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INTERPRETIVE READING OF MARKET REPORT: A CASE FROM CONSULTING PRACTICE

To gain insights that guide important business decisions and, consequently, turn data into business actions, various methods and types of data could be used depending on the data's availability, accessibility, and costs. In consulting practice, the usage of widely published market reports and marketing studies is a standard routine. This paper is an example of how institutional theory could be applied in practice for analyzing and interpreting the findings from a typical market study. By contrast to other widely used qualitative and quantitative tools and techniques, applying institutional lenses is far to be mainstream for industry practitioners and strategy consultants. In the selected case from the wine sector, a market report has been hermeneutically "read" through lenses of institutional theory, which helped to identify coercive and mimetic types of isomorphism in the markets of Georgia and Ukraine.

Keywords: institutional theory, isomorphism, wine sector, strategy, hermeneutics, interpretive reading, management consulting.

Introduction and problem statement. Management consulting is pragmatically focused on finding solutions for clients' problems and, from this perspective, consultants could be considered as knowledge providers. The consultants must collect and analyze various types of primary and secondary data. Thus, they could be recognized as data consumers. Based on the experience of business consulting and management researching, we agree that in many cases the role and importance of archival sources/secondary data and their analysis are often undervalued [1].

In addition, more than one approach (theory/framework) for data analysis and interpretation is rarely involved [2], and hermeneutics is 'little used in management research" [3]. It could be partially explained by "the perception that the hermeneutic tradition is complex, dispersed and not easily applicable beyond text-based research" [4].

Review of recent publications. Over the last few years, publications of Ukrainian authors in English and dedicated to viticulture, wine sector, and wine business have started to rise but still are less numerous compared to those in Ukrainian and Russian languages.

Among the most active scholars whose publication are focused on the Ukrainian wine sector, we would distinguish Goncharuk A.G. who explored challenges in wine business research [5], wine value chain [6], performance and efficiency of wineries in Ukraine and other countries [7], [8]. Some authors like A. Oleynik [9], V. Osipov and L. Nekrasova, [10], L. Nekrasova and K. Nekrasova [11] study competitiveness, its strategic aspects, and competitive advantages for sector players and further prospects for industry development. V. Samofatova E. Gerus [12] observed the attractiveness of the wine sector and described its key impact factors. When studying the efficiency of Ukrainian wineries, N. Lazareva [13] has developed a "three criteria" approach to its evaluation.

Still, more abundant literature in Russian and Ukrainian covers various problems and different aspects of Ukrainian viticulture, winemaking, and wine business judging against international trade, competitiveness, efficiency, and performance of specific firms. These issues were explored by various Ukrainian and CIS scholars like A. Avidzba, V. Boiko, V. Vlasov, O. Garkusha, V. Gorbachov, P. Sabluk, M. Dudnyk, P. Lytvynov, L. Marmul, I. Agueyeva, A. Brevnoba, O. Kalaman, Yu. Mokeyeva, I. Matchyna, A. Tkachenko, A. Starostina. The analysis of the current state of the wine sector has been completed by them for different periods of sector development from the Soviet Union times to Ukraine's independence including joining WTO and notable events like trade liberalization, state support, taxation, import-export regulations, etc. Trends in the wine sector and prospects for its development were assessed with recommendations offered for increasing its competitiveness locally and internationally.

The Georgian wine market, its trends, issues, and prospects for development were assessed by M. Natsvaladze, E. Kharaishvili, and M. Chavleishvili [14]. Its structure, concurrent models, and competitiveness are in the focus of studies published by E. Kharaishvili [15]. L. Zivzivadze and T. Taktakishvili [16] completed an index-based analysis of the competitiveness of Georgian wine export. E. Kharaishvili and M. Chavleishvili [17] applied a cluster approach to the Georgian wine industry by describing and studying various clusters. Branding strategies for Georgian wine producers were investigated by S. Sakvarelidze [18]. Various economic, political, and social aspects of the wine sector were studied by F. Mamardashvili, G. Erkomaisgvili, M. Natsvaladze, E. Sarjveladze, N. Tevdorashvili, B. Gechbaia, and other researchers.

M. E. Porter, a professor at HBS Institute for Strategy and Competitiveness, focused on global industry analysis and clusters theory development [19], which was successfully applied in the cases like wine cluster in California [20], Australia [21], and other countries.

Currently, there is a steady trend in writing on the resilience, sustainability, and competitiveness of the wine industry on the global or national levels. The issues related to globalization are of particular interest. The number of case studies on pressing issues and topics in the wine industry is continuously increasing owing to the contribution of the leading contemporary scholars like K. Anderson [22], A. Gilinsky [23], J. Balogh and I. Ferto [24], R. Castaldi, M. Silverman and S. Sengupta [25], D. J. Flint [26], T. Bouzdine-Chameeva and A. Krzywoszynska.

Statement of research gap. From a "strategy as context" perspective, businesses need to know and understand the context in which they operate, and to be successful, they should adapt to this external environment

accordingly [27]. Strategy or strategic management as a scientific discipline is always sensitive to the context which is embedded in the strategy because it shapes, influences the patterns of organizational behaviors. Some scholars argue that the role of context and contextualization are "crucial for human understanding" [28] but understudied and undermined. To fill this gap, context and contextualization should play a more important role – especially, in international business research [29]. As market studies and reports reflect the context, thus, for that reason, they should be used for this purpose more extensively.

Another important gap in strategy practice is the overlooking of institutions or institutional settings. But the institutional environment is an important and integral part of the external environment that has a direct influence on firms' choices known as a non-market strategy [30, 31]. This paper is an attempt to link institutional theory and strategic management, in which contextualization is made with the usage of institutional lenses – as suggested by leading scholars in the field of institutional-based view of strategy [32, 33].

The purpose of the paper is to explore, understand and interpret strategic responses of the Georgian wine industry in the current complex environment (context) by using an interpretative reading of a standard market report through lenses of institutional theory and management consulting, to study how the report reflects customer's market needs.

Research methodology. Due to the embeddedness of context in strategy or, in other terms, high sensitivity of strategy to context, hermeneutics has been selected as an appropriate approach for this inquiry [28]. This methodology comprises two main parts – understanding and interpretation – and it is well-suited for exploring multidimensional phenomena in complex environments (contexts), as well as for sensemaking [34, 35].

Available opensource documentation was used as a source of data for interpretative reading and analysis and further development of meaningful insights into the phenomenon under the study. The report entitled "*Alcoholic beverages: heritage of splendor*" was used as the main source of data unless otherwise specified. For checking and cross-checking data, when possible, other available sources of information were used – official Ukrainian statistics, articles from magazines and journals, other publications.

Research findings. Globally, there is a substantial gap between wine production and wine consumption. For instance, for 2018 their figures are 292 mln hl and 246 mln hl respectively – or 46 mln hl of surplus [37]. This is true for Georgia as well. In 2019 Georgia produced about 21.7 mln decalitres of wine. That volume largely exceeds the size of the domestic market. Hence, the Georgian wine sector heavily depends on export which is estimated to be over 94.3 mln bottles (0.75L) in 2019 worth 223 mln USD or 83 percent of total wine turnover (79 percent in 2018). By its value, wine makes up about 5.9 percent of total Georgian exports. Therefore, this sector has a critical importance for the country's agriculture and the whole economy.

However, on the other hand, a strong dependence of wine exports on traditional "core markets" like Russia, CIS countries and Ukraine, may be considered as a threat, risk, or weakness. The Russian embargo on Georgian wine import introduced in 2006 for purely political reasons illustrates that.

Hence, this embargo was a trigger of geographical diversification because the continuation of "business as usual" was not possible. And Georgian producers started to explore alternative markets to offset the loss of the Russian market where their sales were incredibly high and made 87 percent of total export in volume and 77 percent in value.

From the point of view of strategic management, the strategy should be a two-folded one and comprise both the market and nonmarket elements [30] or integrated strategy [31]. The embargo is a political factor from the nonmarket part of the strategy.

Looking at it from the perspective of institutional theory, geographical diversification could be considered as the strategic response to "institutional pressure" [38] exerted by the embargo which changed existing institutional settings or the "rules of the game" [39). If institutions are "the rules of the game" and organizations and firms are the participants (actors) that have to play the game according to the rules**.** And "the purpose of the rules is to define the way the game is played" [39].

For the understanding of institutional pressure, the "5Cs" framework of C. Oliver [40] with five main institutional factors (*cause, constituents, content, control, conte*xt) is the most relevant to be applied (*see Table 1*).

***Table 1*. Main institutional factors – 5Cs framework [40]**

Institutional factor	Research question	Predictive dimensions
Cause	Why is the organization being pressured to conform to institutional rules or expectations?	• Legitimacy or social fitness • Efficiency or economic fitness
Constituents	Who is exerting institutional pressures on the organizations?	• Multiplicity of constituent demands • Dependence on institutional constituents
Content	To what norms or requirements is the organization being to conform?	• Consistency with organizational goals • Discretionary constraints imposed on the organization
Control	How or by what means are the institutional pressures being exerted?	• Legal coercion or enforcement • Voluntary diffusion of norms
Context	What is the environmental context within which institutipnal pressures are being exerted?	• Environmental uncertainty • Environmental interconnectedness

Reviewing the above-mentioned institutional factors and answering the related questions enable us to understand why Georgian wine exporters chose and pursued the strategy of geographical diversification.

Traditionally, strategic management scrutinizes heterogeneity, specifically why and how firms differ, what they do differently, why follow diverse strategies, and so on [41, 42]. The issues of isomorphic strategies were less covered by the studies. The institutional theory offers some concepts and tools to fill this gap. In our case, C. Oliver's typologies [40] of five typical strategies and 15 tactics were applied to conduct the analysis (*see Table 2*).

Table 2. **Typologies of strategic responses [40]**

Strategies	Tactics	Examples
Acquiesce	• Habit • Imitate • Comply	• Following invisible, taken-for-granted norms • Mimicking institutional models • Obeying rules and accepting norms
Compromise	• Balance • Pacify • Bargain	• Balancing the expectations of multiple constituents • Placating and accommodating institutional elements • Negotiating with institutional stakeholders
Avoid	• Conceal • Buffer • Escape	• Disguising nonconformity • Loosening institutional attachments • Changing goals, activities, or domains
Defy	• Dismiss • Challenge • Attack	• Ignoring explicit norms and values • Contesting rules and requirements • Assaulting the sources of institutional pressure
Manipulate	• Co-opt • Influence • Control	• Importing influential constituents • Shaping values and criteria • Dominating institutional constituents and processes

Russia's embargo was the most powerful factor in this context and without any influence or control from Georgian producers made impossible the Georgian import of wine. Low negotiating competence and high dependence on the Russian market led to the situation when the number of strategic responses was limited by only one possible asymmetric choice that was to be adapted to new circumstances. This option corresponds to the "acquiesce" strategy and "comply" tactics from the list of C. Oliver. Such similarity (homogeneity) in a business strategy known as well as isomorphism in terms of institutional theory was only one feasible option imposed by external constraints that are linked to external institutional pressure and enforce businesses to comply with – as result, we observe coercive isomorphism [43, 44].

Export restarted in 2014 when the embargo was lifted. Opportunistic sales increased, diversification strategy continued but with lower efforts, however, the share of the Russian market in total Georgian wine export is not anymore as high as before. Nevertheless, to cover growing demand from the Russian market, the production of wine in Georgia since 2016 was constantly growing and achieved a record high of 22 mln decalitres in 2019 if bring together the official and shadow segments of wine production. This surpasses the previous record of 16 mln decalitres in 2014 by 6 mln decalitres. According to official statistics, Georgian export of wine to Russia in value was about US$133.3 mln (about 60 percent) or 43.4 mln liters (62 percent in volume) [36].

The rationale behind this "attachment" to the Russian market is simple. This is a full match of produced wines by their types, styles, and quality levels to the preferences of the customers in Russia, other countries in CIS including Ukraine. The export figures show that on those markets' customers prefer red semi-sweet and sweet wines with a higher concentration of alcohol. In 2019 the share of red semi-sweet export to Russia was 53 percent with 51 percent to Kazakhstan [36]. It had not required any shifts in production patterns, neither of the vineyards nor cultivars structures inherited from the Soviet economy. Thus, that strategy ensured cost minimization. Neither additional customization nor extra marketing campaign and activities are required comparing to the strategy of conquering new markets which require immense costs and starts with a long run intensive advertising and marketing activities to make customers aware of the products for attaining an increase of sales in the follow-up years.

The investigated market report provided data on export to other markets including Ukraine. Further analysis permitted to identify the presence of mimetic isomorphism in strategic behavior of Ukrainian companies that are trying to exploit the commercial of Georgian wine on domestic by and offering similar or imitated products that often look like "Made in Georgia" because Georgian wine is considered as "a success story" on Ukrainian market.

In the context of high complexity, firms may copy strategic behavior and business models of other companies perceived as more successful. Those decision to imitate is known as mimicry of mimetic isomorphism. The phenomenon of mimetic isomorphism is usually observed if external business demonstrates high turbulent dynamics and uncertainty [45, 46, 47]. That was and still is the case of Ukraine over the past decade and few follow-up years.

For several years, Georgia, Italy, and France were the top three countries from which Ukraine imports the most wine.

Ukraine is the second market for Georgian wines. In 2019, Georgian wine exports to Ukraine amounted to about 23 million USD, and the highest volume of this export of 30 million USD was achieved in 2013. In the first half of 2020, Georgia was the second supplier of wine to Ukraine after Italy.

According to Ukrvinprom [48], the structure of wine consumption in Ukraine in 2018 was unfavorable for Ukrainian products. Ukrainian wines accounted for 40.5 percent of consumption and imported wines 59.5 percent, and in 2017 the situation was even

worse: domestic wines accounted for 37.2 percent, and imports 62.8 percent. The official data of Ukrainian retail sales for the first 6 months of 2020 shows that if you combine non-carbonated and sparkling Ukrainian wines, their share of the total sales of 6.4 billion UAH reached 51 percent, while imported wines accounted for 49 percent. However, the volume of imported wines is about 2 percent higher than the share of domestically produced wines.

