ISSN 1997-9347

Components of Scientific and Technological Progress

SCIENTIFIC AND PRACTICAL JOURNAL



Paphos, Cyprus, 2020

Nº 2(44) 2020

Journal "Components of Scientific and Technological Progress" is published 12 times a year

Founder Development Fund for Science and Culture Scientific news of Cyprus LTD

The journal "Components of Scientific and Technological Progress" is included in the list of HAC leading peer-reviewed scientific journals and publications in which the main scientific results of the dissertation for the degree of doctor and candidate of sciences should be published

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E-mail: tmbprint@gmail.com jurnal@admin.tstu.ru

Subscription index of Agency "Rospechat" No 70728 for periodicals.

Information about published articles is regularly provided to **Russian Science Citation Index** (Contract No 124-04/2011R).

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UDK 711

Some Causes of Depressed Territories in the Cities of the Russian Federation

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Key words and phrases: definition of depressed territory; depressed urbanized environment; principles of sustainable development; intellectual consortium; interaction model.

Abstract. The goal is to study the causes of depression environment and scenarios of interaction between participants of urban planning process. The objectives are to define a depression territories from the point of view of urban planning research; to analyze the model of interaction between the participants of the urban planning process on the basis of the principles of sustainable development; to identify and illustrate the current algorithm of urban planning transformation of the territories. The research methods are analysis, synthesis, induction, derivation and comparison. The findings are as follows: the main reason for the emergence of depressed territories is depressed working conditions of project collectives and intellectual-analytical consortium. It is concluded that the economic suppression of the activities of professional consortium, destruction of the chain of state control over compliance with the de jure current norms of the Russian Federation became the main reason for the emergence of a depressed environment in the cities of Russia.

Introduction

The primary goal of any urban transformation is to improve the planet. This goal cannot be achieved by creating a depressed urbanized environment. Depressed territories (**DT**) from the point of view of urban planning, this concept is not obvious, and rather difficult to explain. This, according to the author, is the spatial-local formations of the urbanized environment, where the quintessence of violations of the current regulations exceeds the limits of the possibility of adjustment and where the technical and economic indicators of the project master plans are violated [1] at several neighboring facilities. These violations of the technical and economic indicators of the general plans create a superposition of negative effects on the urbanized environment of adjacent territories.



Fig. 1. Ideal model of interaction of participants of a designing process – basis of sustainable development

Results and discussion

It is obvious to economists that the territories in which there are steady trends of decline in the indicators of well-being of the population are depressed. However, from the point of view of the urban planner, it is necessary to operate a much larger amount of data than, only, the well-being of the population.

According to the author, the reason for the emergence of depressed territories is the algorithm of interaction of participants of the urban planning process. For the previous 30 years of design practice it has become possible to observe such an algorithm of interaction: the developer ensures on the land plot belonging to him execution of engineering surveys for construction, reconstruction, capital repair of construction objects, as well as preparation of design documentation for performance of works. At the same time, the implementation of professional principles of designers and noospheric ethics [1; 3] of the developer are not interested. In an ideal model of interaction, these points and monitoring compliance with the norms should interest all participants in the urban planning process [2].

However, when economic development is not a priority in urban planning policy, it is not taken into account by the rest of the urban planning process. In this case, power, residents, representatives of intellectual communities and business elites put the principles characteristic of consumption society at the heart, in which case sustainable development is impossible. This is illustrated in Fig. 2.

Fig. 2 presents a special case of competition for the key zone of users' interests and power structures. Any option of competition for the key zone leads to financial manipulation of the intellectual and analytical component of the urban planning process. The financial stimulation of the appearance of predetermined indicators of design and estimate documentation also does not lead to the realization of the principles of sustainable development. Such interaction leads to the emergence of depressed territories "as a result of a design error".

The main causes of the depression environment caused by the design error since the early 1990s and the existing trends (at the time of the study 2020) in the Russian Federation.

First, legal insecurity and economic pressure on representatives of the consortium of analysts deprives them of motivation.



Fig. 2. A scheme of interaction between participants of urban planning process

Second, the lack of a fundamental opportunity to meet the economic expectations of investors (developer), based on the principles of creating a humane environment and the principles of professional ethics.

Third, the actual disenfranchisement of the "intellectual consortium" and the author's lack of control over the processes of adjusting the project documentation.

Conclusion

Under the leadership of the author, 100 objects of residential construction in the Russian Federation were investigated, for compliance with the current norms and principles of creating a humane environment from the position of noospheric and professional ethics. Result 100 percent mismatch. The algorithm of interaction of participants as an instrument of urban planning policy [2; 5], allowing the possibility of non-compliance of capital construction objects with the current urban planning standards of the Russian Federation, is the main reason for depression of the environment.

References

1. Medvedeva, T.A. Noosfernoe soznanie kak osnovnoj kriterij otsenki gradostroitelnykh preobrazovanij / T.A. Medvedeva // Sbornik materialov konferentsii SPbGASU. – SPb., 2019. – S. 107.

2. Mityagin, S.D. Gradostroitelnaya politika v usloviyakh ekonomicheskoj nestabilnosti / S.D. Mityagin // Nauchnyj sovet RAASN po problemam ekonomiki v oblasti arkhitektury, gradostroitelstva i stroitelnykh nauk. Strategiya i taktika investitsionno-stroitelnoj deyatelnosti v usloviyakh nestabilnogo rosta ekonomiki : sbornik dokladov – SPb. : SPbGASU, 2016. – S. 3–4.

3. Medvedeva, T.A. Perspektivy razvitiya BIM-tekhnologij proektirovaniya dlya sozdaniya kompleksnoj metodiki obrashcheniya s otkhodami / T.A. Medvedeva // Sbornik materialov konferentsii SPbGASU. – SPb., 2018. – S. 83–90.

4. Medvedeva, T.A. Povyshenie kachestva stroitelnykh informatsionnykh modelej (IQ BIM) i noosfernoe soznanie dlya realizatsii gradostroitelnoj metodiki obrashcheniya s otkhodami /

T.A. Medvedeva // Sbornik materialov IV nauchno-prakticheskoj konferentsii SPbGASU. – SPb., 2018. – S. 104.

5. Medvedeva, T.A. Gradostroitelnoe modelirovanie okhrany tsennogo landshafta (na primere reki Lava v Leningradskoj oblasti) / T.A. Medvedeva // Sbornik materialov konferentsii SPbGASU. – SPb., 2019. – S. 52.

Некоторые причины возникновения депрессивных территорий в городах России

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Ключевые слова и фразы: депрессивная урбанизированная среда; интеллектуальные консорциумы; модель взаимодействия; определение депрессивной территории; принципы устойчивого развития.

Аннотация. Цель – исследование причин возникновения депрессивной среды и сценариев взаимодействия участников градостроительного процесса. Задачи: дать определение депрессивной территории с точки зрения градостроительного исследования; проанализировать модель взаимодействия участников градостроительного процесса на основе принципов устойчивого развития; выявить и проиллюстрировать действующий алгоритм градостроительного преобразования территорий. Методы: анализ, синтез, индукция, дедукция, сравнение. Результаты: основной причиной возникновения депрессивных территорий являются депрессивные условия труда проектных коллективов и интеллектуальноаналитических консорциумов. Выводы: основными причинами возникновения депрессивной среды в городах России стали экономическое подавление деятельности профессиональных консорциумов, разрушение цепочки государственного контроля за соблюдением де-юре действующих нормативов РФ.

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UDK 337

History of Marketing Development in the Republic of Kazakhstan

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Key words and phrases: marketing development; Republic of Kazakhstan; marketing system; marketing institutes; marketing problems.

Abstract. In order to study the development of market culture of marketing in Kazakhstan, the article actively used materials from the history of the creation of the marketing system and marketing institutions in the Republic of Kazakhstan. Analyzing the period from the first release of specialists in the field of marketing to the present day, the author studies the achievements and problems that have developed in this field. As a result of the research, a number of problems have been raised and ways of solving them in the economy of the Republic of Kazakhstan have been proposed.

The concept of "marketing" in Kazakhstan began to be actively used in the early 1990s. Since 1992, educational institutions in Kazakhstan began teaching the course "Fundamentals of marketing", and the first graduation of specialists in the field of marketing was carried out in 1994.

In 2000, the public Association "Kazakhstan Marketing Association" was established in the Republic of Kazakhstan to form a platform for professional marketers and specialists in the field of marketing and the formation of marketing culture in Kazakhstan.

Since there is a shortage of marketing specialists in the market recently, the requirements for marketers are increasing and professional standards in this field are being formed. Market research conducted in 2002 by experts of the "Kazakhstan marketing Association" showed that more than half of the enterprises had structures, marketing departments and marketing specialists in their staff at that time. During this period, more than 36.3 % of companies formed separate marketing services, and almost a third of 28.6 % of enterprises had specialists with marketing training. Another 20 % of companies distributed marketing functions to other services. Almost 11 % of firms used other forms of marketing organization in their enterprise: in most separate departments and marketing services, the staff consists of up to 5 people.

Since 2002, the "Expert Council on marketing" has been working in Kazakhstan under the Department of small business of the mayor's Office of Almaty, which allowed us to speak about the growing interest of the government, business, non-governmental and international organizations, the media and the public in the development of marketing.

