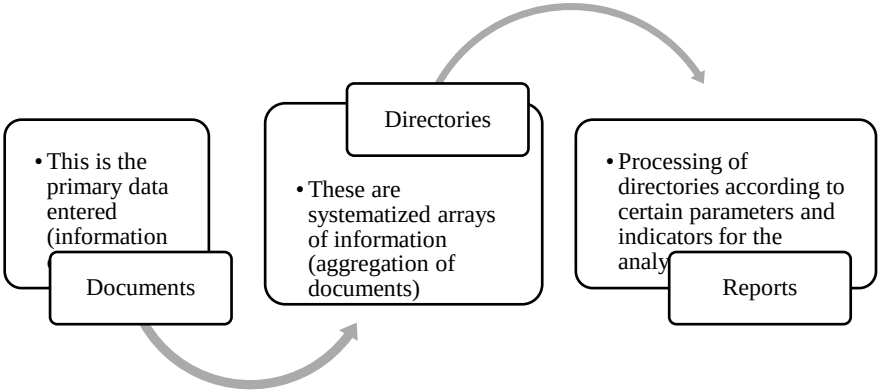

Figure 2. Assignment of CRM components

Each block has not only a literal interpretation, but also a more unconventional one that goes beyond the permanent. Thus,

the block "documents" may include the following: 1) accounting documents (requests for funds, payment orders, advance reports, etc.); 2) documents accompanying the sale (order, sale, return, etc.); 3) documents that reflect the essence of customer relations (the main tool - "events"). Thus, considering the block in more detail, we can do conclusion that CRM is not only the collection of information on communicative contact with the consumer, but also on economic relations with him.

The "References" block has a character derived from the "documents" block. That is, if there is a specific document, it is necessary to have the appropriate directory. For example: the document "order" - the directory "Order log".

The "Reports" block is the most important from the point of view of further use of information. Each report can be generated on the basis of a directory. In other words, if there is no specific type of document, so there is no directory where these documents are addressed - it will also be impossible to generate a report. It is the reports that allow you to visually and quickly process and analyze arrays of information. An important feature of the reports is the ability to generate the required report on the principle of the designer, as a result, the obtained data can be analyzed from different angles. An equally important condition is the ability to generate a report at any time for any period. The connection between these blocks is obvious and unconditional. Existing CRM-systems are divided into 3 main types (Figure 3).

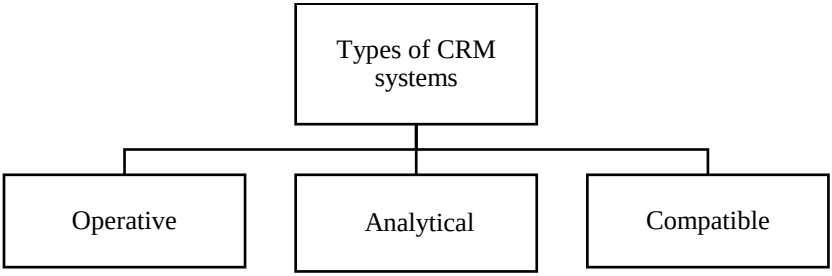

Figure 3. Purpose of CRM components

Operative. The main goal is to organize and support the consistent processing of customer requests. Assignment of inquiries, preparation and approval of answers, their closing. An operational CRM system includes applications that provide instant access to information about a particular customer in the process of interacting with him in the framework of normal business processes. This approach requires good system integration, clear organizational coordination of the process of interaction with the client. Most CRM systems focus on this. Analytical. The main goal is analytical processing of all customer information. It is especially relevant in the pre-sales period. Involves synchronization of disparate data sets and search for statistical patterns in them, in order to develop the most effective marketing strategy.

Compatible. The main goal is to give the customer the opportunity to influence the processes of production, product delivery and subsequent maintenance. The implementation of this system requires the use of technologies that allow at minimal cost to connect the customer to cooperation within the internal processes of the enterprise. Examples of a unified CRM system are: collecting customer suggestions when developing a product design; customer access to product prototypes and the possibility of feedback from the manufacturer, the principle of reverse pricing (when the basis for setting the price of a particular product is the customer's wishes) [2, p. 72].