According to Wine and Spirits Ukraine [49], wine imports from Georgia to Ukraine amount to 8.242 million liters with a total value of 22 million euros. According to the same source, this represents 16 percent of total wine imports, which, according to some reports, reached 135 million euros in 2019, which means the average price is 2.7 euros (about 3 US dollars) per liter of Georgian wine. These same sources report that Ukraine exported 6.8 million liters of wine in 2019 (-86 percent compared to 34.5 million liters in 2018) for a total of €11 million (-70 percent compared to €36.8 million in 2018). This includes non-carbonated, sparkling, and poured wines.

This significant drop in exports is due to the closure of the Russian market, which accounted for about 50 percent of all wine exports in 2018, as well as a decrease in exports to many other countries. The average export price for Ukrainian wine in 2019 was 1.75 euros per liter. As a consequence, produced and non-exported volumes of wine put additional pressure, increasing competition in the domestic Ukrainian market with local and foreign players, including those from Georgia.

The above information evidences the huge commercial success of Georgian producers both in terms of volume and prices of their exports and especially in the Ukrainian market. Given this success, some local companies decided to follow the strategy of imitation, namely to simulate Georgian products and offer them to Ukrainian consumers. Not surprisingly, this "success story" caused a kind of "envy" and a desire to earn "easy money" by selling purely Ukrainian products as "genuinely" Georgian ones.

In other words, the imitators started to commercialize two types of isomorphic products in the Ukrainian market:

– *similar products* produced from the grapes of Georgian origin like Saperavi and Rkatsiteli but grown and processed locally and labeled clearly as "Made in Ukraine" – so, here there is no wrongdoing,

– *pseudo "Made in Georgia" products* that misleadingly looking like genuine and are produced there but have nothing in common with Georgian origin.

In the second case, the imitators used the Georgian flag, Georgian family names, people in Georgian national costumes, texts in Georgian languages, and other elements of Georgian culture in the design of bottles. And only very attentive buyers could find that a contre etiquette mentions in small letters about the Ukrainian origin of the product.

According to the current Ukrainian legislation, which gradually incorporates and integrates EU rules and regulations on PDO (Protected Designations of Origin) and other aspects in the field of winemaking, such activities are unfair competition, and the case itself is a violation of the laws. Thus, in December 2019, the authorities were forced to intervene and send a prescription to three Ukrainian wine producers with demands to correct misleading labeling and ensure that the products indicate their Ukrainian origin [50]. A similar story happened in 2020 with brandy. The Antimonopoly Committee of Ukraine accused four Ukrainian companies of using unfair competitive practices and sent similar prescriptions to these producers [51]. However, according to the media, such practices have not ceased, and such products continue to appear on store shelves [52].

Conclusions and discussion. The emergence and presence of mimicry or imitation of Georgian wines in the Ukrainian market could be interpreted as a reaction to changes in the external environment caused by institutional pressure and increased competition in international trade, such as the closure of the Russian market, etc. According to the institutional theory, such reaction to consumer preferences and market pressures by choosing similar strategies and offering similar products represents isomorphism. And this is quite the opposite of what we are used to seeing in the wine market, where most try to differentiate their products from those of their competitors.

The lenses of institutional theory have been used first to identify the trend towards similar strategic (isomorphic) responses of market players – eventual 5 possible strategies and 15 respective tactics – according to C. Oliver's typology.

Secondly, further analysis permitted to answer the question "Why isomorphic strategy is chosen as the answer in the explored contexts?" – by identifying the following groups of drivers or factors enabling mimetic strategy and related to:

- institutional pressure – its constituents, constraints roles of institutions ("rules of the game"), and their impact in cases of weaknesses,
- customers – demand preferences and consumption behaviors,
- products – quality, styles and types of wines, easiness, or difficulty to copy,
- imitators – opportunism, cost minimization behavior, and tendency to copy more successful players/strategies in the context of high uncertainty and dynamic changes.

Third, we have identified two types of products mimicry by offering:

- similar products – by type, style, and quality they are similar/analogs to some Georgian wine – and they are labeled correctly as "Made in Ukraine",
- pseudo "Made in Georgia" products that are made in Ukraine but designed and pretending to be genuine or having Georgian origin.

Finally, we could conclude that the isomorphic strategy of offering pseudo-Georgian wines respects neither current norms of Ukrainian legislation nor future EU requirements and restrictions that are expected to be implemented in Ukraine according to the EU-Ukraine Association Agreement. However, it must be done in an ethical way and full compliance with laws. Therefore, such a strategy is very opportunistic and temporarily feasible within a weak Ukrainian non-coercive institutional environment (as laws are not strictly respected in Ukraine), and cannot ensure strong competitive advantages from a long-term perspective. Hence, it is not sustainable and should be revised. We could assume that the closest and easiest alternative option for the Ukrainian market is to follow this isomorphic strategy by replacing pseudo-Georgian products with "normal" similar products that fully comply with existing regulations.

Prospects for further research. We consider that euro integration context could be considered as such with strong institutional pressures and worth of being studied with the support of institutional theory in combination with strategic management as this approach would be helpful to investigate strategic responses of Ukrainian businesses and, eventually, identify other forms of isomorphism (for instance, cognitive) or other types of non-market strategies if any.

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ІНТЕРПРЕТАТИВНЕ ЧИТАННЯ РИНКОВОГО ДОСЛІДЖЕННЯ: КЕЙС ІЗ КОНСАЛТИНГОВОЇ ПРАКТИКИ

З метою отримання нового знання, що впливає на ухвалення важливих бізнесових рішень й у такий спосіб опосередковано перетворює дані у відповідні дії, можна використовувати найрізноманітніші методи та види даних – залежно від таких факторів, як їхня наявність, доступність і вартість. У консалтингу звернення до опублікованих та широкодоступних ринкових звітів і досліджень стало рутинною практикою. Пропонована стаття – приклад того, як можна на практиці застосовувати інституціональну теорію у процесі читання, аналізування й інтерпретування даних із типового ринкового дослідження. Нині, на відміну від широковживаних теорій та числових і якісних методів, застосування інституціональної теорії є для галузевих практиків і консультантів зі стратегії радше винятком, ніж правилом. У наведеному кейсі з виноробної галузі маркетингове дослідження було герменевтично "прочитане" через призму інституціональної теорії, що допомогло виявити два види ізоморфізму на ринках Грузії та України.

Ключові слова: інституційна теорія, ізоморфізм, винна індустрія, стратегія, герменевтика, інтерпретативне читання.

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ИНТЕРПРЕТАТИВНОЕ ПРОЧТЕНИЕ РЫНОЧНОГО ИССЛЕДОВАНИЯ: КЕЙС ИЗ КОНСАЛТИНГОВОЙ ПРАКТИКИ

Для получения новых знаний, которые влияют на принятие ответственных решений в бизнесе и, таким образом, опосредовано превращаются в действия, используется множество теоретических подходов, исследовательских методов и видов данных – в зависимости от наличия, доступности и стоимости последних. В консалтинговой практике обращение к данным, опубликованным в рыночных отчетах и маркетинговых исследованиях, является стандартной практикой. Предлагаемая статья – пример применения отраслевыми практиками и консультантами по стратегии на практике институциональной теории к анализу и интерпретации данных, содержащихся в типовом рыночном исследовании, что, в отличие от широко распространённых теорий, количественных и качественных методов, представляется скорее исключением, чем правилом. Этот кейс из винной индустрии – герменевтическое прочтение маркетингового исследования через призму институциональной теории, что способствовало идентификации двух типов изоморфизма на рынках Грузии и Украины.

Ключевые слова: институциональная теория, изоморфизм, винная индустрия, стратегия, герменевтика, интерпретативное прочтение.

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PUBLIC ADMINISTRATION MODELS AND HEALTHCARE SYSTEM REGULATION IN FOREIGN COUNTRIES

The article focuses on a comparative analysis of public administration models and healthcare system regulation in foreign countries. The study explores organizational features of the operation and development of healthcare systems and identifies three types of healthcare financing: budgetary, insurance, and private sources. Particular attention is paid to the current state of healthcare systems and their readiness to prevent coronavirus pandemics.

Keywords: healthcare system, public administration, healthcare financing, coronavirus pandemic.

Problem statement. One of the most important and socially significant areas of state policy that requires from the government a balanced approach is the public administration system in the healthcare sector, which has a direct impact on the welfare, life, and health of the population.

The fundamental factor determining the effective and sustainable healthcare operation is the industry financing, characterized by volumes, model, and implementation mechanisms. The problems associated with financing healthcare are most urgent because the modern world healthcare is considered to be one of the fundamental human rights with health development, as a specific type of economic activity that cannot be limited to any country. This is since the level of development of healthcare in a particular country affects the entire world. For a long time, most of the countries of the European Union were among the leaders in the ranking of the effectiveness of the healthcare system. However, despite a fairly high level of development of healthcare in the analyzed countries, the healthcare systems of European countries were not sufficiently prepared to ward off the pandemic.

Analysis of recent research and publications. The functioning of the public sector with the health sector as its important component and problems of their development are disclosed in numerous works of many distinguished foreign scientists. An in-depth study of financing and government regulation of medical services, the mismatch of medical services markets with competitive markets, the introduction of health insurance, and the implementation of reforms in the health sector is presented in the well-known book by J. Stiglitz "Economics of the Public Sector" [1]. The specific properties of medical care as an object of the normative economy, the comparative characteristics of the medical service industry with the norms of the welfare economy, the analysis of the inefficiency of the medical

services market due to the asymmetry of information, the uncertainty of demand, external effects in the health sector were reflected in the studies of K. Arrow [2, p. 941–973]. T. Goetzen revealed in detail the main problems of production and economic analysis of health services; described the means for stimulating and developing the organizational structure of the healthcare system based on the analysis of the corresponding financial flows; identified the determinants of changes in government spending on healthcare, and also analyzed the impact of government on public and private healthcare [3]. A fundamental study of the economic crisis consequences and implications for the European healthcare system reforming was published in 2015 by experts from the WHO Regional Office for Europe in conjunction with the European Observatory on Health Systems and Policies [4]. The problems of the specifics of competition in the healthcare sector, the degree of its influence on the quality of healthcare, public welfare, and consumer choice were considered by T. Rice [5], D. Dranov and M. Satterthwaite [6], A. Enthoven [7], M. Porter and E. Teisberg [8] et al.

The aim of the article is a comparative analysis of the public administration models and regulation of healthcare systems of foreign countries, identification of the features, as well as the possibilities of using their successful experience in Ukraine and Kazakhstan.

Methodology. The article starts with a review of modern literature focused on the models of the healthcare systems with an account for their organizational and financial characteristics. A comparative analysis of the practice of public administration and regulation of the healthcare systems in foreign countries yields its logical generalization. A systematic approach and comparative analysis were used at all stages of the study to compare current health financing and organizational management systems. Some statistical techniques and methods were used to process the collected data.

Main results. From the point of view of organizational and financial characteristics, the following healthcare systems are distinguished: predominantly state, predominantly social insurance, predominantly private.

The predominantly state healthcare system is characterized by a significant role of the state (UK, Greece, Denmark, Ireland, Spain, Italy, Norway, Portugal, Sweden, etc.). The basic example of this system is N. Semashko's system, created in the Soviet Union. It was modified and used in the UK from 1944. Funding is provided mainly from the public resources pooled by tax revenues to the state budget. This model is traditionally based on the system of public medical institutions.

The predominantly social insurance healthcare system (Austria, Belgium, the Netherlands, Germany, France, Switzerland, Japan, some Latin American countries) assumes that funding is carried out on a tripartite basis: from budget allocations, contributions from employers, and contributions from employees themselves, which implies the availability of compulsory health insurance.

The predominantly private (the USA, South Korea, etc., Azerbaijan, and Georgia began to approach this group) healthcare system is mainly based on private medical practice with payment for medical services at the expense of the patient. In almost no country in the world, these systems do not function in their pure form, since they are not only constantly being modified, but each country, based on the economic situation, determines which system to give preference to in a certain period of state development [9, p. 23–27].

Let's consider the experience of countries in which the above models have received the most striking embodiment.

The UK is an example of a developed European country with a predominantly state model of healthcare management. The healthcare system in Great Britain is represented by the National Health Service, which consists of four public health systems – the National Services of England, Northern Ireland, Scotland, Wales. Moreover, each of the systems functions separately from each other, and respectively, the responsibility for the work of each service is borne by the government of the administrative-territorial part of Great Britain, on the territory of which the health service operates. The National Health Service was formed in 1948, and the main principles of its work were and remain accessibility, universality, and free of charge.

Funding for the healthcare system in the UK comes mainly from public funds from taxes to the government budget. In addition, funds from the private health insurance system, as well as funds for receiving paid medical services, can also be sources of funding. Centralized financing of the healthcare system helps to contain the growth of the cost of medical services. Within the framework of this system, the entire population of the country has equal opportunities to receive medical care.

Thus, healthcare in the UK is free for citizens. Each resident is assigned to a general practitioner who writes prescriptions for medicines and refers the patient to specialized specialists when necessary.

The National Health Service provides prevention, primary healthcare, and specialized care services to all British people. However, not all types of services are included in the list of free services. Some of them, if necessary, the patient must pay independently in full, others require social payments from citizens, that is, they are provided subject to the division of the cost of medical services [10].

Thus, in recent years, the UK healthcare system is undergoing some transformations: hospitals are given the status of self-governing, and commercial elements are introduced into their work, namely the offer of paid medical services. Thus, there has been a tendency towards decentralization, since the share of paid services is increasing, and the number of non-state medical institutions and private practicing doctors is also growing. Thus, additional financial resources are attracted to the healthcare system.

A predominantly public healthcare system is also typical for Scandinavian countries. As an example, we chose the healthcare system in Norway. Norway's health governance structure has three subordinate levels: the central government (the country's parliament, the ministry of health), five medical-territorial districts (administrative-territorial divisions called Fylkes covering several provinces), and municipalities (called communes). Central government bodies are also responsible for the development and implementation of the regulatory and legal framework, budget allocation, and are involved in organizing medical care and services in five medical-territorial districts, and 431 municipalities. Specifically, the country's parliament is the state legislature, and the ministry of health is responsible for the health sector at the national level, setting Norway's health policy, organizing reforms, and implementing bills. In addition, the Ministry of Health controls the organization of specialized medical care and coordination in the provision of all other types of medical care, ensuring that they are provided to every resident, regardless of his territory of residence.

Municipalities as independent administrative-territorial units are involved in the regulation of financing and organization of primary healthcare and social services, ensuring citizens' access to health services at their place of residence. They are also responsible for the state of social and living conditions of the population and the state of the environment, as well as health education and recreational activities.