In recent years, there have been significant changes: the absolute majority of companies

have a marketing service in their structure, business leaders form a marketing view on the promotion of products on the market, understanding how important marketing becomes in an increasingly competitive environment. Marketing has become a target area in the development of business, the importance of a specialist in marketing and the level of tasks they solve has increased significantly.

A highly competitive market environment requires active marketing and intensive market research. In the first half of the 90s, professional marketing research was conducted in Kazakhstan only by Western specialists, most often by multinational companies, while the most labor-intensive processes of collecting primary information were entrusted to local research firms or marketing services. Now the situation in the market of marketing research has changed radically. The economic recovery and growth of production required a significant expansion of the scope of marketing research. Experts believe that over the past 5 years, the volume of marketing research has increased by 5–6 times. Currently, the Republic of Kazakhstan has a developed market for marketing research, almost the entire range of modern research technologies and marketing techniques.

Back in 2002, the country's largest marketing companies merged and created the Kazakhstan Association of professional researchers of public opinion and market (**KAPIOR**). KAPIOR now employs almost all internationally recognized Kazakhstani marketing research companies that have experience in working at the level of modern professional standards. KAPIOR includes such large companies As the Agency for social and marketing research BRIEF, the center for business information, sociological and marketing research BISAM Central Asia, The center for public opinion research (**CIOM**), the Central Asian project research group, the Market Consult research company, and the Institute for comparative social research CESSI-Kazakhstan. The most famous analytical companies in Kazakhstan have their own face, and they are well known by domestic and foreign consumers.

Currently, the PR market has finally developed in the Republic of Kazakhstan as part of the marketing sphere. In 2001, a non- profit organization was established – the National Association for Public Relations (**NASO**) of the Republic of Kazakhstan. The company is actively engaged in the formation and development of the professional market of PR services and technologies in Kazakhstan.

The retail chain market continues to grow. For example, during the period from 2001 to 2019 in Almaty, the number of stores operating in the network format has increased tenfold and is currently more than 3160 units. The most popular retail chains in Almaty are those that are now firmly established in the top 20 retail chains in Kazakhstan: Magnum Cash & Carry, Anwar, Small, Arzan, Astykzhan, 5 Minutes.

The most serious problem in the development of modern Kazakh business is the effective organization of marketing at the enterprise.

The problem of lack of specialists in the field of marketing remains acute. Among the most popular professions, the position of a marketer is one of the most popular. The demand for high-skilled specialists is growing. For several decades, universities have been producing marketing specialists, but the lack of personnel is still one of the unsolved problems for most companies operating in the Kazakh market.

The algorithm of the company's marketing service is not always clear. In 2019, the role of the marketing Department in the company's business processes was to increase sales, advertising, placement in the media, public relations, and develop a network of regional offices, create and promote new products, develop procurement, logistics, design of retail premises, etc. Often the marketing policy is based on the "we sell what we produce" principle.

Still, not all businesses create special marketing services. If large enterprises have entire marketing structures, small and medium-sized businesses cannot afford to hire a marketer to solve marketing tasks due to limited financial and human resources. The main trend is that marketing is being approached as a strategic direction in business development, and the importance of marketing specialists and the level of tasks they solve are increasing.

There are also numerous internal problems of marketing development:

 $-\,$ the problem of creating an image for a brand, product, or company is relevant for 50 % of firms;

 $-\,$ the problem of developing and launching new products on the market is acute for 39.3 % of firms;

 the problem of expanding sales, improving customer service and forecasting market volumes is important for 32.1 % of enterprises;

 the problem of creating marketing information systems in the company and monitoring sales is necessary for 10.7 % of manufacturers.

Most of the problems in the field of marketing are realized in connection with the dynamic changes taking place in the Kazakh market. Actively follow the processes of development and integration of strategic and operational market planning in enterprises. Marketing strategic goals formulated for the long term require solutions by specialists, are divided into operational and current, focused on the short term, which allows them to analyze and find effective solutions.

References

1. Berezin, I.S. Marketing i issledovaniya rynkov / I.S. Berezin. – M. : Russkaya Delovaya Literatura, 2015. – 416 s.

2. Eremin, V.N. Osnovy i marketing informatsii : uchebnik / V.N. Eremin. – M. : Knorus, 2017.

3. Voronokova, O.V. Finansovyj analiz tekushchikh tendentsij razvitiya avtomobilnogo rynka Kazakhstana / O.V. Voronokova // Nauka i biznes: puti razvitiya. – M. : TMBprint. – 2016. – № 5. – S. 44–50.

4. Voronkova, O.V. Stanovlenie i osobennosti mezhdunarodnogo valyutnogo rynka / O.V. Voronokova // Perspektivy nauki. – Tambov : TMBprint. – 2016. – № 3(78). – S. 82–85.

5. SHeshukova, T.G. Ekonomicheskij potentsial predpriyatiya: sushchnost, komponenty, struktura / T.G. SHeshukova, E.V. Kolesen // Vestnik PGU. Seriya: Ekonomika. – 2017. – № 4. – S. 5–12.

6. SHCHerbakov, V.N. Ekonomicheskij potentsial predpriyatiya kak obekt upravleniya / V.N. SHCHerbakov, A.V. Vishtunts // Problemy ekonomiki i yuridicheskoj praktiki. – 2018. – N $ext{ 5. - S. 91-96}$.

История развития маркетинга в Республике Казахстан

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Ключевые слова и фразы: институты маркетинга; проблемы маркетинга; развитие маркетинга; Республика Казахстан; система маркетинга.

Аннотация. В целях изучения развития рыночной культуры маркетинга в Казахстане использованы материалы истории создания системы маркетинга и институтов маркетинга в Республике Казахстан. Проанализирован период от первого выпуска специалистов в области маркетинга до наших дней, изучены достижения и проблемы, сложившиеся в этой области. В результате проведенного исследования сформулированы проблемы и предложены пути их решения в экономике Республики Казахстан.

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UDK 330.34; 338.45:69

The Analysis of Life Cycle of the Investment and Construction Sector

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Key words and phrases: life cycle; investment and construction sector; analysis method; development.

Abstract. Topical issues of the analysis of the development of the investment construction sector (ICS) are considered. The aim of the study is to develop a method for analyzing the ICS life cycle. In accordance with the purpose of the study, the following tasks were identified: highlight the main stages of the analysis of the life cycle of the ICS; apply the proposed method in order to analyze the ICS life cycle; identify the stages of the ICS life cycle. The hypothesis of the study is the assumption that the stages of the ICS life cycle can be distinguished based on the use of phase analysis. In the research process, the following methods were used: abstraction method, classification method, phase analysis method, analysis method, and synthesis method. As a result of the study, a method for analyzing the ICS life cycle was proposed, the main stages of the analysis of the ICS life cycle are revealed, and the stages of the ICS life cycle are revealed.

The relevance of the analysis of the life cycle of the investment and construction sector (**ICS**) is determined by the need to have information about the process of its development in order to effectively manage this process [24]. In this work, the ICS is considered as "the totality of business entities, institutions involved in the processes of investment, construction, operation and consumption of a property associated with common technological or economic risks" [1].

Defining the ICS life cycle as a set of stages that it goes through during the transition from one state to another, we suggest considering updating the composition of its participants as one of the main signs for identifying the mentioned stages.

In addition, the change in the composition of the ICS participants, in our opinion, needs to be studied taking into account the dynamics of the effectiveness of its functioning, which will more accurately characterize the stages within the framework of the ICS life cycle.

Based on the foregoing, in this paper, it is proposed to identify the stages of the ICS life cycle using the analysis of the dynamics of the following indicators:

- the number of enterprises and organizations (hereinafter referred to as organizations) by type of economic activity (**FEA**) "Construction" (units);

Table 1. The stages of the life cycle of the investment construction sector

Stage	Stage description
Growth	There is an expansion in the membership of the ICS, which is accompanied by an increase in the number of organizations by type of economic activity (FEA) "Construction", as well as an increase in gross regional product (GRP) by FEA "Construction"
Prosperity	The value of GRP for foreign trade activities "Construction" reaches a local maximum after one or more periods of growth. Continues to increase the number of organizations for FEA "Construction"
Slowdown	The performance of the ICS is reduced, which is expressed in a decrease in the GRP value for the FEA "Construction". The number of organizations for foreign trade activities "Construction" is increasing. However, most often this process is accompanied by an increase in the share of unprofitable organizations in the FEA "Construction", which in most cases reaches its local maximum at the end of the weakening period
Decline	There is an update in the membership of ICS participants, which is accompanied by a reduction in the number of organizations for foreign trade activities "Construction", as well as in most cases, a decrease in the proportion of unprofitable organizations for foreign trade activities in "Construction". The value of GRP for FEA "Construction" is reduced
Beginning	The renewal of the membership of ICS participants is continuing, which is reflected in a reduction in the number of organizations for foreign economic activity "Construction", as well as in most cases, in a decrease in the proportion of unprofitable organizations in foreign economic activity "Construction". The increase in GRP for FEA "Construction" begins

THE ANALYSIS OF THE LIFE CYCLE OF THE INVESTMENT AND CONSTRUCTION SECTOR 1. Selecting the area for the ICS performance 2. Building a phase curve of the number of companies and organizations by the type of economic activity "Construction" 3. Analyzing the dynamics in the number of companies and organizations by the type of economic activity "Construction" 4. Building a phase curve of the number of companies and organizations and the size of the gross regional product by the type of economic activity "Construction" 5. Identifying the life cycle stages of the investment and construction sector

Fig. 1. The stages of the analysis of the life cycle of the investment and construction sector



The number of companies and organizations for FEA "Construction", units

Fig. 2. Phase curve of the number of companies and organizations by type of economic activity (FEA) "Construction" in the Central Federal District



Fig. 3. Phase curve of the number of companies and organizations by type of economic activity (FEA) "Construction" in the Northwestern Federal District

gross regional product (GRP) for the FEA "Construction" (in comparable prices, millions _ of rubles).