Another equally important fact is that there is no universal CRM-system that would suit any enterprise, regardless of the specific activities and size of enterprises. Moreover, it makes no sense to implement a CRM system in small businesses. After all, the amount and amount of information on which do not require absolute automation. Another trend regarding CRM-systems: the closer the company is to the consumer, the more acute the need for its implementation.

It should also be noted that the relevance of CRM-systems in the B2C market is higher than in the B2B market. After all, in

the B2C market, purchasing decisions are influenced by much more indicators and factors that are subject to constant research and analysis than in the B2B market, where "reliability" and "price" are almost the main ones. In the process of development and implementation of CRM-system should clearly follow the sequence of its implementation (Figure 4).

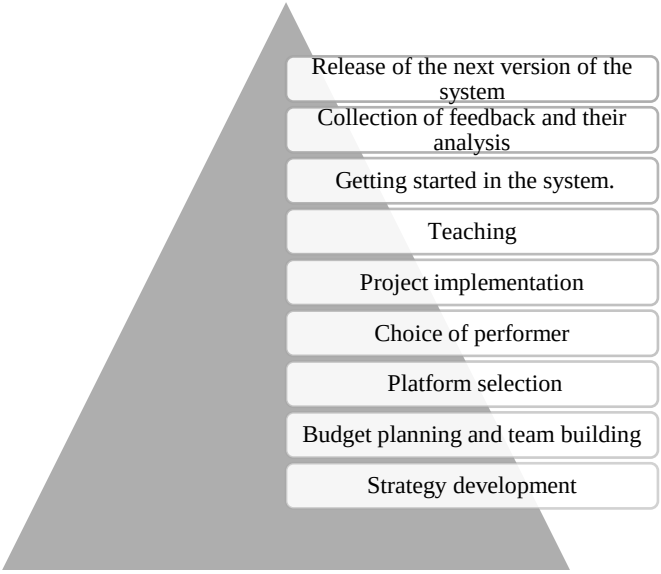

Figure 4. Stages of implementation of CRM-systems

It is important to follow this sequence. After all, all these stages are interconnected in this way, so breaking the sequence will inevitably lead to difficulties in each subsequent stage. The feasibility of implementing CRM-systems is explained primarily by the fact that they are the most capacious programs that consolidate all input and output flows in the enterprise. We have formulated the main advantages of implementing CRM-systems for management, for commercial service, for marketing.

For management:

- control of the current work of the commercial service, sales management at all stages;
- introduction of electronic document management;
- obtaining all the information necessary for decision-making in one format;
- wide possibilities of management of process of sales at the decision of strategic and tactical tasks;
- flexibility of the management staff due to the availability of the necessary information processed by the program, not the person. Usually, under these conditions, the objectivity of information is much higher;
- the presence of an intangible asset that increases the value of the enterprise. For commercial service;
- clear statement of the task of sales and positioning in the markets;
- additional motivation in solving strategic tasks of the enterprise;
- adequate promotion measures that meet the objectives.

For the marketing department:

- obtaining all the information necessary for planning and conducting promotion activities;
- quick receipt of information from existing and potential customers;
- additional opportunities for customer segmentation;
- prompt feedback from promotion activities.

For the consumer:

- personalization;
- acceleration of service rates;
- creation of products and services that are focused on a specific consumer;
- improving the quality of support.

Thus, the CRM-program with the right choice and implementation technology is an integral part of the overall business management system of the enterprise.

We have formulated the main difficulties of implementing CRM-systems:

1) capital intensity of implementation;

2) the inability to quantify the risks, primarily due to the fact that, usually the company does it for the first time and cannot calculate them by analogy with previous periods;
3) non-acceptance of the new system of work by staff;
4) long payback period. Thus, considering the block in more detail, we can do conclusion that CRM is not only the collection of information on communicative contact with the consumer, but also on economic relations with him. We have considered in more detail the tools of the CRM system used in marketing (within 4P).

Features of CRM-system for the implementation of product policy:
1) the introduction of product categorization in terms of innovation, turnover, profitability, manufacturer, etc. That is, you can enter several categories of goods, each of which will be characterized by specific indicators of profitability, turnover, etc. Moreover, the transfer of goods from one category to another can be done automatically;
2) analysis of product offers of competitors and derivation of the most / least saturated product groups / positions;
3) implementation of ABC analysis;
4) optimization of balances and automatic transfer to the category "Illiquid", "Marriage", etc.