Regional authorities themselves distribute funds allocated to a particular municipality in the field of healthcare, depending on plans and statistical calculations. When covering the levels of a healthcare organization, it should be noted that Norway has a successful policy towards the integration of the latter. In particular, two-state commissions were created: for the legal regulation of medical and social services and the organization of various levels in the healthcare system. By coordinating health and social services and health management levels, the commissions provide the holistic approach to patients that is most needed when working with the elderly and chronic patients.

An important component in the organization of healthcare is its financing. For example, in Norway, the discovery of its oil fields made it possible to ensure the possibility of high government spending on healthcare. The indicator of expenditures in the field of healthcare from the size of the gross domestic product per capita in 2017 was 10 percent. The main sources of healthcare financing are the state budget – 73 percent, social insurance funds – 12 percent, 15 percent are payments by patients, which come from the provision of paid medical services [11, p. 24–28]. In addition, given that Norway has one of the highest GDP per capita values in the world, health expenditures per capita in absolute terms are also significantly higher than in most countries.

Germany is a classic example of a social insurance model. One of the main principles of the German public health system is the division of management powers between the federal government, the states, and the legalized civil society organizations. Thanks to the federalist tradition of Germany, as well as the legacy of the Bismarck social security system, the modern healthcare system in Germany is highly decentralized, with competencies shared at three levels: federal, regional and corporate.

However, different levels of government do not have a dominant role in direct healthcare delivery. These powers are delegated by legislation to local governments. In Germany, there are several specific subjects like medical associations and their unions, for example, the German Medical Assembly, representing the interests of doctors and patients. Its main functions are to exert control over the activities of medical institutions and represent their interests. Unlike Kazakhstani associations, they have real weight (in 2008, the Gematic company, which is responsible for the Gesundheitskarte project, was forced to conduct additional research by the decision of the German Medical Assembly). In Kazakhstani practice, doctors' associations do not have legal representation and enjoy the status of deliberative platforms and forums. While in Germany they have a form of professional self-government, represent the rights of doctors and patients, and exercise public control functions. The decisions of medical associations (for example, the National Medical Assembly) are not imperatives for other subjects of government, but the mechanisms of civil society forced to listen to the opinion of the associations [12].

Since 2009, health insurance has become compulsory for all citizens. There is competition between non-profit, nongovernmental health insurance funds (the so-called statutory health insurance scheme (SHI) that implement compulsory health insurance programs and structures that implement voluntary health insurance programs (private health insurance (PHI) [13]. The main sources of funding for healthcare in Germany are as follows: compulsory health insurance – 60 percent, voluntary health insurance – 10 percent, state budget – 15 percent, personal funds – 15 percent [14].

The United States of America is a prime example of a private model of government and health system regulation.

The healthcare organization system in the United States should be represented by the following structural elements, where the health insurance system – public and private – is the guarantor of the provision of medical care:

Government health insurance programs

The network of state hospitals for military personnel

Local, Municipal, and District Programs

Compulsory private health insurance for employees

Self-payment of medical expenses by citizens

As for the US healthcare management system. The organizational structure of healthcare is characterized by a decentralized healthcare management system with a division of powers between the federal center and the states. The US Department of Health and Human Services is represented as a federal executive body, which, through 27 divisions, implements and controls social programs, in particular, such as Medicare (health insurance for the elderly and disabled) and Medicaid (intended to pay for medical services provided to certain categories of persons with low incomes) [15].

It should be noted that the US healthcare system is predominantly private, and is facing serious problems of uncontrolled growth in healthcare costs (almost 18 percent of GDP). With a high proportion of the uninsured, which is almost 16 percent of the country's population, hospitals are forced to provide emergency care and issue invoices at free-market prices to those who cannot pay for it. With the growth of insolvent debtors, hospitals are forced to raise tariffs to cover their costs at the expense of solvent patients. This is a galloping unregulated rise in prices for medical services. The American economist A. Enthoven says that one of the reasons for the increase in costs is the lack of motivation for savings from medical service providers since market demand creates supply. There is also an excessive supply of services against the background of information asymmetry. As a result, one-third of the funds spent on healthcare is spent ineffectively [16, p. 50].

The combination of elements of the budgetary and insurance models is typical for Singapore. Singapore's healthcare system is recognized as one of the best in the world, and the World Bank encourages countries to learn from Singapore's healthcare experience, taking into account differences in income, demographics, and current healthcare financing systems. Scientists have identified two key elements in achieving such outstanding success in Singapore's healthcare: political stability and a mandatory health insurance system with an emphasis on personal responsibility. The main functions of public administration of the healthcare system are vested in the Ministry of Health of Singapore. The Ministry of Health implements state policy and is also responsible for planning, financing, and staffing. The state is actively pursuing a policy of strengthening a healthy lifestyle, carrying out preventive measures, and developing a system of medical care, thereby motivating the population to become aware of the

responsibility for their health. During the 1980–1990s. all public hospitals in Singapore were transformed into separate legal entities, formally owned by the private, non-profit Singapore Health Corporation, established in 1985, which in turn belongs to the Ministry of Health. Such a complex ownership structure ensured the independence of the hospital management from the Ministry of Health in matters of current activities but retained the Ministry's ability to make strategic decisions to change the structure of the hospital network [17, p. 62–79].

In Singapore, serious control over the quality of medical services has been organized. The function of control over the safety and quality of medicines and devices is performed by a special organization – the Health Science Authority, whose quality and safety assessment criteria comply with the standards adopted in the United States and Europe.

At the time of independence, the state had a healthcare system organized based on the British model: free medical care for the population, provided by a network of public hospitals [18, p. 51], but with the acquisition of the country's independence, Singapore switched to a system of compulsory medical social insurance. Singapore offers universal health insurance for its citizens, with a funding system based on a combination of individual responsibility and universal affordable healthcare. Through the use of market mechanisms to promote competition and transparency and the development of technologies for better quality healthcare delivery, Singapore has achieved excellent health outcomes, with national health spending of about 4 percent of GDP [19].

The healthcare financing system in Singapore has five tiers. The first tier of protection available to all Singaporeans is provided by the government, paying up to 80 percent of the cost of an emergency. The second level of protection is MediSave, introduced in 1984 as part of the National Health Program. MediSave is a national health billing system that helps people keep a portion of their income to pay for future hospitalization, surgical care, and some outpatient care needs, with a personalized medical savings account that allows almost all Singaporeans to pay their share of treatment costs. Under this scheme, each employee contributes 8-10.5 percent of the monthly salary, depending on the age group, to a personal MediSave account. The accumulation rate is 2.5-4 percent, which exceeds the inflation rate in the country.

The third tier, MediShield Life, replaced the MediShield on November 1, 2015. Its goal is to help individuals with chronic conditions who require long-term care, which can drain MediSave over time. As a rule, all citizens of Singapore are automatically eligible for the MediShield Life program, however, they can voluntarily refuse to open this account. The opening of such an account must be no later than the onset of 75 years.

The fourth tier, the ElderShield, approved in 2002, is the government's response to soaring populations over working age. Generally, all Singaporeans are included in this program at the age of 40. The bonus is paid before the age of 65, with the option to transfer funds from the MediSave account.

The fifth tier is Medi Fund that supports low-income citizens to purchase medical services. Obtaining resources from it is possible if it is proved that the income is less than the established minimum. To finance medical services, interest earned on the fund's capital is used [20, p. 177–178].

Today, the problems of healthcare functioning are in the constant focus of attention of the world community, monitoring of the main indicators, characteristics, and directions of healthcare development is carried out. For example, the Bloomberg rating agency constantly monitors the effectiveness of national health systems (Table 1).

Table 1. **Healthcare systems efficiency ranking in 2018**

	Great Britain	Norway	Germany	France	USA	Singapore
Total expenditure (percent of GDP)	9.9	10.0	11.2	11.1	16.8	4.3
Cost of medical services (US$)	4.356	7.464	4.592	4.026	9.536	2.280
Life expectancy	81.0	82.3	80.6	82.3	78.7	82.7
Score	46.3	58.9	38.3	55.5	29.6	85.6
Rank	35	11	45	16	54	2
Note – compiled by the authors according to the Bloomberg rating agency						

According to the American rating agency Bloomberg, Singapore scored 85.6 as the country with the most efficient healthcare system. The average life expectancy of its citizens is 82.7, the cost of medical services is US$2,280, and the level of healthcare spending is 4.3 percent of GDP. Spain is the second, Norway is the third, Great Britain, Germany, the United States are at the 35th, 45th, and 54th positions, respectively. It should be noted that among advanced economies the United States spends the most on healthcare (16.8 percent of GDP), while Singapore's expenses are the least (4.3 percent of GDP) with the life expectancy significantly higher as compared to other countries. According to experts, the success of Singapore in healthcare and other sectors of the public sector is the historical culture of public administration, new technologies, and a system of compulsory health insurance with an emphasis on personal responsibility [21].

It should be noted that the rating had been compiled in a favorable epidemiological situation before the time when the World Health Organization declared the outbreak a Public Health Emergency of International Concern on 30 January 2020, and COVID-19 pandemic on 11 March 2020. Outbreaks of various infectious diseases, epidemics, pandemics are a kind of test on effectiveness for health systems, especially on the ability of state health authorities to quickly respond to the emergency, mobilize as soon as possible and provide the population with timely and high-quality medical care. Following WHO's announcement of the start of a pandemic, the United Nations ranked countries according to their preparedness to prevent a pandemic. The main indicators of the rating, which demonstrate how well a country will be able to cope with the COVID-19 challenges, are the Human Development Index, the state of the healthcare system, and access to the Internet (Table 2).

Table 2. **Ranking of countries for readiness to prevent coronavirus infection**

Countries	Rank	Human Capital Index	State of the healthcare system				Internet access	
			The number of doctors per 10,000 people	Nursing staff	Number of beds	Healthcare expenditure	Mobile comm. per 100,000 people	Fixed broadband internet connection
USA	16	0.920	25.9	86	29	17.1	123.7	33.8
Spain	25	0.893	40.7	55	30	9.0	115.9	32.5
Great Britain	15	0.920	28.1	83	28	9.8	117.5	39.6
Germany	4	0.939	42.1	132	83	11.1	129.3	41.1
Norway	1	0.954	46.3	181	39	10.5	107.2	41.3
Singapore	9	0.935	23.1	72	24	4.5	145.7	28
The authors' compilation based on the UN 2020 Human Development Report http://hdr.undp.org/sites/default/files/hdr2020.pdf								

Table 2 shows that the most prepared countries for the pandemic were Norway, ranked first, followed by Germany ranked fourth, and Singapore ranked ninth. The USA, which was leading by the number of COVID-19 cases (over one million) was ranked the 16th, Great Britain was the 15th (250 thousand cases), Spain was the 25th (232 thousand cases). The main reasons for the high incidence and mortality rate of coronavirus infection in the United States, Great Britain, and Spain were late measures of state bodies to ensure social isolation, the lack of the required healthcare capacities дшлу inpatient beds, medical workers, etc. It should be noted that Germany, Singapore, and Norway were recognized as an example of the effectiveness of government measures taken to combat coronavirus infection [22].

In particular, in Norway, priority government measures were taken to combat the spread of COVID-19 and the consequences of isolation, a social distance was introduced for the population, and a ban was introduced on entry to Norway for foreign citizens who have no legal basis for permanent residence in Norway. A crisis fund of NOK 100 billion has been set up to support economic development in the country.

Germany had developed a special emergency plan long before the pandemic. In 1968, the State of Emergency Act was passed, in 2001 the Infectious Disease Protection Act, which regulates the competence of the federal government and regional authorities for epidemiological surveillance. In addition, the Robert Koch Institute centrally issues updated detailed recommendations for countering coronavirus infection, including both practical steps to protect the population and instructions for the healthcare system, which are followed by all medical institutions in the country.

An inter-ministerial committee on the fight against coronavirus infection was formed in Singapore, which took the following measures: rigorous testing, strict isolation, and contact tracing through digital technologies. It should be noted that Singapore has one of the lowest mortality rates in the world – 0.6 percent.

Conclusions. Thus, based on the study of foreign models of public administration and regulation of the healthcare system, some features characteristic of the OECD countries and Singapore can be identified.

1. In most cases, OECD countries and Singapore are characterized by network management of the healthcare system, which is expressed in the transformation of the role of the state, the transfer of regulatory functions to local authorities, non-governmental and public organizations. At the same time, the main health management body plays a coordinating role and its functions are reduced to the development of a general health policy and providing conditions for the interaction of network structures.

2. OECD countries provide significant funding for healthcare. The share of total health spending in GDP ranges from 9.9 percent (Norway) to 16.8 percent (USA). The United States allocates 16.8 percent of GDP, which is the highest government spending on healthcare, but 78.7 years of life expectancy fails to demonstrate the efficiency of the spending. In Singapore, in contrast to OECD countries, the level of healthcare expenditures in GDP in 2018 was 4.3 percent, which is almost 2 times lower than in most OECD countries, while the life expectancy rate of the population in Singapore is one of the highest in the world – 82.7 percent.

It should be noted that the study of foreign models of public administration and regulation of the healthcare system is necessary to be able to use their experience in Kazakhstani practice. Thus, in our opinion, it would be advisable for the Ukrainian and Kazakhstani models of public administration of the healthcare system to adopt the experience of Germany and Singapore, which are characterized by a developed health insurance system, built on a combination of the principles of individual responsibility and universal affordable medical care, as well as well-coordinated systemic work of public health management bodies in a state of emergency.

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ДЕРЖАВНЕ УПРАВЛІННЯ ТА РЕГУЛЮВАННЯ СИСТЕМИ ОХОРОНИ ЗДОРОВ'Я В ЗАРУБІЖНИХ КРАЇНАХ

Присвячено порівняльному аналізу моделей державного управління та регулювання системи охорони здоров'я в зарубіжних країнах. Виявлено організаційні особливості функціонування і розвитку систем охорони здоров'я, визначено джерела фінансування охорони здоров'я за трьома видами: бюджетні, страхові, приватні. Особливу увагу приділено сучасному стану систем охорони здоров'я та їхній готовності до запобігання коронавірусній пандемії.

Ключові слова: система охорони здоров'я, державне управління, фінансування охорони здоров'я, коронавірусна пандемія.