As a result of the study of the ICS life cycle in six federal districts (Central Federal District, North-West Federal District, Volga Federal District, Ural Federal District, Siberian Federal District, Far Eastern Federal District) for the period from 2000 to 2017 based on relevant statistics data [5–23] a description was developed for each stage (Table 1).

The North Caucasus Federal District and the Southern Federal District were not considered in the framework of this study, since the North Caucasian Federal District was formed in 2010, and the composition of the Southern Federal District underwent significant changes both in the indicated period and in 2016 due to the transformation Southern and Crimean Federal Districts in the Southern Federal District.



Fig. 4. Phase curve of the number of companies and organizations by type of economic activity (FEA) "Construction" in Volga Federal District



Fig. 5. Phase curve of the number of companies and organizations by type of economic

activity (FEA) "Construction" in the Ural Federal District

The above stages can be identified through the application of the method of analysis of the ICS life cycle, proposed in this paper. Using this method involves the implementation of the steps shown in the figure (Fig. 1).

In accordance with the logic of applying this method at the first stage, six federal districts listed above were selected as specific territories for the functioning of the ICS.

In the next step, through the use of phase analysis [2; 3], as well as absolute chain growth as a discrete analogue of the first derivative [4], phase curves of the number of enterprises and organizations for FEA "Construction" were constructed for each of the designated federal districts.

The phase curve of the number of companies and organizations for FEA "Construction" in the Central Federal District (Fig. 2) confirms the cyclical nature of the dynamics of the mentioned



The number of companies and organizations for FEA "Construction", units

Fig. 6. Phase curve of the number of companies and organizations by type of economic activity (FEA) "Construction" in the Siberian Federal District



The number of companies and organizations for FEA "Construction", units

Fig. 7. Phase curve of the number of companies and organizations by type of economic activity (FEA) "Construction" in the Far Eastern Federal District

indicator. For example, there is a cycle that begins in 2003 and closes during 2007. Within the designated cycle, the number of enterprises and organizations for FEA "Construction" reaches its maximum value in 2004, and then it begins to decrease. However, since 2007, the increase in the indicator under consideration has been resumed. The maximum absolute change in the number of enterprises and organizations for FEA "Construction" was observed during 2005.

The phase curve of the number of enterprises and organizations for FEA "Construction" in the North-West Federal District (Fig. 3) clearly reflects the manifestation of two cycles in the dynamics of the indicated indicator. The first cycle begins in 2004 and closes during 2007. The second cycle begins in 2009 and closes at the end of 2013.

The dynamics of the number of enterprises and organizations for FEA "Construction" in the











Volga Federal District is also characterized by the presence of two cycles (Fig. 4). The first cycle begins at the end of 2003 and closes at the end of 2007. The second cycle, which differs from the first with a smaller amplitude, begins in 2009 and closes at the end of 2012.

The phase curve of the number of enterprises and organizations for FEA "Construction" in the Ural Federal District also illustrates the cyclical nature of the dynamics of the indicated indicator (Fig. 5).



Fig. 10. Phase curve of the number of enterprises and organizations, gross regional product by type of economic activity (FEA) "Construction" in Volga Federal District



Fig. 11. Phase curve of the number of enterprises and organizations, gross regional product by type of economic activity (TEA) "Construction" in Ural Federal District

The phase curves of the number of enterprises and organizations for FEA "Construction" both in the Siberian Federal District (Fig. 6) and in the Far Eastern Federal District (Fig. 7) reflect the manifestation of cycles in the dynamics of the indicated indicator.

In the Siberian Federal District, the cycle begins at the end of 2002 and closes during 2007. In the Far Eastern Federal District, the beginning of the cycle is in 2003, and its completion – at the end of 2007.

Further, as part of the application of the proposed method for analyzing the ICS life



Fig. 12. Phase curve of the number of enterprises and organizations, gross regional product by type of economic activity (TEA) "Construction" in Siberian Federal District



Fig. 13. Phase curve of the number of enterprises and organizations, gross regional product by type of economic activity (TEA) "Construction" in the Far Eastern Federal District

cycle for the previously mentioned federal districts, phase curves were constructed based on the number of enterprises and organizations for FEA "Construction" and the GRP value for FEA "Construction".

The phase curve of the number of enterprises and organizations, the GRP for FEA "Construction" in the Central Federal District, demonstrates the achievement of the ICS stage of prosperity at the end of 2003, 2008, and also at the end of 2014 (Fig. 8). The stage that was most often observed in the ICS life cycle of the federal district is the stage of growth.

Period	Central Federal District	Northwestern Federal District	Volga Federal District	Ural Federal District	Siberian Federal District	Far Eastern Federal District
2000–2001	Growth	Growth	Growth	Growth	Growth	Growth
2001–2002	Growth	Growth	Slowdown	Slowdown	Slowdown	Slowdown
2002–2003	Prosperity	Prosperity	Growth	Growth	Growth	Growth
2003–2004	Slowdown	Slowdown	Slowdown	Slowdown	Slowdown	Slowdown
2004–2005	Beginning	Beginning	Beginning	Decline	Beginning	Beginning
2005–2006	Decline	Growth	Beginning	Beginning	Beginning	Beginning
2006–2007	Growth	Growth	Growth	Growth	Growth	Slowdown
2007–2008	Prosperity	Prosperity	Prosperity	Prosperity	Prosperity	Growth
2008–2009	Slowdown	Slowdown	Slowdown	Slowdown	Slowdown	Growth
2009–2010	Growth	Beginning	Beginning	Beginning	Growth	Growth
2010–2011	Growth	Growth	Beginning	Growth	Beginning	Prosperity
2011–2012	Growth	Prosperity	Growth	Decline	Growth	Slowdown
2012–2013	Growth	Slowdown	Growth	Growth	Slowdown	Slowdown
2013–2014	Prosperity	Slowdown	Prosperity	Prosperity	Growth	Slowdown
2014–2015	Slowdown	Slowdown	Slowdown	Slowdown	Slowdown	Growth
2015–2016	Beginning	Beginning	Slowdown	Beginning	Beginning	Beginning
2016–2017	Slowdown	Slowdown	Decline	Decline	Decline	Decline

Table 2. The stages of the life cycle of the investment construction sector

The phase curve of the indicated indicators in the Northwestern Federal District also illustrates the achievement of the ICS stage of prosperity over three periods (Fig. 9), however, in the case of this federal district the most common stage of the life cycle is the slowdown stage.

The ICS twice transitioned to the prosperity stage both in the Volga (Fig. 10) and the Ural (Fig. 11) federal districts at the end of 2008 and at the end of 2014.

The stages that were most often observed in the ICS life cycle of the Volga Federal District are the stages of growth and slowdown. In the ICS life cycle of the Ural Federal District, the growth stage dominated.

The stage of prosperity was observed once in the Siberian Federal District (Fig. 12) and once in the Far Eastern Federal District (Fig. 13).

The growth stage dominated within the ICS life cycle of the Siberian Federal District, and the stages of growth and slowdown acted as the stages that were most often observed in the ICS life cycle of the Far Eastern Federal District.

Thus, based on the application of the proposed method for the analysis of the life cycle of ICS, a sequence of the mentioned stages was revealed in the six federal districts for the period from 2000 to 2017. In our opinion, it is advisable to present the obtained results in the form of a generalizing table (Table 2), which contains the indicated information for each federal district.