Features of the CRM system for the implementation of pricing policy:
1) the possibility of automating the pricing and discount policy of the enterprise;
2) automation of revaluations depending on the set parameters;
3) the ability to fix the price for a certain period under certain conditions purely marketing basic tool CRM - "Projects"; 4) fixation of a certain price for a certain client

Features of the CRM system for the implementation of sales policy:
1) implementation of the customer relationship management system through stages and states;

2) construction of a "sales funnel" on the basis of fixed stages and states;
3) collection of quantitative and qualitative information in the "Client Card". Fixing of features of clients through the tool "Properties";
4) recording all contacts with consumers using the "Events" tool, which has specific groups and topics.

Capabilities of CRM-system for implementation of communication policy:
1) automation of stock sales, as well as performance tracking through the tools "Projects" and "Properties and Values";
2) tracking the effectiveness of advertising publications (catalogs, flyers, etc.);
3) analysis of implemented projects and planning of new ones on the basis of recorded information.

Possibilities of CRM-system for marketing research:
1) the mechanism "Survey" allows you to create a questionnaire for any study with different types of questions and conduct it, recording each questionnaire with answers in the program;
2) the tool "Questionnaire results" allows to receive the processed results of research on various parameters: "Respondent", "Questionnaire", "Survey", etc. Thus, we conclude that CRM has a very wide range of opportunities for all areas of the enterprise. It is also important to note that all the above mechanisms also apply and are suitable for building and managing relationships with suppliers [4, p. 151].

Briefly, the importance of CRM is demonstrated as a result in the following process: 1) relationship; 2) satisfaction; 3) loyalty. In the world practice, the concept of CEM (Customer Experience Management) has appeared almost in parallel with CRM. This system appeared just when the consumer began to decide what to buy, at what price, and in which company [5, p. 301]. Although the interpretation of the abbreviation gives some idea of the meaning of this term, there is no clear separate definition of CEM. We have formulated and proposed the following definition: “CEM is a

system of marketing tools that allows you to collect, process and analyze information about the experience of consumer relations with the company, as well as allows you to create the right programs to further improve this experience".

There is a lot of debate about whether CEM is a stand-alone direction or just part of CRM. Most researchers are inclined to believe that CEM is actually a branch of the CRM discussed above. In our opinion, this opinion is correct, because: - CEM does not have its own information base. Therefore, all materials used by the system are part of CRM and are collected primarily for it; - CEM does not have such a global coverage for research, because it is based, for the most part, on the emotional components of relationships; - CEM also has a more pronounced and focused specialization in the service sector, because the emotional component of the purchase in the service sector has a larger share.

Thus, we conclude that CEM is the evolution and adaptation of the CRM system. The expediency of separation can be found in the following: - there is a need to "release" the capacity of the CRM-system for more comfortable and efficient operation; - the specifics of the enterprise, which has a significant share of emotional support in relations with the consumer; - a clear lack of opportunity to expand the boundaries of the enterprise market, in connection with which, all activities are aimed at retaining customers and educating their loyalty. We analyzed the main programs, In terms of the complexity of measuring indicators, CEM is a more complex system compared to CRM.

After all, the creation of experience and emerging emotions are simultaneously influenced by a significant number of indicators, some of which are impossible to predict. In our opinion, CEM is an important system, the development of which will be even more intensive in the near future. After all, emotions have become a clear competitive advantage of the enterprise. Therefore, the study and, most importantly, the impact on them will be a priority for the company.

We propose to introduce the following CEM structure:

- CEPM - (customer experience positive management). This unit is responsible for managing the positive customer experience. It should be borne in mind that a positive customer experience is a source of stability and predictability of the enterprise.
- CENM - (customer experience positive management) This unit is responsible for managing the negative customer experience. Note that the negative customer experience, although, at first glance, has disappointing consequences for the company, is actually a source of finding new directions for business development and improving customer relations.

The proposed structure is based on the following:
- first: the data needed to manage positive and negative experiences have different origins, collection times and sources;
- secondly: marketing tools for overcoming (in the case of a negative experience) and strengthening (in the case of a positive experience) are completely different;
- third: the target audience is also completely different, because the same consumer has only one type of experience and, even if it changes over time, at one time he may have only one type of experience. That is, there is segmentation;
- fourth: budgets for work with each segment will also differ due to different marketing tools, number, coverage, etc.

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