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ГОСУДАРСТВЕННОЕ УПРАВЛЕНИЕ И РЕГУЛИРОВАНИЕ СИСТЕМЫ ЗДРАВООХРАНЕНИЯ В ЗАРУБЕЖНЫХ СТРАНАХ

Посвящено сравнительному анализу моделей государственного управления и регулирования системы здравоохранения в зарубежных странах. Выявлены организационные особенности функционирования и развития систем здравоохранения, определены источники финансирования здравоохранения по трем видам: бюджетные, страховые, частные. Особое внимание уделено современному состоянию систем здравоохранения и их готовности к предотвращению коронавирусной пандемии.

Ключевые слова: система здравоохранения, государственное управление, финансирование здравоохранения, коронавирусная пандемия.

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THE IMPACT OF INNOVATION ON THE DEVELOPMENT OF THE GLOBAL COSMETICS PRODUCTS MARKET

The article analyzes the state of the global market of cosmetic products, reveals the key importance of investment in research and development for ensuring high growth rates of leading companies in this market. Trends in the field of innovative development followed by the industry are traced with the data of leading companies: Loreal, Estee Lauder, Unilever, Shiseido, Procter & Gamble, and Coty. The main challenges of the environment are outlined and the impact of innovations on the ability of cosmetic companies to function and develop effectively in conditions of the high competition is characterized. The study is based on published materials of leading companies in the industry, including their regulatory documentation, financial and annual reports, etc.

Keywords: innovations, innovative development, competitiveness, cosmetic products market, artificial intelligence.

Introduction. The global cosmetics market is dynamic and quite significantly sizeable. Such characteristics are due to the ever-growing consumer demand, as well as the fact that today this industry is constantly expanding its influence to different target audiences and covers all classes of consumers in terms of their income. Both items are declared in the annual reports of world market leaders – L'oreal, Estee Lauder, Unilever, Shiseido, and others. It is obvious that the availability of the product for consumers with any income level is due to the very specifics of cosmetics, while several factors form the element of expanding the consumer audience: constant mergers and acquisitions, access to new markets, and active innovation. Competitiveness is another characteristic of this market, and innovation plays a key role in ensuring the development of cosmetic companies and is the main means of their growth. Nowadays, innovations form strategic steps for the long-term growth of companies through cost reduction, increasing consumer loyalty, launching and implementing new business initiatives of cosmetic companies. The emphasis on innovation and the introduction of new technologies for market participants increase the recognition of their brand, build brand capital and core sales.

More and more funds are allocated for the development of e-commerce and m-commerce – mobile commerce – a

new direction of e-commerce, which includes digital and social media, interaction with influencers, and more. Information technology permeates all aspects of business: finance, production, and sales, as well as product development, marketing, including communication with the end user for further forecasting and a better understanding of market requirements. A full-fledged development and research center and a well-established system of information technology to support business have become mandatory elements of a long-term development strategy for any player in the cosmetics market, and especially its leaders. An additional requirement for market innovation is the need for companies, which have pursued a policy of closed innovation, to be increasingly open to inter-industrial cooperation now, teaming up with related industries: medicine, education, retail and IT.

Thus, to meet the requirements of modern consumers and provide the maximum possible "economy of impressions", personalized experience, and multi-channel marketing, companies develop big data analytics, provide "in-store" consumer experience with innovative technologies, build research and development centers to enhance the uniqueness of their product and to introduce of radically new products, etc. To attract new consumers, form a proper demand, strengthen consumer loyalty, realize the opportunity to offer a radically new – a breakthrough product of the market.

However, the variety of forms of the impact of innovation on the financial situation and competitive position of market participants, as well as the unequal potential of different forms of innovation of enterprises raise the issue of research and structuring the impact of innovation on the development of the cosmetics market and its players.

Analysis of recent research and publications. Both foreign and domestic scientists have studied theoretical, methodological, and practical aspects of the impact of innovations on the efficiency of enterprises and their position in the market. In particular, J. Schumpeter [13] identified the country's technological development as a factor in overcoming and reducing the effects of the crisis, J. Stiglitz [16] focused on the achievements of modern science and economic thought today as levers of redistribution of market power and effective means of combating income inequality. D. Chervanyov [1] highlighted a systematic approach to innovation covered the process of their implementation in the enterprise to effectively obtain strategic advantages in the future, O. Zhylinska [19] investigated the phenomenon of transition to the model of "open innovation" and the importance of technology transfer and patenting in the context of the implementation of "open innovations". P. Drucker [6] systematized the impact of innovation on business development and explored the practical aspects of enterprise management, choosing a strategic vector of innovative development. J. Fagerberg and B. Ferschpagen [7] studied the cognitive and organizational characteristics of markets that have had an "innovative breakthrough" and are operating in new conditions. D. Datskova [5] considered the process of innovation management in the implementation of the model of "open innovation" on the example of the Stage-gate model.

Such competent modern western analysts as E. Gerstell, E. Spagnuolo, S. Marchessou, J. Schmidt [8], I. Shevchenko, N. Shtuka [15] devoted recent work to topical aspects of the development of the cosmetics market in the crisis of the COVID-19 pandemic, potential threats and opportunities for market participants, as well as the formation of forecast indicators taking into account the crisis instability.

At the same time, many important applied problems of the formation of the global market of cosmetic products and the impact of innovations on its development have not been adequately covered and solved in the modern scientific literature. It is worth noting that today the market of cosmetic products is characterized by a clear asymmetry of information, significant gaps in logistics aspects of supply and storage, and, consequently, significant losses due to mismatch of real demand with the forecast. Thus, the market needs to find and apply new innovative methods for dealing with the industry challenges through the analysis of the impact of the innovative solution on individual problems and the general position of market participants. The study is based on published materials of leading companies in the industry, including their financial statements, annual reports for shareholders and data on sustainable business development; statistical information about the world market of cosmetic products, research, and materials of specialized publications.

Research methodology. The methodological basis of the article is the scientific achievements of Ukrainian and foreign scientists to ensure the innovative development of the national economy in general and the cosmetics industry. In particular, the researchers used a set of general and special research methods: analysis, synthesis, observation, and logical generalization – to identify trends and features of the global market of cosmetic products, generalization of existing practical experience in innovation in leading cosmetics companies, formation of conclusions and proposals; system approach – to identify interdependencies and the corresponding impact of innovations on the development of the global market of cosmetic products; statistical and economic – to study the state of the cosmetic products market in recent years; graphical-analytical method – for a visual illustration of the studied phenomena and processes. To avoid the impact of the COVID-19 pandemic crisis on the general trends, the statistics for 2005–2019 were used for calculations, while the results related to the consequences of the crisis from the deployment of the COVID-19 pandemic were indicated separately.

The article aims to assess the key impact of innovation on the ability to lead cosmetic companies to operate and develop effectively in the current high competition in this field. The analysis of the global cosmetics market, the identified trends in innovation development followed by the industry, the analysis of the market leaders have identified the leading importance of supporting research and development in ensuring high growth of the world's leading cosmetics companies.

Results. The global beauty market is constantly growing and quite resistant even to crises, which is consistently confirmed by statistics in the form of a stable annual increase in sales of relevant companies (Fig. 1). This market has successfully overcome the recession of 2001, the crisis of 2008, even showing a slight increase in 2008–2010, and has a good forecast for the current crisis caused by the deployment of the COVID-19 pandemic. This trend is characterized by consumer behavior, for which against the background of declining incomes, the purchase of cosmetic products becomes a kind of luxury. This phenomenon was first studied by Leonard Lauder in 2001 and called the Lipstick Index, later transformed into the Nail Polish Index in 2008–2010 and the Mascara Index during the COVID-19 pandemic crisis due to the forced wearing of protective masks [10].

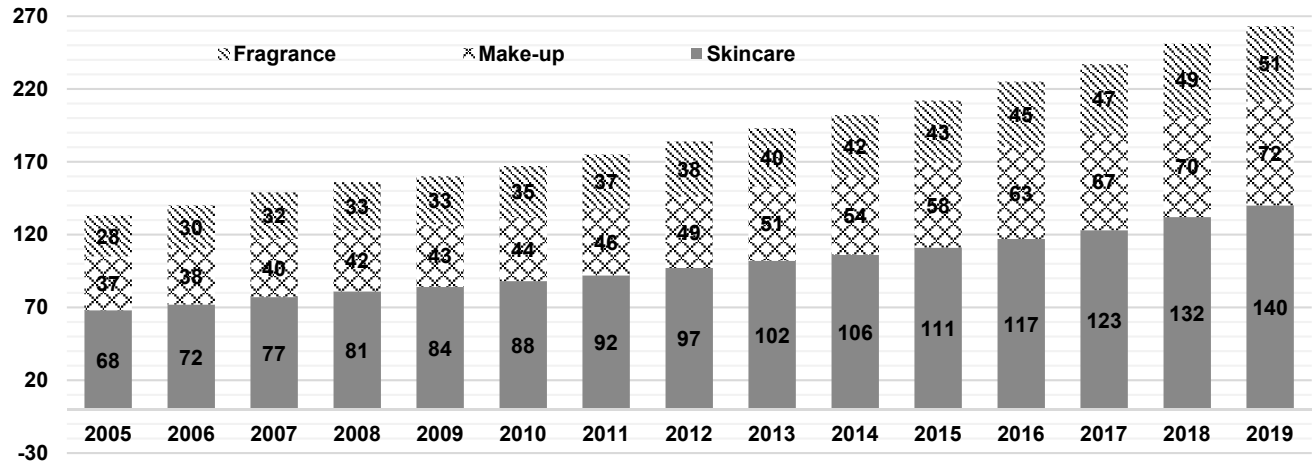

Figure 1. Dynamics of cosmetic products sales in the global market (2005-2019), billion US dollars

Source: compiled by the author based on [8].

The steady growth of the global cosmetics market is because certain asymmetries of forecasts have been compensated. But it is an indisputable fact that the crisis of the COVID-19 pandemic will not be as easy to overcome by this industry; Thus, according to fully justified pessimistic forecasts of experts and expectations of McKinsey & Company in early 2020, the overall decline in sales exceeded the mark of 35 percent, and in some countries much higher [8]. Although the crisis caused by the spread of COVID-19 has not been overcome, but at least after a year of operation in a radically new market environment, the industry has shown a more stable position than previously predicted by analysts.

The cosmetics market is quite strong in its capabilities, so in 2018 the industry created about four million jobs in the US, $267.3 bn of GDP, and accounted for 1.1 percent of the total research and development in the US. Currently, 10 percent of the industry employees belong to the STEM category (Science, Technology, Engineering, and Mathematics) that are direct generators of innovation [11]. To some extent, such statistics are due to the specifics of the industry itself: safety and high-quality standards are key priorities for the industry. Based on data from the National Science Foundation data, the industry increases investment in research and development by an average of 5.2 percent, while other industries by 3.3 percent [11]. Such significant investments in the development of innovations allow cosmetic companies to maintain their position in this highly competitive market.

At the same time, despite such high rates of investment in innovation, for the cosmetics industry, experts sometimes voice conclusions about the inadequacy of 1.1 percent of GDP in investment in research and development to make the end consumer confident in the quality of the product. To some extent, this is due to the constant increase in production capacity and growing sales of key market players, which in absolute terms are quite large amounts. Figure 2 shows the sales of the top 10 cosmetic market players. Only sales data from fragrances such as fragrances, make-up, skin, body and hair care, sun protection, deodorizing products, and aftershave products were used for the calculations. Excluded from the results of the category of soap products, blades, toothpaste, dietary supplements, pharmacology, and vitamins. This method of calculation was chosen because Unilever and Procter & Gamble, which are among the top five strongest participants in the cosmetics market, are by nature companies that also specialize in household chemicals, hygiene products, baby care, and more. Data for 2019 were taken into account, although most of the surveyed companies have already submitted new annual reports to shareholders. This is because of the impact of the COVID-19 pandemic that gives some differences in general market trends and creates appropriate errors in the construction of logical connections and hypotheses.

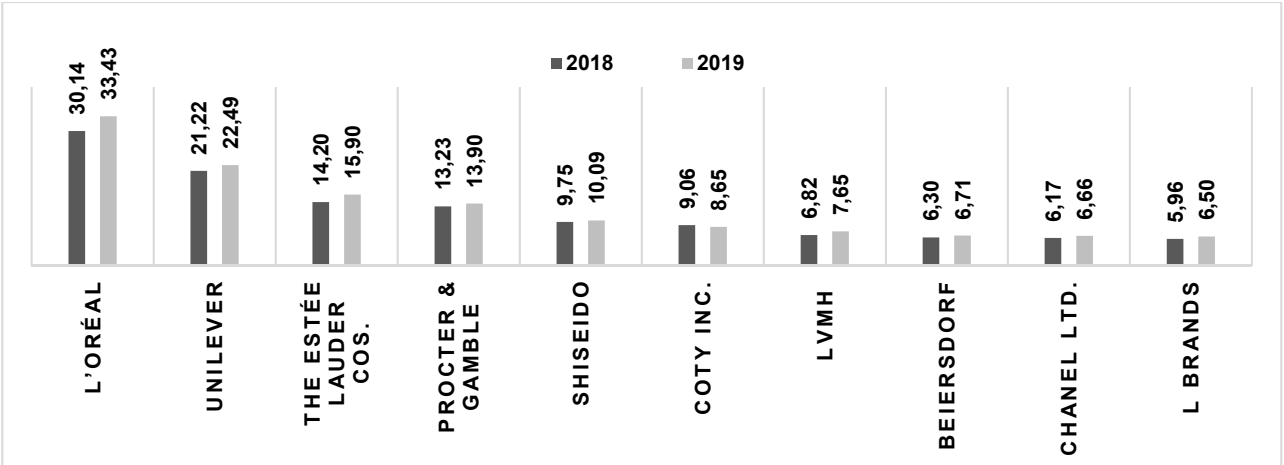

Figure 2. Sales of cosmetic products in 2018-2019, billion US dollars

Source: compiled by the author based on [4].

In addition, while studying investments in the innovative expansion of companies, in particular in research and development, despite the pandemic, most companies have maintained their strategic plans for further development. Unilever, on the other hand, with a strong production of sanitary and other hygiene products and meeting the needs of significant demand for such categories of goods, not only overcame the current problems of 2020 but also generated a surplus. The CEO of Unilever officially stated that the company intends to increase investment in the cosmetics division, in particular in prestigious cosmetics, as well as in the development of a digital system of interaction with the consumer [2].