The application of the ICS life cycle analysis method also involves determining the specific

Stage	Specific weight, %					
Federal district	Beginning	Growth	Prosperity	Slowdown	Decline	
Central Federal District	11.76	41.18	17.65	23.53	5.88	
Northwestern Federal District	17.65	29.41	17.65	35.29	0.00	
Volga Federal District	23.53	29.41	11.76	29.41	5.88	
Ural Federal District	17.65	29.41	11.76	23.53	17.65	
Siberian Federal District	23.53	35.29	5.88	29.41	5.88	
Far Eastern Federal District	17.65	35.29	5.88	35.29	5.88	

Table 3. The proportion of the stages of the life cycle of the investment and construction sector

Table 4. The maximum duration of the stages of the life cycle of the investment and construction sector

Stage	Maximum duration, year				
Federal district	Beginning	Growth	Prosperity	Slowdown	Decline
Central Federal District	1	4	1	1	1
Northwestern Federal District	1	2	1	3	0
Volga Federal District	2	2	1	2	1
Ural Federal District	1	1	1	1	1
Siberian Federal District	2	1	1	1	1
Far Eastern Federal District	2	3	1	3	1

Table 5. The proportion of subsequent stages in the life cycle of the investment and construction sector

Subsequent stage	Specific weight of subsequent stages, %				
Previous stage	Beginning	Growth	Prosperity	Slowdown	Decline
Beginning		53.33	0.00	20.00	26.67
Growth	8.00		48.00	40.00	4.00
Prosperity	0.00	0.00		100.00	0.00
Slowdown	52.17	39.13	0.00		8.70
Decline	33.33	66.67	0.00	0.00	

Subsequent stage	Specific weight of previous stages, %					
Previous stage	Beginning	Growth	Prosperity	Slowdown	Decline	
Beginning		13.33	0.00	80.00	6.67	
Growth	42.11		0.00	47.37	10.53	
Prosperity	0.00	100.00		0.00	0.00	
Slowdown	12.00	40.00	48.00		0.00	
Decline	57.14	14.29	0.00	28.57		

Table 6. The specific weight of previous stages in the life cycle of the investment and construction complex

weight of each stage within the framework of the corresponding federal district (Table 3). For example, the data shown in Table 3 clearly demonstrate that the growth stage dominated within the ICS life cycle of the of the Central Federal District, since its specific weight is 41.18 %.

Thus, based on the application of the proposed method for the analysis of the ICS life cycle, a sequence of the mentioned stages was revealed in the six federal districts for the period from 2000 to 2017. In our opinion, it is advisable to present the obtained results in the form of a generalizing table (Table 2), which contains the indicated information for each federal district.

The application of the ICS life cycle analysis method also involves determining the specific gravity of each stage within the framework of the corresponding federal district (Table 3). For example, the data shown in Table 3 clearly demonstrate that the growth stage dominated within the ICS life cycle of the Central Federal District, since its specific weight is 41.18 %.

In addition, based on Table 2, the maximum duration of each stage was determined within the framework of the corresponding Federal District (Table 4).

As for the description of the sequence of stages of the ICS life cycle, it is proposed to analyze it taking into account information about the specific weights of both the subsequent (Table 5) and previous (Table 6) stages.

For example, the prosperity stage was replaced in 100 % of cases by the slowdown stage. The slowdown stage in 52.17 % of cases was replaced by the beginning stage.

The beginning stage in 80 % of cases was preceded by a slowdown stage, and the growth stage in 42.11 % of cases was preceded by a beginning stage.

Thus, as a result of the study, a method was proposed for analyzing the ICS life cycle, the application of which allows us to determine the specific weight and maximum duration of each stage within the life cycle, as well as the specific weight of both subsequent and previous stages. In addition, stages of the ICS life cycle in six federal districts were identified.

References

1. Asaul, A.N. Investitsionno-stroitelnyj kompleks: ramki i granitsy termina / A.N. Asaul, N.A. Asaul, A.A. Alekseev, A.V. Lobanov // Vestnik grazhdanskikh inzhenerov. – 2009. – № 4(21). – S. 91–96.

2. Vintizenko, I.G. Ekonomicheskaya tsiklomatika : monografiya / I.G. Vintizenko, V.S. YAkovenko. – M. : Finansy i statistika; Stavropol : AGRUS, 2008. – 427 s.

3. Myasnikov, A.A. Sinergeticheskie effekty v sovremennoj ekonomike: vvedenie v

problematiku : monografiya / A.A. Myasnikov. – M. : LIBROKOM, 2013. – 157 s. 4. Petrov, I.S. Organizatsionno-ekonomicheskij mekhanizm intensifikatsii zhilishchnogo stroitelstva (na primere Sankt-Peterburga) : disc. ... dokt. ekonom. nauk / I.S. Petrov. - SPb., 2016. – 284 s. 5. Regiony Rossii : stat. sb.; v 2 t. / Goskomstat Rossii. – M. – 2001. – T. 2. – 827 s. 6. Regiony Rossii. Sotsialno-ekonomicheskie pokazateli. 2002 : stat. sb. / Goskomstat Rossii. - M., 2002. - 863 s. 7. Regiony Rossii. Sotsialno-ekonomicheskie pokazateli. 2003 : stat. sb. / Goskomstat Rossii. – M., 2003. – 895 s. 8. Regiony Rossii. Sotsialno-ekonomicheskie pokazateli. 2004 : stat. sb. / Rosstat. – M., 2004. – 966 s. 9. Regiony Rossii. Sotsialno-ekonomicheskie pokazateli. 2005 : stat. sb. / Rosstat. - M., 2006. – 982 s. 10. Regiony Rossii. Sotsialno-ekonomicheskie pokazateli. 2006 : stat. sb. / Rosstat. – M., 2007. – 981 s. 11. Regiony Rossii. Sotsialno-ekonomicheskie pokazateli. 2007 : stat. sb. / Rosstat. - M., 2007. – 991s. 12. Regiony Rossii. Sotsialno-ekonomicheskie pokazateli. 2008 : stat. sb. / Rosstat. - M., 2008. – 999 s. 13. Regiony Rossii. Sotsialno-ekonomicheskie pokazateli. 2009 : stat. sb. / Rosstat. – M., 2009. – 990 s. 14. Regiony Rossii. Sotsialno-ekonomicheskie pokazateli. 2010 : stat. sb. / Rosstat. – M., 2010. – 996 s. 15. Regiony Rossii. Sotsialno-ekonomicheskie pokazateli. 2011 : stat. sb. / Rosstat. – M., 2011. – 990 s. 16. Regiony Rossii. Sotsialno-ekonomicheskie pokazateli. 2012 : stat. sb. / Rosstat. - M., 2012. – 990 s. 17. Regiony Rossii. Sotsialno-ekonomicheskie pokazateli. 2013 : stat. sb. / Rosstat. - M., 2013. – 990 s. 18. Regiony Rossii. Sotsialno-ekonomicheskie pokazateli. 2014 : stat. sb. / Rosstat. – M., 2014. – 900 s. 19. Regiony Rossii. Sotsialno-ekonomicheskie pokazateli. 2015 : stat. sb. / Rosstat. – M., 2015. – 1266 s. 20. Regiony Rossii. Sotsialno-ekonomicheskie pokazateli. 2016 : stat. sb. / Rosstat. – M., 2016. – 1326 s. 21. Regiony Rossii. Sotsialno-ekonomicheskie pokazateli. 2017 : stat. sb. / Rosstat. - M., 2017. – 1402 s. 22. Regiony Rossii. Sotsialno-ekonomicheskie pokazateli. 2018 : stat. sb. / Rosstat. - M., 2018. – 1162 s. 23. Regiony Rossii. Sotsialno-ekonomicheskie pokazateli. 2019 : stat. sb. / Rosstat. – M., 2019. – 1204 s. 24. KHaritonovich, A.V. Metodologicheskoe nasledie sovetskikh uchenykh v oblasti upravleniya razvitiem / A.V. KHaritonovich // Nauka i biznes: puti razvitiya. - M. : TMBprint. -2018. – № 12(90). – S. 136–142.

Анализ жизненного цикла инвестиционно-строительного комплекса

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Ключевые слова и фразы: жизненный цикл; инвестиционно-строительный комплекс; метод анализа; развитие.

Аннотация. Рассматриваются актуальные вопросы анализа развития инвестиционностроительного комплекса (ИСК). Целью исследования является разработка метода анализа жизненного цикла ИСК. В соответствии с целью исследования были определены следующие задачи: выделить основные этапы анализа жизненного цикла ИСК; применить предлагаемый метод в целях анализа жизненного цикла ИСК; выявить стадии жизненного цикла ИСК. Гипотеза исследования заключается в предположении о том, что стадии жизненного цикла ИСК могут быть выделены на основе применения фазового анализа. В процессе исследования были использованы следующие методы: метод абстрагирования, метод классификации, метод фазового анализа, метод анализа, метод синтеза. В результате исследования был предложен метод анализа жизненного цикла ИСК, раскрыты основные этапы анализа жизненного цикла ИСК, выявлены стадии жизненного цикла ИСК.

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Development of an Innovative Project for the New Product Launch

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Key words and phrases: innovation; innovation and investment project; dairy products; market infrastructure; consumer segmentation; healthy lifestyle.

Abstract. The research is aimed to study the assortment policy of a company of the dairy industry and to identify opportunities for creating an innovative product that meets the consumer expectations. The purpose of the study is to develop an innovative and investment project for the new production line of dairy products that can support a healthy lifestyle. To achieve this goal, the role of design innovations in the development of the company's activities and the competitive advantages are shown. Based on segmentation technology a group of consumers who really need a new product are identified. Methods of data collection, analysis, synthesis, generalization and systematization were used in the study. It is assumed that the active promotion of a healthy lifestyle, the rejection of animal products, the constant increase the number of lactose allergy sufferers and just people who like new products from soy will create a whole range of new opportunities and advantages for the company in the competition.

At the present stage of economic development, each company in a certain level connects its activities with the development and implementation of projects, as in the conditions of stiff competition and market saturation with similar products to keep its consumer is an urgent need and the main task. The organization should strive to improve its products constantly, expand the range, show innovative activity [1]. The product, which can bring a tangible advantage to the company, must be not only with an improved design, but also completely different from analogues.