Such cases only confirm the fact that there is a certain "polarisation" of innovation opportunities in this area. All companies participating in the market build up the direction of research and development for this industry, the innovation process is constantly needed and extremely important, but breakthrough inventions are very rare and are not inherent in the industry. Investment in research and development is needed for survival in the cosmetics market due to the very high level of quality set by today's leading companies. Thus, the market acquires certain oligopolistic characteristics: a small number of the largest companies create barriers for smaller players. The average investment in innovation is three percent of net sales, but only between the top market leaders L'oreal and The Estée Lauder the difference between investments in innovation is about $ 600 million. Table 1 provides absolute and relative data on investments in the research and development (R&D) department by six leaders in the cosmetics market in 2019, as well as the main innovation initiatives declared by these companies. For the "Sales" parameter for Unilever and Procter & Gamble, data from sales of cosmetic products were used for homogeneity of comparison.

Table 1. **Innovative activity of cosmetic market leaders**

COMPANIES	L'Oréal	Unilever	The Estée Lauder cos.	Procter & Gamble	Shiseido	Coty inc.
Total sales, 2019, billion dollars USA	33.4	22.5	15.9	13.9	10.1	8.7
R&D investment, 2019, share of sales	3.3	1.6	3.1	2.8	3.1	1.9
Innovation initiative 1	Open innovations	Consumer insight search and analysis system	Development of new products and expansion of the product range	External Partnership	A global network of hubs for research and data analysis	Development of digital presence
Innovation initiative 2	Development of microbiome technologies, microchips, and smart materials	Partner developments to accelerate the introduction of new products to the market	Setting up issues of state legal requirements	Product innovations	System of analysis and detection of actual latent consumer insights	Customization of consumer experience using artificial intelligence and augmented reality
Innovation initiative 3	Online educational programs for consumers	A system of personalized consumer support based on artificial intelligence technology	Sustainable development: increasing efficiency by minimizing environmental impact	Research of consumer perception and trends	Minimization of impact on the environment, use of ecological materials	Basic research to improve existing products
Innovation initiative 4	Digitalization of the laboratory network through data collection using artificial intelligence algorithms	Development of microbiome technologies	Establishment of a network of interaction with contractors at the global level	Open innovations and collaborations	Open innovations	Using the blue sky strategy to create radically new products
Innovation initiative 5	Product innovations		Product innovations	Sustainable development	Development of digital interaction with the consumer	

Source: compiled by the author based on [4, 9, 12, 14, 17–18].

Thus, Table 1 allows identifying the main trends in the areas of innovative development of leading companies in the cosmetics market, namely open innovation and collaboration, the use of artificial intelligence for a more personalized consumer experience, product innovation, e- and m-commerce, and the emphasis on sustainable development business. So, let us reveal them in more detail.

Open innovations and collaborations. The market dictates new rules, now speed is the main competitive advantage. Therefore, the main emphasis in the innovative development of companies is on open innovation and cooperation with external partners, contractors, universities, technology centers, associations, and representatives of related industries. All six companies, whose annual reports were examined to declare strategic plans for innovative development, state that they have their hubs, centers, or accelerators, which implement this desire to interact, sometimes even with the consumer. Some companies have their investment funds to support startups that can create new technologies and implement them in partnership with them.

Personalized consumer experience. This category includes two areas: analysis of consumer insights to technologically improve an existing product or create a new one for unmet market needs, and marketing innovations in attracting customers and their experience during the purchase. Companies are developing information systems for data collection and further

analysis, using the latest developments in the field of artificial intelligence. Artificial intelligence technologies are used both for data collection – online and offline, investigating each contact of the consumer with the product, and, conversely, offering special programs of interaction with the consumer, giving him personal advice on selection and application, special offers, forming a special product "for the consumer" even in the category of mass-market and adapting merchandising strategies.

Product innovations. For successful business development, the introduction of new and significant improvements to existing products is essential. In addition to trend analysis, working with intellectual property to update the product line requires significant technological improvements and research. Some companies use classic fundamental developments and offer updated versions of previously breakthrough peptides, retinol, hyaluronic acid, and probiotics; currently, the main competition in the market belongs to the development of microbiome technology. Others, especially companies with a larger share of the Asian market, use a blue sky research strategy – without a clear goal, trying to find something radically new.

Development of e- and m-commerce. The development of e-commerce and mobile commerce is a logical result of the formation of a more personalized consumer experience and is especially relevant in the updated market conditions under the influence of the global pandemic. Some companies encourage and support the development of their e-commerce systems by authorized retailers, seeing this as an opportunity to increase sales of their products and expand the brand portfolio. Multi-channel marketing allows us to find, better understand and encourage consumer loyalty.

Sustainable business development. A trend of recent years, which is only gaining popularity among consumers. It stimulates businesses to respond to this demand. Innovation in the context of sustainable business development is a necessary component of the company's long-term strategy and covers all areas: product development and production, marketing strategies, management practices, business infrastructure.

Thus, the impact of innovation on business results is undeniable, but also diverse, having many factors that determine this relationship. "Benefits from innovation" can be both direct and indirect: direct impact on the results of economic activity of the enterprise; impact on industry infrastructure; impact on variables related to company performance. For the final generalization, Fig. 3 shows the relationship between different types of innovations, the benefits they provide in the implementation process, and their impact on the results of the business.

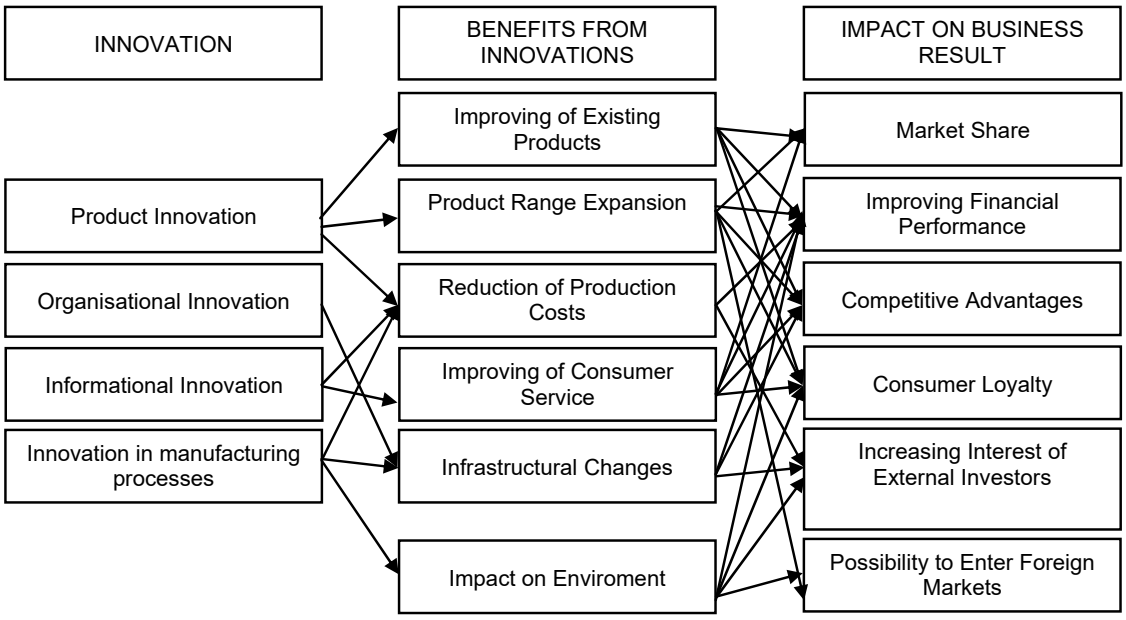

Figure 3. The impact of innovation on the ultimate benefits of business from their implementation

Source: compiled by the author based on [20].

Conclusions and discussion. The cosmetics industry is a highly innovative sector with a scientific-driven basis for production. For the cosmetics market, the innovation process is a constant and essential component of development and competitiveness, so it covers the organizational structures, processes, production, product, and service of any market participant. The analysis showed that in the current period when the urgency of digitalization of processes is further driven by the growth of online sales, volatile and stagnant demand in offline space, time constraints for production and contractors, etc., the necessity to implement and develop a digital approach to involvement customer service, constant updating of the decision support system, including big data analysis tools and consumer behavior is especially actual. It is emphasized that now the competition is intensifying, and therefore to improve their position, previously isolated market leaders are forced to change strategy and enter into collaboration, agreeing to the process of creating open innovation. It is determined that the trend of using artificial intelligence and augmented reality for a more personalized consumer experience is becoming more developed, and basic product innovations and a focus on sustainable business development continue to cover the innovation process of cosmetic companies.

Further research may find it appropriate to update the problem of polarization of innovations in the cosmetics market, as well as to determine whether medium and small

market participants with a turnover of less than $4 bn can meet today's competitive requirements and challenges.

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ВПЛИВ ІННОВАЦІЙ НА РОЗВИТОК ГЛОБАЛЬНОГО РИНКУ КОСМЕТИЧНИХ ПРОДУКТІВ

Здійснено аналіз стану глобального ринку косметичних продуктів, розкрито ключове значення інвестицій у дослідження й розробки в забезпеченні високих темпів зростання провідних компаній зазначеного ринку. Розкрито тенденції у сфері інноваційного розвитку, яких дотримується індустрія, на основі даних компаній-лідерів: Loreal, Estee Lauder, Unilever, Shiseido, Procter & Gamble та Coty. Окреслено основні виклики середовища й охарактеризовано вплив інновацій на здатність ефективно функціонувати та розвиватися косметичним компаніям в умовах високої конкуренції. Дослідження ґрунтується на оприлюднених матеріалах провідних компаній індустрії, зокрема їхній нормативній документації, фінансових і річних звітах тощо.

Ключові слова: інновації, інноваційний розвиток, конкурентоспроможність, ринок косметичних продуктів, штучний інтелект.

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Проведен анализ глобального рынка косметических продуктов, раскрыто ключевое значение инвестиций в исследования и разработки в обеспечении высоких темпов роста ведущих компаний этого рынка. Показаны тенденции в сфере инновационного развития, которым следует индустрия, на основе данных компаний-лидеров: Loreal, Estee Lauder, Unilever, Shiseido, Procter & Gamble и Coty. Определены основные вызовы среды и охарактеризовано влияние инноваций на способность косметических компаний эффективно функционировать и развиваться в условиях высокой конкуренции. Исследование базируется на опубликованных материалах ведущих компаний индустрии, в частности их нормативной документации, финансовых и годовых отчетах и т. д.

Ключевые слова: инновации, инновационное развитие, конкурентоспособность, рынок косметических продуктов, искусственный интеллект.

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EXPLAINING POLITICAL CHOICE: PROSPECTS FOR ECONOMIC THEORY

The article explores the contribution of economic theory to the analysis of political choice. The study shows that political choice is characterized by its inherent irrationality, which allows a space for different ways of externally influencing voter preferences. The author demonstrates that economic voting is not present in the Ukrainian political context.

Keywords: economic vote; imperfect information; political choice; rational ignorance; theory of public choice.

Introduction. In recent decades political choice has become the subject of research not only of sociologists, political scientists but also of economists. It appeared that the political choice of an individual can be explained using tools of economic analysis, especially the utility maximization approach. Nowadays a choice of an individual in the political market has become a significant subject of the theory of public choice, in the framework of which an analysis of the individual's actions in the political sphere is carried out.

An important result of political choice is shaping the political, social, and economic institutions. That is why analyzing the political choice (within some social context) can give significant clues about the way the institutions are formed and in what way they affect other important spheres of social activity.

Economic institutions play a decisive role in affecting economic development; failure to establish viably functioning institutions will not allow the society to be a success in securing economic efficiency, along with high social and economic dynamics as was shown by Mancur Olson [1, 2]. However, economic institutions are highly dependent on political institutions prevailing at a specific period in society. Inclusive political institutions resulting from the democratic political process tend to enhance forming inclusive economic institutions.

The formation of inclusive political institutions is an essential prerequisite for the creation the effective economic institutions that predetermine the economic development of a nation as was proven by Açemoglu and Robinson [3]. Their formation occurred in course of free elections allowing forming the representative public bodies of different levels. The election of certain politicians will have a significant impact on the development of the state and its economy, both positive and negative depending on how the elected politicians govern the society. Thus, it is very important to analyze the collective choice of individuals in the political market, performed through voting for parties and individual politicians, and reveal underlying reasons making people cast their votes.

The goal of this article is to demonstrate the potential of the economic theory in political choice as opposed to market choice.

To reach this goal, the following research objectives were set: (a) to highlight the development of the modern economic theory with regard to such important field as a political choice with special emphasis on studies dealing with transition nations; (b) to demonstrate relevance or irrelevance of economic voting concept under conditions of modern Ukraine; (c) to find out how the information imperfectness and its comprehension by consumers in the political market affect the resulting choice.

Thus, the scope of this study extends for individual's choice within the political market, and a subject is its peculiarities under conditions of transition society.

Review of the literature. It is widely believed that the political choice of certain individuals and social groups is determined by the desire to satisfy their interests. At the same time, it is obvious that even if, in the course of market choice, an individual is not inclined to act rationally in many cases as presented in a vast bulk of studies by modern behavioral economists starting with Daniel Kahneman and Amos Tversky, then for the political sphere the choice of the worse alternative is a common case. One of the ontogenetically formed reasons for this is that, unlike an animal, a person does not feel the connection of his participation in collective choice with possible consequences, and therefore feels not responsible for achieving the socially optimal outcome.

It is proven in the literature that some animals, in case of making a collective decision, usually make their choice among different available options very carefully and "thoughtfully". The reason for such responsible behavior is a mere fact that in case of a wrong decision the animal community can just not survive, so the unanimous decision would have severe consequences for each member of the animal community, having at stake individual and collective survival [4]. However, in case of the human society, a wrong decision not necessarily will bear negative consequences for an individual because he is inclined to believe that his choice does not mean much while choosing among social alternatives.

Already in the 18th century, Marquis de Condorcet drew attention to the contradictory results of human collective choice under democracy, and in the middle of the 20th century, they were generalized by a Nobel Prize winner Kenneth Arrow who developed a theory of social choice.

Many economists, starting with Adam Smith, expressed doubts about the ability of individuals to act rationally in the public sector of the economy. *E.g.*, James Stuart Mill, pointing out that the individual's competence in evaluating private goods is rather limited, noted that individual choice regarding public goods and the future consequences of it cannot be properly assessed by the economic agents. Joseph Schumpeter believed that individuals are not inclined to trouble themselves with a well-considered political choice, their thinking becomes associative and affective: "Thus the typical citizen drops down to a lower level of mental performance as soon as he enters the political field" [5, p. 262]. A Nobel Prize winner James Buchanan, one of the pioneers of the public choice theory, noted that the individual's market choice differs greatly from his political choice, which is manifested in the degree of certainty, the degree of social participation, the degree of responsibility, the nature of alternatives presented, the degree of coercion, and power relations among individuals [6, p. 334]. These differences are responsible for the stochastic outcome of the political choice due to its multi-agent nature, the individual's low responsibility in voting and the results of the election, the subsequent coercion to consume an undesirable alternative, which initially questions the rationality of the voter's choice: there is no connection observed between the preferences and the results of the voter's actions [7]. Geoffrey Brennan generalized the mainstream approach of the economic theory to political choice in the following way: a person as *homo economicus* and *homo politicus* demonstrate differences in behavior since political choice bears relatively small individual consequences compared to the market one; so incentives for responsible behavior in politics are fewer [8].

Awareness of this fact led to the emergence of a radical concept of "rational irrationality", the essence of which is that the individual is systematically irrational about political choice, which can explain the frequently observed unsatisfactory results of the functioning of democratic institutions [9]. At the same time, many researchers still remain within the framework of the rational voter and rational political choice paradigm, although numerous problems have been identified in explaining the behavior of *homo politicus* that do not have a consistent theoretical explanation [10].

The fundamental issue that casts doubt on the rationality of political choice is the so-called "paradox of voting" first mentioned by Condorcet and described in detail by Anthony Downs [11]. The paradox is that, based on the principle of rationality, it is impossible to explain why the individual participates in the elections since the probability that his vote becomes decisive is close to zero; therefore, his benefits adjusted for this probability cannot be comparable with costs associated with making a choice. To resolve this paradox, the researchers proposed various deviations from the principle of rationality: additional factors were included in the calculation of the voter's benefit, due to which a positive value of the net benefit of his participation in the vote was achieved. These include, for example, social responsibility; obtaining additional utility from participation in the process of the performance of a civil debt (so-called "process utility"); manifestation of relevance to a particular society; altruism; voter's illusion; expressive voting (joy for the victory of your candidate); imperfections of information, as a result of which the voter is not able to correctly assess the benefits and costs of voting, *etc*.

However, the main problem that researchers directed their efforts at was the analysis of how the voters specifically cast their vote, *i.e*. factors that determine or explain the political choice in course of the election. To date, there are two main approaches to this issue: social-psychological and issue voting.

As part of the first, which arose in the USA in the 1950s [12], the voter chooses the party (a candidate) for which he will vote based on membership in a particular social group and his own socio-economic and psychological experience. Issue voting suggests that voters cast their vote basing on some set of political issues presented by political agents. It is described in the literature as three approaches: (a) the linear position model, (b) the spatial model, and (c) the salience model.

In the first approach, scholars apply a modified utility function, assuming that the electoral result of the party (candidate) may be described using the function of voting/popularity, the *VP*-function, the value of which is determined by sets of economic and political variables [13, 14]; the *VP*-function is mostly used to test the hypothesis of so-called "economic voting" (*EV*). Economic voting is understood as a choice dome with special regard to economic factors, such as GDP, unemployment rate, inflation rate which belong to those affecting social welfare, as well as factors affecting private welfare (personal incomes).

The generalization of numerous studies conducted in recent decades [15, 16], gave the foundation to highlight some EV empirical regularities. These include reaction to the dynamics of unemployment and inflation; sociotropic/egotropic factor (thus reflection to development of social welfare versus personal welfare); voter's myopia (systematic underestimation of more distant events); retrospectivity (voters react slightly more strongly to past events than to those expected in the future); lack of economic knowledge; the grievance asymmetry (voters punish governments for bad results more than they reward them for commensurate good ones); cost of ruling (the incumbent loses in the next election regardless of its results). As can be seen from this list, researchers note that the choice of the voter is largely determined neither by political nor economic factors, but by cognitive effects (illusions, distortions); this means that motivated individuals and institutions enjoy significant opportunities for choice manipulation through designing an illusionary world in the minds of voters.

The foundations of the spatial approach were laid by Duncan Black and Anthony Downs. Based on an analysis of Hotelling's spatial competition model, they suggested that when choosing spatially localized public alternatives, the one that matches the preferences of the median voter wins. The practical application of this approach is limited to voting held on one issue (referendum). If we consider presidential or parliamentary elections, then candidates and parties offer programs that address a wide range of socially significant issues, and this approach is hardly relevant. Economists have justified doubts on the practical significance of this approach since the amount of public spending in practice is determined not so much by the preferences of the median voter, but by institutional factors, in particular the degree of bureaucratization of institutions. At the same time, the analytical value of the median voter model increases significantly, taking into account the fact that the preferences of voters regarding public goods can be interdependent: if someone is a supporter of a particular party, then it is easy to predict his preferences regarding many issues without asking.

A modern version of the spatial approach is most fully described in the studies by Enelow and Hinich [17], Hinich and Munger [18], Schofield [19], and was also applied in practice to the analysis of voter behavior in a number of countries, including Ukraine [20]. It involves the use of a probabilistic model in which the voter makes his choice based on how much the party programs match his preferences, determined by his socio-economic characteristics.

The third option, the salience model, is based on the assumption that voters give preference to candidates who more adequately reflect their ideas about the salience of the issue.

We can conclude that the economic approach to analyzing political behavior has developed to three important strains of issue voting, leading of which is a linear position model basing on the construction of the *VP*-function depending on a set of economic and political variables. The major goal of this approach is to define to what extent the actual vote cast for a certain politician or party depends on the state of the economy.

Testing the relevance of economic vote: methodology and application. Since the individual's preferences regarding political choice should be in a certain relation to his needs, the economic factor logically should first of all influence his choice. This *EV* concept has been reflected over the past few decades in hundreds of papers on issue voting, beginning with a pioneering study by Gerald Kramer [13]. The results achieved in the economy, as suggested by most students, must be one of the decisive motives that determine the political choice: the voter is inclined to support a politician (party) during whose governance the economy showed (or is highly likely to show) positive results, and, conversely, refuse to trust him in case of negative dynamics. The significance of economic factors can be weakened or strengthened by some institutional factors. However, certain researchers did not find a significant relationship between generalized macroeconomic indicators and election results [21]. These doubts are constantly fueled by the mixed results of modern research.

There are two *EV* dimensions, depending on the aspect taken into account by the researcher. There is "egotropic voting", when individuals evaluate the achievements of the economy through the prism of their well-being, and "sociotropic voting", when individuals take into account the development of the economy as a whole. In most empirical studies, the dominant motive of the voter appeared to be sociotropic [15; 22], although this statement seems to contradict the main premise of modern economic theory – methodological individualism. According to the methodological individualism concept (which is actually one of the cornerstones of the mainstream economic theories), "it is necessary to base all accounts of economic interaction on individual behavior", as Kenneth Arrow put it [23, p. 1]; in application to *EV* it must be suggested that egotropic motive has to prevail, which is not supported by empirical findings.

Depending on which state of the economy the voters evaluate – past or future – retrospective voting, which is incumbency-oriented, and prospective voting, respectively, policy-oriented, could be distinguished. The voter that retrospectively evaluates the economy implements the "punishment-encouragement" strategy for politicians, encouraging them to implement a "good" economic policy in the future. In the case of a prospective vote, individuals vote for candidates based on their associated expectations regarding the future development of the economy [11, 24]. In countries with stable democracy,

most researchers have found that retrospective voting prevails, which is also found in local elections.

In general, the findings of the researchers regarding retrospective/prospective voting are mixed; the conclusion often depends on whether the study was conducted at the micro or macro level and on the institutional features of the election. "Voters appear to be Downsian, looking to the future, but grounding assessments in retrospective evaluations: both prospective and retrospective evaluations matter to the voter" [25, p. 383]. The prospective *EV* is most pronounced in groups of voters interested in a particular policy, for example, in receiving social assistance or relaxing the taxation.

Researchers conclude that the role of national *EV* factors is weakening as global institutions strengthen [26]. In the context of globalization, the concept of a "reference point" also emerged: voters, while casting the vote, evaluate the effectiveness of their national political power against the background of other countries [27]. It was found that *EV* can be distorted by some subjective factors like commitment to a particular party (partisan effect), differing perceptions of development data, and government performance depending on whether the voter is a supporter of a party in power or opposition [28, 29].

The observations mentioned above were made basing on analyzing voter behavior in mature democracies. *EV* in transition countries has a certain specificity associated with the fact that they undergo radical economic reforms, during which a significant part of the population suffers economic losses from the reforms. Since the majority in post-socialist society suffered losses during the reforms, radical reformers in many cases did not receive social support during the next elections, which led anti-reform forces to power [see 30]. It follows that the economic voter in post-socialist countries should be more prospective than retrospective. When analyzing *EV* in transition countries, factors that are not of great importance in developed countries should be taken into account, namely, perceptions of the level of corruption and the degree of uneven distribution of income [31]. At the same time, as democracy matures, the role of *EV* should increase, which is associated with growing awareness of citizens of the functioning of public institutions and increased confidence in them [32]. Overall, "the economic vote works pretty much the same way, regardless of the nation's level of economic development" [29, p. 258].

The weak point of *EV* research is that allocative, rather than distributive, aspects of economic development are taken into account [25, p. 391]. This means that if a small minority of the population benefits from economic development, then with positive macro trends, the public assessment of the situation may turn out to be negative, and voters may not support the incumbent, voting for a challenger who will promise a fairer distribution alternative.

Distortion of economic vote: the case of Ukraine. The degree of manifestation of subjective factors in a political election is directly associated with the imperfection of information. Information issues arise not only as a result of the lack/incompleteness of information, objective imperfection of human information perception, cognitive biases, or as a result of manipulation, but since the voter does not wish to exert sufficient effort to improve its quality, so the Downsian rational ignorance is here at play. Although IT development creates the preconditions for an increase of public awareness in politics, the tendency to minimize effort in obtaining and processing information does not disappear. Therefore, individuals are inclined to react to the signals given by participants of the political process, utilizing (not "digesting") information coming from "experts" who participate in their favorite political talk-shows, relatives/friends, *i. e*. those whom they are eager to trust. This situation is used by intermediaries in the acquisition of information – media, which, while playing on the side of one candidate or another, can persuade the voter to cast the vote for him. Economists have long recognized that "...voter preferences... can be manipulated and created through the information and misinformation provided by interested pressure groups..." [33, p. 392].

This predisposition is described in the context of heuristics of political behavior. One of the first was the heuristic of partisanship and ideology: instead of studying the programs of candidates and parties, the voter makes his choice based on the affiliation of the electoral participant or the officially proclaimed ideological doctrine of the candidate/party. Heuristics of a group (class), race and religion, political principles, approval by politically influential individuals, groups, or the media, heuristics of public opinion polls (these polls may provide information on how likely a victory is for a candidate) are also noted. In a context of rational ignorance concept, it might be noted that "Heuristics often produce the same decisions, albeit with significantly less effort, as full processing of all of the information" [34]; heuristics provide the voter with a signal that allows him to identify candidates which are close to his preferences at no extra effort. The action of the heuristics mentioned above is enhanced in the case of an individual participating in a formal or informal organization.

At the same time, relying on heuristics can lead to the fact that the voter becomes biased, and therefore unable to rationally, taking into account his interests, make a political choice.

Having in mind the peculiarities of an individual's behavior in the political market mentioned above, it would be useful to understand, to what extent the Ukrainian voter relies on objective information or heuristics. In order to approach this problem, the last presidential elections 2019 could serve as useful material for a case study. In this election, the incumbent president lost to a novice in politics who had no political experience and no political weight before. A reasonable question arises here: was it an economic performance that was responsible for the outcome of the election, or maybe some other, subjective factors, relating to imperfect information and heuristics?
Basing on *EV* concept it would be rational to relate the objective trends in the Ukrainian economy to the actual outcome of Ukrainians' political choice.

First, what is important, is the evaluation of the Ukrainian economy performance during the incumbent presidency (2014 through 2019) in terms of personal well-being and economic development towards which the voter should have some reflections while casting the vote. We decided to analyze the dynamics of the most important economic indicators like GDP, unemployment, consumer prices, and real disposable income. These measures are commonly used in most econometric studies while modeling the *VP*-function. The dynamics of these measures is depicted in Table 1. The data give reason to conclude that the economic performance looked rather modest within the period between elections, although the reasons for this were largely due to external factors (war with Russia), i.e. were beyond the influence of the Ukrainian government and the president as a top public official.

***Table* 1. Indicators of social and personal well-being in Ukraine, 2014–2018 (in percent to the level of the preceding year)**

Economic indicator	**2014**	**2015**	**2016**	**2017**	**2018**
Gross domestic product index	93,4	90,2	102,4	102,5	103,3
Unemployment rate	9,3	9,1	9,3	9,5	8,8
Real disposable income index	88,5	79,6	102,0	110,9	110,9
Consumer price index	124,9	143,3	112,4	113,7	109,8

Source: compiled by the author based on data of the State Statistics Service of Ukraine.

According to official statistical data, significant negative trends in the economy were observed in 2014–2015 when the Russian aggression was on the march. This sharp deterioration in the general state of the economy must be assigned to the aggressive actions of the Russian Federation, including the military ones, in which the nation suffered significant economic losses due to the destruction of the economy in the occupied territories (Crimea and parts of Donetsk and Luhansk regions) and the economic wars through which Russia sought to economically weaken Ukraine [35]. However, in 2016–2018 the negative trends gave way to positive ones which allowed to practically restore the 2013 level of social and personal well-being by the beginning of the year 2019.

As the actual economic situation in Ukraine in the pre-election period looked not as bad as it might be with regard to the unsolved issue of military aggression, the question could be logically raised: why the voter did not take this fact into account? One of the possible answers to this question is the imperfectness of information and insufficient voter's eagerness to overcome it which goes in line with the Downsian rational ignorance concept.