In addition, innovations have a positive effect on the company development and the country's economy, therefore, it is necessary to promote the effective implementation of the innovation process, the systematic creation and distribution of research and development, the implementation of which will determine the competitiveness of domestic companies and the country as a whole.

A company that is actively engaged in innovative project activities is in a better position than



Fig. 1. Consumer structure by age

similar organizations that do not include innovation in the structure of their activities. The ability correctly plans to the investment of the project and calculate its effectiveness is the key of successful project activities in the company, and, accordingly, high profitability from it [2].

The modern scientific literature pays special attention to the development and evaluation of innovative investment projects. At the same time, many questions concerning this problem are still insufficiently studied.

The object of research is the food industry company "Friesland Campina" LLC. The Russian plant Friesland Campina is located in Stupino, the Moscow Region. The production is mainly aimed at producing high-quality yogurt products and drinks, as well as ultra-high temperature (**UHT**) milk and portioned cream. The company also has own warehouse "Friesland Campina" – a distribution center for all products "Friesland Campina" – both imported and local production.

"Friesland Campina" LLC aims at the full disclosure of the milk potential – to help people live, getting the maximum of usefulness from milk [3].

In the article the infrastructure of the dairy market in the Russian Federation is assessed. Using segmentation technology, consumers of "Friesland Campina" LLC were analyzed by criteria such as: gender, age and income level.

It was found that women are 18 % more than men interested in dairy products. However, at present, the tendency of "detached" attitude to dairy products by men is significantly reduced due to the popularization of a healthy lifestyle and various saturation of dairy products with various useful substances that are now becoming a priority. The segment structure by age is shown in Fig. 1.

Based on this structure, it can be noted that the products become much less popular and interesting, with increasing consumer age. This fact is directly related to the biological loss of the body's ability to absorb all the beneficial properties of dairy products, the development of various diseases in which milk is contraindicated and lactose intolerance.

Segmentation of consumers by income level showed that the share of the middle-income population accounts for 43 % of the products, and the high and elite classes are 31% and 26% respectively.

Taking into account the research data, one can characterize the segment under study: consumers with an average and higher income level who want to please themselves with a wide range of high-quality dairy products without harming their health and shape.

In the era of promoting a healthy lifestyle, it is necessary to meet the needs of a consumer who wants to monitor his figure and eat without harm to health. The dairy products of "Friesland

Campina" LLC are oriented towards the interests of their consumers; each assortment line has fat-free or low-fat products where sugar and fat have been replaced by a variety of chemical impurities that have also been rejected by stickler of a healthy lifestyle. However, there is a segment that the company is losing – these are people with allergies to dairy products. Due to the environmental situation, an increase in the percentage of allergic people is growing every day.

Based on the study for "Friesland Campina" LLC, it is proposed to develop a project for the production of products based on soy milk. Soy is not only inexpensive, but also a useful and environmentally friendly product. This product has an important protein for the human body. The market for soy products in Russia is still being formed, which means that the company has the opportunity to take a leading position there. Soy products are already very popular among representatives of the above segments and people who just like soy.

The advantages of choosing the production of this particular product:

- availability of raw materials from point of a price;
- soybean productivity is always good, the producer avoids the lack of quantity;
- steady competitive market situation;
- high demand for goods.

Soya bean is used as raw material, which takes the second place after corn in terms of distribution, which means that there will be no problems with lean crops and lack of raw materials. Storage of soy is quite simple – a dry and dark room.

Research conclusions: "Friesland Campina" LLC strives to meet the ever-changing consumer needs. The part of the consumer's dairy products either go by the wayside or are completely excluded from the consumer basket, since vegetable milk is included in the ration, which explains the rationality of the innovation and investment project implementation for the production of soy milk. An innovative project to introduce the production of soy milk for the food industry company "Friesland Campina" LLC is cost-effective.

References

1. Kondrasheva, N.N. Innovative activity as a factor in the development of an industrial enterprise / N.N. Kondrasheva // Global scientific potential. – SPb. : TMBprint. – 2018. – No. 11(92). – S. 101–102.

2. Alexandrova, A.V. Formation of innovative business environment of the municipality in the conditions of the economy digitalization / A.V. Alexandrova, A.A. Aletdinova, U.V. Aftakhova, A.V. Babkin, S.S. Bachurina, L.Yu. Bogachkova, A.A. Borisov, N.N. Bulatova, N.N. Vasilenko, L.R. Vakhitova, et al. // The Formation of the Digital Economy and Industry: New Challenges. – SPb., 2018. – S. 297–333.

3. LLC "Friesland Campina" [Electronic resource]. – Access mode : frieslandcampina.ru.

Разработка инновационного проекта для запуска нового продукта

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Ключевые слова и фразы: инновации; инновационно-инвестиционный проект;

здоровый образ жизни; молочные продукты; рыночная инфраструктура; сегментация потребителей.

Аннотация. Цель исследования – изучить ассортиментную политику предприятия молочной промышленности и определить возможности создания инновационного продукта, отвечающего ожиданиям потребителей. Целью исследования является разработка инновационного и инвестиционного проекта для новой производственной линии молочных продуктов, которые могут поддерживать здоровый образ жизни. Для достижения этой цели показана роль дизайнерских инноваций в развитии деятельности компании и конкурентные преимущества. На основе технологии сегментации идентифицируется группа потребителей, которые действительно нуждаются в новом продукте. В работе использованы методы сбора, анализа, обобщения и систематизации данных. Предполагается, что активное продвижение здорового образа жизни, отказ от продуктов животного происхождения, постоянное увеличение числа страдающих аллергией на лактозу и просто людей, которым нравятся новые продукты из сои, создаст целый ряд новых возможностей и преимуществ для конкурентоспособности компании.

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Components of Scientific and Technological Progress

UDK 338.001.36;338.012

Regional Economic Development and Urbanization in Russia

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Key words and phrases: urbanization; de-urbanization; anti-urbanization; suburbanization; labor activity of the population.

Abstract. The article deals with current problems related to the process of urbanization in Russia and in the world. The purpose of this study was to investigate the problems that arise as a result of urbanization and the type of urbanization at the current stage of economic development. The hypothesis of the study is based on the assumption that there are currently several types of urban processes that have different vectors of movement. The main research methods in the article are the analysis of scientific literature and statistical data. Based on the results of the study, the authors formulated the main approaches to describing the processes of urbanization in the modern economy; the specifics of de-urbanization processes are determined and considered.

Currently, according to the UN, three-quarters of the population lives in cities in developed countries. In the UK, the share of the urban population reaches 82.3 %, in the US - 81.4 %, in France – 79.3 %, in Germany – 75.1 %. In Russia, 74 % of the population lives in cities [2]. During the XX century, the urban population of Russia increased almost 7 times. The role of large cities in economic development will increase. By 2030, 500 cities will account for 60% of global GDP growth. Tokyo's GDP is larger than that of Spain, and London's GDP exceeds that of Sweden (according to the UN's New climate economy report). Urbanization provides obvious advantages and opportunities for business development. First, the concentration of potential consumers with better solvency in a limited area. Second, urban populations demand a more diverse range of products and services. The trend towards creating an intelligent urban environment, the so-called "smart cities", is an integral part of the digital economy. Naturally, megacities act as centers of attraction for migrants. The main difference between the information phase of urbanization and the phase of its industrial development is the allocation of information production as a leading force of social dynamics and its transformation into a social institution [1, p. 234]. Moreover, this production has become a leading factor in changing the entire structure of human habitable space. The most important regularity of the modern phase of urbanization is that as soon as the economic and social "separation" of the city from the village

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increases too much, the village comes to the city itself in the form of mass migration from the village, thereby reducing the total innovative potential of urban systems. In fact, there is a clear de-urbanization with the external preservation of the main forms of urban life. Economic factors of urbanization include changes in the structure of employment, in the sectoral and territorial proportions of economic development, concentration of production, in increasing agricultural productivity, etc. not only does employment outside agriculture increase, but its structure itself changes significantly (due to the growth of the share of the service sector, science, management, information, etc.). The forces that determine the nature of global information urbanization are as follows. First, it becomes "network", that is, there is a process of "space inversion". Second, its nature and course are influenced by both macro-actors (unions or alliances such as NATO or BRICS) and micro-actors (influential businessmen and politicians, and even ordinary citizens) [4, p. 32]. Third, the development of "aggressive" information networks means the loss of individual privacy and security. Fourth, globalization opens up the possibility of "direct access" to the benefits of civilization, that is, in fact, their forcible appropriation without being included in the processes of their reproduction, as is happening now in the European Union. Fifth, cities are becoming less and less places of production of the highest achievements of science and technology and more and more places of satisfaction of growing consumer demand and entertainment. Urban life in Russia is increasingly determined by differences in the size and type of city and its administrative status, the actions of administrations at different levels, large state corporations, chain stores, and logistics structures.