The Ukrainian voter did not take into account the achievements of the incumbent president and the government on which he relied. These include the restoration of the army, the introduction of a visa-free entry to the countries of Europe, the stabilization of the national economy after the recession caused by the Russian aggression, the restructuring of foreign economic relations towards Europe, the elimination of energy dependence on the aggressor, reducing the level of corruption, the implementation of several reforms in public administration and other spheres of public life, among which the most successful is believed to be decentralization, *etc*. The reforms initiated during Poroshenko's presidency were not appreciated because the voters did not have (or maybe did not want to have) some pieces of essential information. A poll conducted in 2018 (just before the election year) by the Razumkov Center showed "an insufficient awareness level of Ukrainian citizens concerning reform content and expected results" [36]. It turned out that on average only 2-10 percent of citizens were well informed about reforming activities. Remarkably, it appeared that Ukrainian citizens were least informed about the reforms in the economy: 72 percent "knew nothing" on the reform in the financial sector, 66 percent in public asset management, 64 percent in deregulation, 62 percent in public administration reform, 57 percent in taxation reform, 56 percent in the energy sector reform. Assessing the impact of the reforms on their well-being, the vast majority of respondents (60–75 percent) did not see any link.

The poll data indicate significant problems with information on the activities of public institutions in Ukraine: this information was generally incomplete; in addition, in many cases, it turned out to be deliberately distorted by the media to form a negative attitude towards the incumbent and create an impression that he failed in most spheres that are important for the public.

Another explanation for the absence of *EV* manifestation throughout the 2019 election year could be the following: some non-economic factors overweigh the economic ones. *E.g.*, the situation of a lasting military conflict with Russia obviously generated significant social grievance because this conflict was associated with high moral and economic losses (both on social and individual levels). This fact is very important because human beings, as the social psychologists demonstrated, are mostly loss-averse [37]. That is why the improved economic performance could not compensate for the losses which made people feel worse. And this negative balance in minds could be responsible for underestimating the positive economic trends and respective casting the vote. There have been lots of similar cases in human history, like Prime Minister Winston Churchill's defeated in the first postwar election in the United Kingdom, the reason for which was explained in a way that his personality was associated with high human and economic losses of British nation during WWII.

We suppose that rational ignorance played also some role in the observed election outcome. Immunity to information gives rise to a simplified perception of reality. "When people decide whether to devote mental effort to the dry facts vital for intelligent political choice, or to irrelevant fluff, they choose the latter" [9, p. 96]. Voters did not want to know what the politicians did or plan to do and preferred not to think about the possible negative consequences of their choice. This especially enhances the role of heuristics in political choice; not least important is personal information about the candidate to construct his narrative, *e.g.* his appearance or mode of communication, and not at all his experience and political credentials. Relying on heuristics, the voter is not inclined to make a rational choice that in turn can have negative consequences for society as a whole and an individual as well.

The low awareness of the voter participating in the year 2019 election extends even to the knowledge of the contenders' future intentions concerning reaching basic social goals. This statement can be proven by some polls carried out just before the Ukrainian presidential election 2019 as presented in Table 2.

***Table* 2. The degree of voter awareness in the 2019 presidential election of the main aspects of their candidate's policies (percentage of highly informed) [38]**

Issue	Poroshenko's voter	Zelenskyy's voter
How to reach peace in the East	40,1	20,8
Policy towards Russia	50,8	18,0
Reforming judiciary and law-enforcement agencies	27,8	14,1
Reform of Armed Forces	47,6	10,2
Fight against corruption	35,8	30,3
Social reforms	45,5	20,4
European integration	61,5	21,1
Entry to NATO	62,0	16,2
Land reform	25,1	9,9
Economic growth	41,2	21,8

The data above demonstrate that most voters intending to cast their vote in favor of a specific president office seeker acknowledge that they had not much knowledge about the intentions of their favorite even concerning the most important issues of social concern like war with Russia and reforming the economy.

If the voters do not know much about the future intentions of their favorites, then a logical question could be raised: why do they want to vote for a specific candidate. The answer might be: they rely on heuristics and images generated by modern media which are very influential in Ukrainian society.

Conclusion. Thus, the research conducted by us gives the conclusion that economic theory, in particular the theory of public choice, made a significant contribution to the study of consumer behavior in the political market. Already in the works of the economists of the classical school, we find guesses that an individual cannot act rationally in the political market. Since the middle of the 20th century, beginning in particular from the fundamental study by A. Downs, the number of studies devoted to this issue has grown rapidly, which led to the crystallization of various alternative approaches to the analysis of political behavior, the leading of which became a linear-position approach. The essence of this approach is building an econometric model of a *VP*-function, an explainable variable of which is a certain candidate (party) in elections, and explaining variables – various political and economic factors. The *VP*-function allows finding out how important are the economic factors for individuals when making a political choice.

The practical application of the *VP*-function showed that the political choice is largely due to the degree of completeness of the information received by the voter and his ability to process it and use it.

An attempt to analyze the role of the economic vote in Ukraine on the example of the 2019 presidential election showed that the hypothesis of the economic vote in Ukraine does not work. The explanation for this may be the imperfectness of information, partly artificially aggravated by media, and voters' relying on heuristics, which led to a distortion of their preferences.

Such a conclusion requires further verification through econometric modeling, that is, the construction of a relevant *VP*-function. It is obvious that such a task is encountered with a number of difficulties. Firstly, due to the lack of information about the political preferences of voters (in many countries, the data of mass detailed surveys of electoral vote intentions for certain political figures and parties are available for a researcher, while in Ukraine such polls include a very small sample, which in addition are not available to researchers), and, secondly, the absence of mass polls in Ukraine on the perception of the economic situation and the action programs proposed by the politicians that would be tied to political preferences of a particular voter.

However, despite these difficulties, we consider as productive attempts to construct the *VP*-functions for using available data on the observed political choice in the regions, especially since official statistics provide data on time series for basic economic variables in the regional cross-section (gross regional product, unemployment rate, inflation rate, real incomes, etc.) at least from the end of the 1990s, which allows assessing the influence of relevant economic factors.

Conducting such studies will fill the lacunae in the analysis of political choice in Ukraine and will provide a more accurate toolkit for predicting the development of the domestic political market.

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ПОЯСНЕННЯ ПОЛІТИЧНОГО ВИБОРУ: ПЕРСПЕКТИВИ ЕКОНОМІЧНОЇ ТЕОРІЇ

Досліджено внесок економічної теорії в аналіз політичного вибору. З'ясовано, що політичний вибір характеризується ірраціональністю, що дає простір для різних способів зовнішнього впливу на думку виборців. Продемонстровано, що економічне голосування не присутнє в українському політичному контексті.

Ключові слова: теорія суспільного вибору, економічне голосування, недосконала інформація, політичний вибір, раціональне невідання, теорія суспільного вибору, ірраціональність.

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ОБЪЯСНЕНИЕ ПОЛИТИЧЕСКОГО ВЫБОРА: ПЕРСПЕКТИВЫ ЭКОНОМИЧЕСКОЙ ТЕОРИИ

Исследован вклад экономической теории в анализ политического выбора. Выяснено, что политический выбор характеризуется иррациональностью, что дает простор для различных способов внешнего воздействия на предпочтения избирателей. Продемонстрировано, что экономическое голосование не присутствует в украинском политическом контексте.

Ключевые слова: теория общественного выбора, экономическое голосование, несовершенная информация, политический выбор, рациональное неведение, теория общественного выбора, иррациональность.

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FACTORS INFLUENCING SOCIAL CAPITAL IN RURAL COMMUNITIES IN NIGERIA

Social capital has become an important aspect of most rural communities in developing nations. But, the dimensions of social capital vary across rural regions while little is known about the factors influencing it in rural areas. This study aimed to identify the prevalent social capital dimensions in rural areas and examine the factors determining rural people involved in those dimensions. A field survey which consists of structured and self-administered questionnaire was carried out with rural households. The information of the survey was obtained from 220 rural households in the study area between August and October, 2019. The descriptive analysis identified social networks (3.875), norms (societal values) (3.390), trust and solidarity (4.115), and cooperation and group action (4.139) as the prevailing social capital dimensions in the rural communities. The results further suggest that cooperation, trust and solidarity, and networks are respectively the dominating social capital dimensions in the rural areas. The results from probit model estimates show that the factors that are more likely to be associated with social capital in rural areas include education, access to credit and ownership of farm (cash crop). Since social capital is becoming a prerequisite for rural development, our findings lead to the suggestion that cooperation, build-up of networks should be facilitated for people in the rural areas. Furthermore, policy direction towards access to education, credit provision and development of primary occupation in the rural areas should also be enhanced. Economic policy makers and rural development agencies are invited to continuously work on the identified factors to promote the individual, community and national development on equitable basis.

Keywords: cooperation, social networks, norms, rural development.

Introduction

The importance of social capital as a strategy for the development of rural areas has attracted interest in recent years. Increasing rural-urban migration in most developing countries, poverty and the decline of agriculture which form the base of most rural economic activities are part of the reasons for the renewed call on ways to strengthen the base of rural areas [1, 2, 3]. Also, the ineffectiveness of various

measures to address rural development challenges in developing nations has strengthened the call for understanding social capital issues in rural areas. The relevance of social capital includes the facilitation of coordination, identity and purpose among the group of people. Social capital could be viewed as all forms of relationship between people that "shapes their interactions". The relationships are usually built on mutual understanding, bonds, common values which determine the directions of development and livelihood engagement of individuals, groups, institutions, associations, and communities [4, 5, 6].

Unlike other forms of capital, social capital is considered more important for developmental changes especially in developing regions with a high percentage of the rural population [7]. But, the need for social capital also requires appropriate information on the underlying factors driving social capital acquisition in rural areas. This is more important since the benefits that could be derived from social capital covers all the resources an individual could derive from being a member of a group. The concept of social capital could be viewed as "the capital of cooperation, joint action, mutual trust and assistance. They are also formed as a result of economic interactions among individuals" [8]. In essence, social capital is meant to create economic value among individuals.

Strengthening the social base of rural communities through social capital could serve as a survival path for the poor and the less privileged. The opportunity arising from social capital could be a source of sustainable networks, linkage for better livelihood opportunities and a source for credit for business activities [9]. Social capital could also contribute to rural development by reducing the negative consequences of rural abandonment by the youths [10, 2]. Consequently, social capital is considered to affect both the individual and society at large [2]. Yet, the questions on determinants of social capital, especially in rural areas, remain unanswered.

Several advantages and disadvantages have been associated with social capital growth in rural communities. Benefits that are associated with social capital include reduction of social exclusion among the rural populace, sustenance of local governance structure, economic empowerment, and provision of support to the needy [11, 3]. On the contrary, studies (e.g., Phillips M. [13], Tregear A. and Cooper S. [9]) have also found the negative effects of social capital to include redundancy of knowledge, "over bonding" that could result in worse social exclusion and poor management of local governance issues.

Despite the well-acknowledged importance of social capital to the development of marginal regions such as rural areas, existing studies on social capital have not examined the driving factors of social capital in developing nations. Yet, adequate information on the characteristics of rural people who desire and deserve social capital is required for creating effective strategies for rural development. To this end, this study examines the social capital dimensions in rural areas and analyzes the factors determining social capital in rural areas, using rural communities in Southwest, Nigeria, as a case study. Specifically, this study examines the social capital dimensions in the rural areas. It also analyzes the socio-economic factors influencing social adoption in the rural areas. The influence of cooperation, social norms and values, trust and solidarity and social networks are highlighted. As a concept, social capital enables relationships among individuals in addition to cooperation and trust [14]. Social capital explains the interconnections, relationships, trust and networks that exist among individuals [15].

Some contributions are highlighted in this study. First, the study expands the literature on the components and structure of social capital in rural communities in developing nations, especially sub-Saharan Africa, using Nigeria as a case study. While there is increasing literature on social capital and its role in human development, little is known about its determinants. Since social capital has been found to include the potential for economic and social benefits to the rural populace, understanding the underlying factors of social capital may be beneficial to designing effective strategies for rural development.

The paper is structured in sections. The following section presents a critical review of social capital concepts, social capital and cooperatives, and social capital indicators in Nigeria. This is followed by the methodology of the study, and results and discussion. The paper ends with a conclusion.

Literature review

Literature on social capital is expansive. But the coverage area is narrowed to studies on the adoption of agricultural technologies, and poverty [16, 17, 2, 3], neglecting the underlying characteristics of individuals that could determine the sustainability of the benefits inherent in social capital.

In the last decade, social capital remains one of the most important concepts that are of great interest in social science-related researches [18]. Despite different perspectives by researchers on what constitutes social capital, there seems to be general agreement that the concept relates to connections, networks, trust, norms, relationships, shared values, collective actions, reciprocity, institutions, cooperation, link, bond, and bridge [19, 20, 21, 15, 11]. The existing contentions on the concept revolve around the applicability of these indicators to all social-related settings. For instance, Liang Q. et al. [14] streamlined the concept of social capital to networks. This is based on the perception that the idea is more of community capital that is only relevant in facilitating interactions among the community members. Using this perspective, Chriest A. and Niles M. [15] opined that the concept is relevant when there is the presence of social structure within a community. By implication, the views of the concept as networks are only relevant if there is the existence of both intra and interrelations among the people of a particular community. Meanwhile, Luo Q. and Wang Z. [12] believed that social capital is not more than a useful instrument for resolving the problems associated with collective action. Thus, the concept of social capital could be context-specific.

Different indicators have been used to measure social capital in different organizational contexts. The indicators that have gained prominence in the literature relating social capital to cooperatives activities are generally classified into three. For instance, Chloupkova J., Svendsen L. and Svendsen G. [22] highlighted civic participation, trust and membership in community groups as the three indicators. These indicators however differ from earlier literature which considered "networks, norms and trust" [23, 24, 25] as the three core indicators of social capital. In these latter categories, networks are considered the same as relationships that occur in a social setting. Norms relate to both acceptable and unacceptable actions while trust simply refers to confidence in people even in the presence of uncertainties.

The World Bank [26] categorized social capital into six dimensions: "groups and networks, trust and solidarity, collective action and cooperation, social cohesion and inclusion, and information and communication, empowerment and political action". However, the study

conducted by Musavengane R. and Simatele D. [27] excluded empowerment and political action from the World Bank definitions of social capital dimensions.

In an attempt to provide a concise description of social capital, some studies have adopted classification based on dimensions. Using this perspective, Liang Q. et al. [14] classified it into cognitive, relational and external dimensions. In all these, the authors attempted to link social capital to cooperative structures. Consequently, these three dimensions are discussed based on organizational networks from both the intra and interrelationship perspectives. The external dimension is considered to be "inter-organizational" links of cooperatives while the cognitive and the relational dimensions are intra-networks of cooperative entities. Nonetheless, the contexts of these dimensions are related to trust and collective orientation which are part of the general indicators highlighted in the existing literature.