However, there is also a reverse trend – the outflow of population from large cities. The founder of the study of the phenomenon of de-urbanization, a modern American sociologist and socio-geographer B. Berry, dating the start of a new process in the 1970s, notes the following signs: "The rural population has stabilized, the urban growth rate continues to fall, the capital's growth has slowed, and non-metropolitan areas are growing faster than the capital's". The natural process of growth of the periphery and outflow of population from the center is not mediated by any external intervention. He speaks of de-urbanization as a new stage of urbanization, a new type of urbanization. De-urbanization can be considered as reverse migration, which refers to the movement of the population for permanent residence from the city to the countryside. In other words, we are not talking about a neo-archaic and de-modernizing turn to bucolic civilization, not about a return reduction of the urban to the rural, but about the transformation of the city into some post-urban forms.

Further analysis of the phenomenon revealed its heterogeneity. It is necessary to divide de-urbanization into reverse migration and urban centrifugal decentralization as an outflow of migrants from the centers in their periphery. The process, which is de-urbanizational in form, is urban in content, contributing to the expansion of the urban zone, while radical reverse migration is directed to remote rural areas [3, p. 62]. Thus, it is necessary to take into account the difference between suburban sprawl-suburbanization, and, on the other hand, de-urbanization, i.e. migration to rural areas with a complete or partial change in lifestyle and the corresponding adoption of a rural (or quasi-rural) model of social space and time development. De-urbanization should be interpreted not only as a process of physical movement in space, but also as a rethinking of preferences and the choice of an alternative city life. The authors distinguish the types of de-urbanization according to not only the geographical criterion of the distance of movement (suburb, village), but also its motive. The first form – "ex-urbanization" – means moving citizens to a rural area near the city. Such migrants are closely connected with the city for work, social circle and do not want to lose the city's infrastructure comfort. This suburbanization does not make urban residents rural, because the main employment in the

metropolis remains. In addition, in such areas, as a rule, any major infrastructure objects, including schools, supermarkets, and transport, are completely absent or significantly removed. Therefore, one of the necessary requirements for a comfortable life in the suburbs is the presence of a personal car. American suburbanization is considered a standard of pendulum migration (the movement of a large number of people to and from their places of residence) and a model of planning, but it is far from unique. Bright representatives of the suburbanized suburbs of Europe are Great Britain and France. Their analysis will allow you to see what the process and result of suburbanization can be for different components.

The second form – "substitution of urbanization" – is typical for those who are "displaced" by the city (lack of work, high cost of living, psychological incompatibility with urban society, etc.). Finally, "anti-urbanization" unites people who fundamentally reject the urban way of life. They are a kind of fugitives from the city, burning bridges behind them and passing the point of return. On this basis, the phenomenon of downshifting grows, which is presented as one of the de-urbanization scenarios and as a lifestyle alternative to the culture of consumer society. Followers of the theory of "voluntary labor poverty", found the basis for a radical change in lifestyle in the rejection of material values, the desire for spiritual growth by reducing materialistic claims. E. Cherir connects downshifting with the fear of an environmental disaster, flight from it to a safe place, whether it is an ordinary village with an existing community or a new form of life organization-eco-settlement - with the rejection of the benefits of civilization. Thus, deurbanization has two dimensions: the growth of suburban settlements and reverse migration to rural areas as a conscious and decisive choice. In general, today we can talk about a specific stage of de-urbanization, generated both by information technologies and by the desire of wealthy citizens to isolate themselves from the dangerous environment that large cities present today. For the country's urban development, the most important indicators are the real per capita income achieved by the country's national wealth. At the local level, the role of agglomeration economy is increasing". "Economies of scale" leads to lower production, transport and other costs, and contributes to the local development of the urbanization process. The study of modern processes of urbanization-de-urbanization should be conducted at least at five levels: global (network), subcontinent, national, regional and local.

References

1. Desfontejnes, L.G. Rynok truda v Rossii: osobennosti vozrastnoj i gendernoj struktury / L.G. Desfontejnes, E.V. Korchagina // ZHurnal pravovykh i ekonomicheskikh issledovanij. – 2019. – № 3. – S. 233–237.

2. Doklad Departamenta OON po ekonomicheskim i sotsialnym voprosam [Electronic resource]. – Access mode : https://www.un.org/ru/sections/issues-depth/population/index.html.

3. Nefedova, T.G. Urbanizatsiya, dezurbanizatsiya i selsko-gorodskie soobschestva v usloviyakh rosta gorizontalnoj mobilnosti / T.G. Nefedova, N.E. Pokrovskij, A.I. Trejvish // Sotsiologicheskie issledovaniya. – 2015. – № 12. – S. 60–69.

4. Panova, A.YU. Vliyanie delovogo klimata na konkurentosposobnost rossijskikh predpriyatij / A.YU. Panova, R.I. Semenov // Globalnij nauchnij potentsial. – SPb. : TMBprint. – 2018. – № 2(83). – S. 32–33.

Экономическое развитие регионов и процесс урбанизации в России

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Ключевые слова и фразы: антиурбанизация; деурбанизация; субурбанизация; трудовая активность населения; урбанизация.

Аннотация. В статье рассматриваются актуальные проблемы, связанные с процессом урбанизации в России и в мире. Целью данного исследования являлось изучение проблем, возникающих вследствие урбанизации, и разновидности урбанизации на современном этапе развития экономики. Гипотеза исследования заключается в предположении, что в настоящее время существует несколько разновидностей урбанизационных процессов, имеющих разные векторы движения. Основной метод исследования в статье – анализ научной литературы и статистических данных. По итогам исследования авторами сформулированы основные подходы к описанию процессов урбанизации в современной экономике; определена и рассмотрена специфика процессов деурбанизации.

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Components of Scientific and Technological Progress

UDK 339.133.017

Modification of Consumer Behavior Patterns in the Digital Economy

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Key words and phrases: model; consumer behavior; digital economy; consumption.

Abstract. Understanding the basic model of consumer behavior, as well as tracking current changes in his actions, allows us to develop more effective measures to meet demand and improve existing ones. The purpose of this article is to consider the transformation processes taking place in consumer behavior models in the digital economy. In the course of the study, methods of system analysis, comparison, and generalization were used. The achieved research results include the refined characterization of the "informative consumer" behavior model, the identification and systematization of new types of business models in the digital economy, the understanding of which also allowed us to identify and characterize the modified consumer behavior models.

In a consumer-oriented digital economy, research on consumer preferences and the consumption process is the main condition for successful marketing. Understanding the significance of consumer behavior patterns and factors influencing a purchasing decision allows enterprises to develop an effective program of actions aimed at better satisfying market demand and stimulating sales by expanding consumer awareness.

A consumer behavior model is an abstract representation of consumer behavior in some form (mathematical, descriptive, graphic, etc.), designed to display the main specific aspects of behavior for the purpose of research.

In the literature on the study of the consumption process, in accordance with the motive for making a decision on the purchase of goods, the following typical models of consumer behavior are identified (Fig. 1).

The economic model of consumer behavior means that when making a decision on the purchase of goods, the consumer proceeds from personal ideas about the profitability and usefulness of the goods purchased.

The sociological model of consumer behavior assumes that the decision to purchase is made by consumers in order to confirm their social status and position in society, regardless of whether they feel a real need to purchase goods or not.

In accordance with the psychological model, the behavior of buyers is formed under the influence of psychological factors and cognitive processes.



Fig. 1. Classic consumer behavior models



Model type	Model subtype	Description
Economic models	Economic and mathematical	A mathematical description of the object's behavior in order to obtain numerical, economic characteristics (A.D. Little's model reflecting the dependence of sales growth on advertising costs)
	Organizational and economic	Description of the various roles of consumers in making a purchase (the role of family members in making purchases)
Sociological models	Socio-economic	Description of the behavior of social groups taking into account the division by income and age
Psychological models	Cognitive	Description of consumer behavior when making rational steps (the impact of information processing on the emotional motivation of a person)
	Gestalt model	Developed on the basis of Gestalt psychology, where a person operates with gestalt (integral images), and the psyche cannot be decomposed into separate parts
	Behavioral	Developed on the basis of a study of a combination of motor and verbal (emotional) reactions to environmental influences (the "trial and error" method)
	Economic and psychological	Created on the basis of the theory of economic psychology that studies the influence of economic phenomena on consumer behavior (types of purchases made by different groups of consumers)
	Socio- psychological	Created on the basis of psychography data – a methodology that explores the life styles of society and assuming that buying behavior is mainly determined by the value orientations of a person

Over time, the basic models of consumer behavior under the influence of factors of the external and internal environment are transformed (Table 1).

Most models of consumer behavior are built within the boundaries of the theory of motivation and reflects the needs and factors that characterize the behavior of consumers themselves (Table 2).

Table 2. Characteristics of modern models of consumer behavior

Models	Description	Consumer behavior						
Economic models								
Rational model	It involves the selection of the best price and quality product, depending on the situation and consumption goals. It is distributed at the stage of formation of the consumer society. Currently it operates in a situation of solvencyloss (the "price-quality"model)	Determining the expectations and benefits of the consumer, the rationale for choosing the real qualities of the product. The choice is independent						
Ethical Consumer Model	It provides for the consideration of the requirements of environmental friendliness, safety, ethical purity, both of the products themselves and of the manufacturer (E. Roger's model of "adaptation to innovation")	The choice of product is independent, based on the completeness of information about the origin of the product, the manufacturer						
	Sociological models	<u></u>						
Conformist Consumer Model	It assumes that consumption is connected with the consumer's desire to comply with the norms of social groups, which he wants to be proportionate to (the model of "joining the majority", "the effect of a common carriage", the "snob" model,the Veblen's model – "demonstrative consumption")	The independence of choice is conditional, it depends on the desire of the consumer to create a "social portrait" through consumption						
	Psychological models							
Irrational model	Models are based on the principle of "stimulus - reaction" proving the emotional attractiveness of the product, in which the consumer experiences the joy of the acquisition. Models reflect "learning to love a product", a search for values beyond the limits of rational qualities (D. Hawkins's "decision making" model, H. Dittmar, J. Beatty's "impulsive buying" model)	The choice is less independent, although conscious. Something more than satisfaction of stereotypical needs comes to light in consumption						
Motivated consumer model	Based on the study of the consumer's motives, reasons and content of his attitudes towards the acquisition of goods, means are determined to stimulate his choice (Andriasen's model of "forming relations", J. Lowenstein's model of "studying the goods", "brand loyalty" model)	The choice is conditionally independent. In order to increase sales volumes – the formation of installations desirable for the manufacturer for manufactured goods						
Zombie Consumer Model	In accordance with this model, the consumer is passionate about the idea of consumption, for him, "it does not matter what to buy, the main thing is to buy." Anticipation is more important than the purchase itself	No independent decisions are made, the consumer is following the manufacturer's request						

The development of the digital economy determines the direction of transformation of traditional sectors of the economy, the emergence and development of new markets.

The business models characteristic of this sphere are, first of all, customer-oriented, which is reflected in their structure: from axiological offers that form and satisfy customer needs, quick and timely delivery (just-in-time), and to revenue streams built on the time of use of the goods by consumer.

Modern business models are focused on creating an omnichannel space, synchronizing data and information in all information and physical channels of interaction in order to meet customer demand for any product, at any time and place.

Table 3. Types	s of business	s models in the digital economy	
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Type of business model	Description
Digital platforms	Create an opportunity for direct interaction of market participants, minimize transaction costs, and contribute to opportunities for joint consumption of goods and services
Service Models	Assume the use of resources in return for their ownership (Infrastructure-as-a-Service (IaaS) Software-as-a-Service (SaaS), etc.) and promote the personalization of goods and services, thereby influencing consumer decisions
Business models of "integrated goods and services"	Focused on achieving results (outcome based models) and effect for the client due to pricing policy (Product-as-a-Service (PaaS) model)
Crowdsourcing business models	Suggest attracting external resources (financial resources, human resources, ideas, etc.) for the implementation of business processes – product development, marketing, sales, services, etc.
"A-commerce" (automated commerce) business models	Reflect the transformation of e-commerce into a-commerce, where the proposal is a forecast of an algorithm that describes a model of a client's needs, and automation based on data from forecasts of the processes of production and delivery of goods to customers with partners (private labeling model)

Table 4. Consumer Behavior Models in the Digital Economy

Models	Description
Shared User Model	Reflects consumer behavior in conditions of sharing goods - satisfying needs through the use of used goods, or a model of behavior in the collective use of goods or services without mandatory ownership ("sharing consumption")
Results-Based Consumption Model	Used in a situation when part of the responsibility for a business result is transferred to the supplier of goods (services) through the pricing process. It focuses on the ability to continuously evaluate the performance of a product provided to a client in terms of outcome (outcomes-based pricing models)
Crowdsourcing Model	Builds on trust and the transfer of decision-making to third parties (model "turn-key style formation")
Loan Financing Model	Used in conditions when the purchase process is financed by borrowed sources in order to overcome the time lag between the need that arose and the moment of satisfaction, to narrow the gap between the ability to purchase goods and the income deficit
Customized Consumer Model	Used in the context of individualization of goods under the orders of specific consumers by making structural or design changes

The spread of Internet of things, artificial intelligence, "big data" and other digital technologies has led to the development of the following types of business models (Table 3).

With the development of the digital economy and the emergence of new business models, a new type of consumer is being formed – an informative consumer and, therefore, new models of consumer behavior – "informative consumer" behavior models are developed. Information is becoming the main decision-making by consumers.

Information and communication technologies accelerate the flow of information and lead to coding of needs, changing preferences and tastes.

The consumption process begins to be distinguished by individuality, localization in

application, diversity, and becomes one of the main factors of production.

Unlike the traditional consumer, digital (informative) has a higher level of consumer confidence, demonstrates a high level of on-lain and off-lain purchases. The main source of information, search and purchase of goods is the Internet.

Modification of the economic behavior of consumers in the digital economy is manifested, first of all, in complicating the mechanism of making consumer decisions, changing the criteria of rationality of consumer choice, in enhancing the role of consumers and changing their basic characteristics (educational competencies, demographic shifts), strengthening the influence of subjective factors and information flows on consumer behavior.

The models of consumer behavior considered in table 4 are rather arbitrary. As certain stereotypes of behavior, they facilitate understanding of the target audience and predict its behavior, contain useful and informative information about the consumption of a particular category of goods and allow finding effective tools for adjusting and modifying consumer behavior.

References

1. Petruchenya, I.V. Transformatsiya protsessa potrebleniya v usloviyakh tsifrovoj ekonomiki / I.V. Petruchenya, Z.A. Vasileva // Nauka i biznes: puti razvitiya. – M. : TMBprint. – 2019. – № 11.

2. [Electronic resource]. – Access mode : https://spravochnick.ru/marketing/potrebitelskoe_povedenie/modeli_potrebitelskogo_povedeniya.

Модификация моделей потребительского поведения в условиях цифровой экономики

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Ключевые слова и фразы: модель; потребительское поведение; потребление; цифровая экономика.

Аннотация. Понимание базовой модели поведения потребителя, а также отслеживание текущих изменений в его действиях позволяет разрабатывать более эффективные меры удовлетворения спроса и совершенствовать уже существующие. Целью настоящей статьи является рассмотрение трансформационных процессов, происходящих в моделях поведения потребителей в условиях цифровой экономики. В ходе исследования были использованы методы системного анализа, сравнения, обобщения. К достигнутым результатам исследования можно отнести уточненную характеристику модели поведения «информативного потребителя», выявление и систематизацию новых видов бизнес-моделей в условиях цифровой экономики, понимание которых позволило также выделить и охарактеризовать модифицированные модели потребительского поведения.

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UDK 337

Dynamics and Features of Inflationary Processes in Russia

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Key words and phrases: inflation; economic situation; economic crises; anti-inflationary regulation of the economy; public Finance; money market; investment process; income level; current consumption.

Abstract. Inflation is a disease that all countries of the world are familiar with, and during periods of economic crisis. It is characterized by an increase in growth rates and causes serious harm to the economy. To regulate inflationary processes, it is necessary to manage a set of economic levers such as public finances, the money market, the investment process, the level of incomes, current consumption and other areas of the economy.

Inflationary processes are becoming the norm for the economy. Almost all countries of the world struggle with inflation at different times, but during periods of stable economic life, inflation decreases and becomes only a correction factor, but during periods of economic crises it is characterized by an increase in growth rates and seriously complicates economic activity. In the last period, it is becoming obvious that the world has become more inflationary.

High rates of inflation cause serious harm, and the worse the inflationary disease is, the more difficult it is for governments of different countries to conduct anti-inflationary regulation of the economy. It is necessary to manage at once a complex of economic levers such as public Finance, money market, investment process, income level, current consumption and other areas of the economy. During periods of hyperinflation, the fight against it falls entirely on the shoulders of the government, and any measures are anti-inflationary. Often, the social and economic problems of society go into the background.

The Central Bank of the Russian Federation believes that "inflation" is a steady increase in the overall level of prices for goods and services in the economy.

The school of monetarists understands inflation as a fall in the purchasing power of money and treats it sharply negatively.

The Keynesian movement believes that inflation represents not only an increase in the price level, but also an increase in the cost of buyers' efforts to find cheaper products-analogues. According to this school, moderate inflation creates a positive effect in the economy, and contributes to the growth of aggregate supply.

The scientific school of institutionalists sees inflation as a social effect. According to proponents of this school, inflation is the process of redistributing part of the income from the population with fixed incomes to the stratum that is able to increase their income.

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2013 7.07 7.28 7.02 7.23 7.38 6.88 6.45 6.49 6.13 6.25 6.48 6.45 6 2012 4.16 3.74 3.70 3.57 3.61 4.30 5.59 5.95 6.58 6.55 6.47 6.58 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 7 5 8 8 7 6 7 6 8 8 10	2015	14.97	16.71	16.93	16.42	15.78	15.29	15.64	15.77	15.68	15.59	14.98	12.91	12.91
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2009 13.35 13.85 13.98 13.16 12.28 11.87 12.01 11.60 10.69 9.69 9.10 8.80 8 2008 12.56 12.66 13.35 14.30 15.12 15.14 14.73 15.04 15.05 14.23 13.78 13.28 13.28 13.28 13.28 13.28 13.28 13.28 13.78 13.28 13.78 13.28 13.78 13.28 13.78 13.28 13.78 13.28 13.78 13.28 13.78 13.28 13.78 13.28 13.78 13.28 13.78 13.28 13.78 13.28 13.78 13.28 13.78 13.28 13.78 13.28 13.78 13.28 13.78 13.28 13.78 13.28 13.77 13.84 8.70 8.59 9.35 10.83 11.49 11.87 14.73 14.23 14.30 14.30 14.30 14.30 14.30 14.30 14.30 14.30 14.30 14.30 14.30	2011	9.56	9.47	9.46	9.61	9.59	9.42	9.01	8.16	7.21	7.19	6.78	6.10	6.10
2008 12.56 12.66 13.35 14.30 15.12 15.14 14.73 15.04 15.05 14.23 13.78 13.28 13.28 13.28 13.28 13.28 13.28 13.28 13.28 13.28 13.28 13.28 13.28 13.28 13.28 13.28 13.28 13.28 13.28 13.28 13.28 13.28 13.28 13.28 13.28 13.28 13.28 13.28 13.28 13.28 13.28 13.28 13.28 13.28 13.28 13.28 13.28 13.28 13.28 13.28 13.28 13.28 13.28 13.28 13.28 13.28 13.28 13.28 13.28 13.28 13.28 13.28 13.28 13.28 13.28 13.28 13.28 13.28 13.28 13.28 13.28 13.28 14.33 14.30 14.33 14.30 14.33 14.30 14.33 14.30 13.28 13.28 13.28 13.28 14.33 14.33 14.30	2010	8.02	7.18	6.46	6.04	5.97	5.74	5.46	6.04	6.96	7.50	8.06	8.78	8.78
2007 8.20 7.61 7.37 7.60 7.76 8.48 8.70 8.59 9.35 10.83 11.49 11.87 11.87 2006 10.71 11.18 10.61 9.77 9.42 9.03 9.26 9.62 9.44 9.15 9.03 9.00 9 2005 12.70 12.96 13.63 13.77 13.84 13.68 13.16 12.53 12.33 11.68 11.27 10.91 10	2009	13.35	13.85	13.98	13.16	12.28	11.87	12.01	11.60	10.69	9.69	9.10	8.80	8.80
2006 10.71 11.18 10.61 9.77 9.42 9.03 9.26 9.62 9.44 9.15 9.03 9.00 9 2005 12.70 12.96 13.63 13.77 13.84 13.68 13.16 12.53 12.33 11.68 11.27 10.91 10	2008	12.56	12.66	13.35	14.30	15.12	15.14	14.73	15.04	15.05	14.23	13.78	13.28	13.28
2005 12.70 12.96 13.63 13.77 13.84 13.68 13.16 12.53 12.33 11.68 11.27 10.91 10.91	2007	8.20	7.61	7.37	7.60	7.76	8.48	8.70	8.59	9.35	10.83	11.49	11.87	11.87
	2006	10.71	11.18	10.61	9.77	9.42	9.03	9.26	9.62	9.44	9.15	9.03	9.00	9.00
	2005	12.70	12.96	13.63	13.77	13.84	13.68	13.16	12.53	12.33	11.68	11.27	10.91	10.91
2004 11.28 10.58 10.25 10.22 10.15 10.13 10.36 11.28 11.38 11.53 11.70 11.74 11	2004	11.28	10.58	10.25	10.22	10.15	10.13	10.36	11.28	11.38	11.53	11.70	11.74	11.74
2003 14.29 14.82 14.78 14.62 13.62 13.93 13.91 13.35 13.28 13.20 12.48 11.99 11	2003	14.29	14.82	14.78	14.62	13.62	13.93	13.91	13.35	13.28	13.20	12.48	11.99	11.99
2002 18.96 17.66 16.76 16.04 15.94 14.69 15.00 15.09 14.86 14.84 15.12 15.06 15	2002	18.96	17.66	16.76	16.04	15.94	14.69	15.00	15.09	14.86	14.84	15.12	15.06	15.06
2001 20.71 22.19 23.67 24.77 24.81 23.68 22.05 20.88 20.02 18.82 18.63 18.58 18	2001	20.71	22.19	23.67	24.77	24.81	23.68	22.05	20.88	20.02	18.82	18.63	18.58	18.58
2000 28.93 25.11 22.49 19.95 19.40 20.15 18.94 18.73 18.54 19.41 19.75 20.20 20	2000	28.93	25.11	22.49	19.95	19.40	20.15	18.94	18.73	18.54	19.41	19.75	20.20	20.20

Fig. 1. Inflation rates from 2000 to 2020

Proponents of the new classical school put forward the hypothesis of adaptive (that is, based on past experience) expectations, according to which the population and entrepreneurs seek to reduce losses from possible price increases and make purchases in the present with a reserve, resulting in a rush of demand. At the same time, employees demand an increase in wages. Manufacturers, predicting price growth and credit appreciation, reduce the supply of goods and services in the current period. Sellers hold a certain amount of goods in the expectation that they can be sold more expensive in the future than they are today. Therefore, all market actors, without conspiring, contribute to price growth: buyers-increasing the current demand, and producers and sellers – reducing the current supply. Long-term and General market disequilibrium is formed, based on the excess of demand over supply. Today, more than ever, this is true, in conditions of quarantine and increased demand, stores specifically leave shelves half empty, thus they fuel the excitement and then the law of supply and demand comes into force, according to which when demand increases and supply decreases, prices rise, and inflation increases, created by panic and negative expectations.

In the period 2014–2015, the increase in inflation rates was formed due to the fall in oil prices and the growth of the exchange rate against the ruble. Imports rose in price and led to an increase in inflation to the level of 12–13 %. And for certain categories of goods and

services, inflation increased by 20 % or more. These trends lowered the standard of living of the population, as the level of wages remained almost unchanged, and prices increased by an average of 13 %. In addition, the problem of income differentiation has become more acute. Each consumer and household has its own individual food basket, and the set of goods and services consumed may differ significantly from the total food basket compiled by the government and for which the rate of inflation is calculated.

Rosstat, as the all-Russian statistical service, conducts an annual analysis of the rate of inflation growth in the country. To calculate inflation indicators, a consumer basket is used, which includes hundreds of items of various goods and services. The contents of the consumer basket are reviewed annually. The inflation figures from 2000 to 2020 are shown below in fig. 1.

The historical minimum was recorded in 2017 and made up 2.5 %.

Rosstat noted that according to data for 2018, inflation processes exceeded the previous period of record low indicators and amounted to 4.3 % with the Central Bank's key rate at 7.75 %.

Official inflation in Russia from the beginning of 2020 (according to Rosstat) was 1.5 %, and on an annual basis 2.31 %. Forecasts for 2020, due to the impact on the economic situation in the country of the coronavirus pandemic and instability of world oil prices, give more significant values than in 2019 and promise an increase in the inflation rate by almost 2 times.

References

1. Abdukarimov, I.T. Analiz khozyajstvennoj deyatelnosti / I.T. Abdukarimov. – M. : Ekonomika, 2016.

2. Voronkova, O.V. Konkurentnye dinamicheskie sostavlyayushchie sovremennykh bankovskikh strategij / O.V. Voronkova; pod red. A.V. Babkina // Innovatsionnaya ekonomika i promyshlennaya politika regiona (EKOPROM-2016) : trudy mezhdunarodnoj nauchno-prakticheskoj konferentsii, 2016. – S. 540–544.

3. Voronkova, O.V. Stanovlenie i osobennosti mezhdunarodnogo valyutnogo rynka / O.V. Voronkova // Perspektivy nauki. – Tambov : TMBprint. – 2016. – № 3(78). – S. 82–85.

4. SHeshukova, T.G. Ekonomicheskij potentsial predpriyatiya: sushchnost, komponenty, struktura / T.G. SHeshukova, E.V. Kolesen // Vestnik PGU. Seriya: Ekonomika. – 2017. – № 4. – S. 5–12.

5. SHCHerbakov, V.N. Ekonomicheskij potentsial predprivativa kak obekt upravleniva / V.N. SHCHerbakov, A.V. Vishtunts // Problemy ekonomiki i yuridicheskoj praktiki. – 2018. – № 5. – S. 91–96.

6. YAn, L. Otsenka ekonomicheskogo potentsiala predpriyatij / L. YAn // Izvestiya BGU. – 2016. – № 3. – S. 24–28.

7. [Electronic resource]. – Access mode : https://ru-stat.com/analytics/6556.

Динамика и особенности инфляционных процессов в России

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Ключевые слова и фразы: антиинфляционное регулирование экономики; государственные финансы; денежный рынок; инвестиционный процесс; инфляция; текущее

потребление; уровень доходов; экономическая ситуация; экономические кризисы.

Аннотация. Инфляция – это болезнь, с которой знакомы все страны мира, и в периоды экономических кризисов она характеризуется повышением темпов роста и наносит серьезный вред экономике. Для регулирования инфляционных процессов необходимо управление комплексом экономических рычагов, таких как государственные финансы, денежный рынок, инвестиционный процесс, уровень доходов, текущее потребление и другие сферы экономики.

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FOR NOTES

COMPONENTS OF SCIENTIFIC AND TECHNOLOGICAL PROGRESS № 2(44) 2020

SCIENTIFIC AND PRACTICAL JOURNAL

Manuscript approved for print 17.02.20 Format 60.84/8 Conventional printed sheets 5.35 Published pages 4.83 200 printed copies

Printed by Zonari Leisure LTD. Paphos