Some studies across the world affirmed the importance of cooperation in social capital to human capital development [28, 29, 30, 31, 32, 33]. Social capital cooperation is known to create non-financial assets which could help in shaping individuals' behaviour [29]. Social capital can be described as a "bond, bridge and link" [34]. The "bond" relates to trust and cooperative relationships among individuals with shared characteristics. It is often more effective among homogenous groups of people most especially, those within a defined entity such as rural areas. However, a beneficial relationship is generally tied to gaining access to opportunities and resources which can only be facilitated by "bridge and link" [35]. While "bond" could bring people of similar characteristics together, "bridge" and "link" can facilitate and expand benefits and access in various heterogeneous settings. Social capital also enables the linkage of people with formal institutions (e.g., financial) that can provide support for personal development [36]. Hence, social capital can help connect people with available resources and benefits within and outside their operating environment.

Social capital enables the acquisition of livelihood capitals through the creation of relationships among individuals. The essential elements of social capital including networks, norms and trust are considered crucial to cooperative success and the attainment of shared objectives [37, 38, 29, 34]. Although social organizations are generally considered as constituting social capital, the relevance of social organization in such context depends on its ability to facilitate benefits and meet the needs and aspirations of members. Consequently, social capital facilitates cooperation just as cooperation among people of certain communities enables the acquisition of wealth [39, 40].

The interaction between economic success and social capital acquisition is mutually reinforcing [29]. This interaction could lead to the successful actualization of poverty reduction objectives among the poor in vulnerable areas. Ruben R. and Heras J. [19] considered factors like operational, organizational and financial as key success or factors of social capital and development. These factors encompass delivery commitment, effective management and access to finance at both internal and external scales. Hence, cooperatives as social and human capital can help reduce the poverty index through organization, facilitation and delivery of transactions among the needy. The platform created by social capital can in turn facilitate collective actions and decisions that help the poor [41, 29].

A more effective role of s social capital is related to poverty changes across the globe [42]. The scope of benefits from social capital has become multidimensional because most people at the grass-root consider it a form of social enterprise with strong potentials in helping the needy.

Methodology

A field survey was carried out in the Southwestern region of Nigeria, between August and October, 2019. The region is an important geographical area in Nigeria with close to 50 percent of the population living in rural areas. Rural communities are targeted in the study areas. Twenty-two (22) rural communities are selected for the study. The average size of the villages in the selected rural communities is 15. For the study, 10 villages are randomly selected in each of the communities representing about 67 percent of the entire villages in the study area. Thus, a total of 220 rural households are sampled. At 95% confidence level and 0.5 margin of error with a sparse rural population of less than 1000, sample size above 200 is considered appropriate [49]. The rural communities are purposively sampled based on two factors. The first is the existence of a relationship with local government authorities. This factor is crucial to determining the activeness of the rural communities and their capacity to protect the social capital that exists among them. The second is the proximity of the selected areas to urban centres. This is essential to affirm the relevance of social capital to the development of rural areas. This framework is part of the critical social dimensions needed to facilitate and coordinate the anticipated benefits and performance of the cooperatives.

Household data for the study are collected using a structured questionnaire that is self-administered with the assistance of rural headship. The design of the questionnaire follows the integrated framework for the measurement of social capital developed by the World Bank [43]. A 5-point Likert scale is used. The scale of the questions ranges from 1(strongly disagree) to strongly agree (5). This scale is used to examine the social capital dimensions in the study area. A binary scale is also used to analyze whether the respondents adopt the social capital dimensions or not. Furthermore, the sets of responses were alternated between positive and negative to ensure that the answers are not systematic. The respondents willingly agreed to cooperate with the research procedures. The data contain information on characteristics of rural households, dimensions of social capital which are classified as networks, norms, trust and solidarity, and cooperation and group action members' level of participation in social capital groups. Data collected were analyzed using descriptive statistics and the probit method. The probit model is specified to analyze the factors determining social capital dimensions in rural areas.

The social capital dimensions in the rural areas are examined using mean, standard deviation and factor analysis. The influence of socio-economic factors influencing social adoption in the rural areas is analyzed using the probit model. The probit model is used to explain the behaviour of the dependent variable that is dichotomous. Based on normality assumption, the probability estimate in the probit model is based on cumulative distribution function (CDF) [44]. The model is specified as follows:

The general form of the probit model is:

$$Pi^* = F(\beta'X) = 1/[\exp(-\beta'X)] \quad [45] \qquad (1)$$

The original functional relationship is specified as

$$Yi^* = \beta o + \Sigma \beta_i X_{ij} + u_i \qquad (2)$$

where Yi* is not observed, i.e., a latent variable.

The dependent variable of the probit model is binary (1 if a respondent belongs to a social capital group and 0, otherwise). This binary model is used to determine whether a respondent adopts a social capital or not. The independent variables include the set of socio-economic characteristics of the respondents. These include age (measured in years), gender (binary), household size

(numbers), education and years of experience. Since the coefficients of the probit model cannot be used to determine the effect sizes, the marginal effect is estimated.

Results and Discussion

The socio-demographic characteristics of the respondents are presented in Table 1. Most of the sample rural populace are above 40 years of age. Specifically, less than 10 percent (6.7 percent) of the sample are less than 30 years of age. About 14 percent of the respondents are between 30 and 40 years of age while 28.6 percent are between 41 and 50 years of age. In the age bracket of 51 and 60 years, there are 41.4 percent and 9.0 percent of the rural populace that is greater than 60 years of age. The results suggest a big age gap between the young and old population in the rural areas. The results on gender show that 58.1 percent of the rural sample are female while 41.9 percent are male. This shows there are more females in the rural areas than males. The rural household size also differs; 11.9 percent are in the range of 1 and 3 household members while 21.4 percent have between 4 and 5 members of the rural household. The majority (66 percent) have a household size above 5 members.

The attainment of a good level of education is quite discouraging. 14.3 percent have no formal education, 47.2 percent have primary or elementary education, 31.4 percent have secondary education while 7.1 percent have post-secondary education. The descriptive statistics also cover respondents' access to credit, years of farming experience, being the primary occupation in most rural communities and the type of crops cultivated given that agricultural crop production is also dominant. A larger percentage of the respondents (62.8 percent) have access to credit while 37.2 percent of the rural sample claimed they do not have any access to credit. The years of experience in their primary occupation of farming vary among the respondents. A very high percentage of the sample have above 10 years of experience in the farming operation. Specifically, 13.8 percent reported their experience between 1 and 10 years. Close to the average of the sample (48.4 percent) reported that they have been in farming for over 10 years and up to 20 years in their rural communities. Meanwhile, 37.8 percent reported greater than 20 years of farming experience. In terms of the type of crops chosen as the primary area of agrarian operation, 51.4 percent reported their concentration on food crop while 32.6 percent indicated that their preference is a cash crop. Overall, the characteristics of the respondents present an opportunity to assess the social capital dimension in the rural areas and possible factors determining the social capital.

***Table* 1. Characteristics of the respondents**

Items	Description	percent
Age (Years)	< 30	6.7
	30-40	14.3
	41-50	28.6
	51-60	41.4
	> 60	9.0
Gender	Male	41.9
	Female	58.1
Household Size	1-3	11.9
	4-5	21.4
	> 5	66.7
Level of Education	No Formal Education	14.3
	Elementary	47.2
	Secondary	31.4
	Post-Secondary	7.1
Access to credit	Yes	62.8
	No	37.2
Years of farming experience	1-10	13.8
	11-20	48.4
	>20	37.8
Types of crop owned/cultivated Cash crop	Cash crop	32.6
	Food crop	51.4
	Both cash and food crop	16.0

Source: Field Survey, 2019.

Social capital dimensions in the rural areas.

The descriptive assessment of social capital dimensions is presented in Table 2. The 'social network' dimension of social capital has an average value of 3.875. The dimension is represented by two items. The first highlights the opportunity available to the rural households for having 'peers, friends and connections in the neighbouring communities". With an average response of 3.753, most of the respondents agreed to have relations that could be termed 'external' to their close area of living. Since having friends outside the community is not sufficient to determine the relevance of such social assets, we asked the question of whether there is a visit to those friends and peers frequently. The response with an average mean value of 3.997 shows that most of the rural populace consider visit on regular basis as part of their habit.

The 'norm' factor accounts for 3.390 as the average value of the social capital dimension. This dimension is represented by five social capital items. The results show a variation in the acceptance of the norm items among the sample rural households. For instance, the question of whether 'everyone receives support from the community' returns a non-definite answer of an average of 3.23. This indicates a non-agreement by the majority of the respondents on the existence of that type of social capital. Similarly, the response on amicable resolution of conflicts

and disagreements among all also returned a low average value of 2.687. This also suggests a disagreement on the existence of such social capital in rural areas. In the case of the need for compensation, there is general agreement (3.607) among the respondents that the rural peers are honourable and conservative. There is also evidence of respect for the local law in most rural communities (3.857).

The social capital dimension of 'trust and solidarity' accounts for an average of 4.115. All the three items of 'trust and solidarity' capital dimension return a mean average of 4.00, suggesting that most of the respondents agree with the existence of 'mutual trust among the villagers' (4.00), trust of strangers in their communities (4.155) and trust for government authorities and their agencies (4.191). The social capital dimension of 'cooperation and group action' accounts for an average of 4.139. This suggests that every rural household groups work with others in the community (4.167), and there is a joint execution of most rural projects (4.238), just as there is a 'is a joint response to unpleasant issues in the rural community (4.012).

Consequently, cooperation and group action among the rural people is highest followed by trust and solidarity. Cooperation enables different household groups to work with others in the community. It also permits the execution of rural projects in a joint way. Furthermore, unpleasant issues that occur in the rural community receive a joint response. This has great implication for the development of rural areas. The 'norm' is found to be very low among the rural populace. The lower average value of 'norm' among the rural populace suggests that supports from the community is not the privilege of every member of the rural community. Also, conflicts and disagreements in rural communities are not necessarily resolved amicably.

***Table* 2. Social capital dimensions**

Social capital	Mean	S.D
Social Networks	**3.875**	**1.049**
I have peers, friends and connections in the other town	3.753	1.076
Frequently, I visit the other town to interact and relate with my friends	3.997	1.022
Norm	**3.390**	**1.151**
Everyone receives support from the community	3.230	1.465
Conflicts and disagreements are resolved amicably	2.687	1.2862
The rural peers are honourable and conservative with compensation	3.607	1.182
There exist defined efforts to boost the development of the rural community	3.571	1.0446
There is respect for the law of the land	3.857	0.778
Trust and solidarity	**4.115**	**0.617**
There is mutual trust among the villagers.	4.000	0.746
The rural residents trust strangers	4.155	0.559
Government authorities and representatives are normally trusted	4.191	0.548
Cooperation and group action	**4.139**	**0.725**
Every household groups work with others in the community	4.167	0.569
Community projects are jointly executed	4.238	0.533
There is a joint response to unpleasant issues in the rural community	4.012	1.074

Source: Data Analysis, 2020.

Factor analysis of social capital dimensions

The variables of social capital are tested with factor analysis (Table 3). The adequacy of the analysis is tested with both the Barlett's test and Kaiser-Meyer-Olkin test. Respectively, the two tests measure the sphericity and the sampling adequacy to determine whether factor analysis is suitable for the data. The diagnostics tests suggest the rejection of the hypothesis that the correlation coefficient matrix is zero [1]. The total variance of the different factors with social capital variables is 74.46 percent which agrees with the recommendation of Hair J. et al. [45]. There are four broad categories of social capital dimensions; social networks, norm, trust and solidarity and cooperation. Each of these dimensions consists of different items. The first dimension which is a 'social network' has a Cronbach's value of 0.77. The second social capital dimension which is 'norm' has a Cronbach's value of 0.75. The third dimension is 'trust and solidarity' has a Cronbach's value of 0.75 while the fourth dimension 'cooperation' has a Cronbach value of '0.859'. The results show that the measures of the social capital dimension used for the study are reliable. A total number of thirteen (13) items constitutes the entire four dimensions of the social capital.

***Table* 3. Social capital dimensions**

Social capital	Factor loading	Eigenvalue	Variance explained	Cronbach's value
Social Networks		3.621	27.855	**0.77**
I have peers, friends and connections in the other town	0.638			
On a frequent basis, I visit the other town to interact and relate with my friends	0.777			
Norm		2.218	17.065	**0.75**
There is cohesion in the village. Everyone receives support from the community	0.461			
Conflicts and disagreements are resolved amicably	0.817			
The village peers are honourable and conservative with compensation	0.785			
There is a joint effort to boost the development of the rural community	0.846			
Everyone respects the law of the land	0.696			
Trust and solidarity		1.464	11.262	**0.75**
There is mutual trust among the villagers.	0.673			
The rural residents trust strangers	0.663			
Government authorities and representatives are normally trusted	0.822			
Cooperation and group action		1.258	9.675	**0.859**
Every household groups work with others in the community	0.840			
Community projects are jointly executed	0.850			
There is a joint response to unpleasant issues in the rural community	0.812			

Source: Data Analysis, 2020.

Determinants of social capital

In order to investigate the determinants of social capital in rural areas, a probit model is used. The diagnostics of the model such as Log-Likelihood and LR chi2 are high and significant suggesting that the specified model is fit and appropriate to determine the factors influencing social capital in the rural areas. The likelihood ratio chi-square of 158.54 with a p-value of 0.000 tells us that our model is statistically significant. Both the probit model and the marginal effect after the probit are presented in Table 4. Several factors are hypothesized to influence access to social capital in rural areas. However, the findings of the study show that education, access to credit and the type of crop cultivated by farmers are significantly ($p < 0.05$) related to whether social capital will be accessible to the rural populace.

The results show that years of education have a direct relationship with social capital group participation. Rural people with a higher level of education have a higher probability of belonging to a social capital group. The results highlight the need for education in social capital involvement in rural areas. Education as a human capital asset is crucial to access useful information and become aware of existing benefits within the community. Rural households with the educational asset are more aware of the importance of social capital and the potentials advantages of its various dimensions [47].

Access to credit shows a positive and significant ($p < 0.05$) influence on the probability of belonging to a social capital group. The results suggest that the need for credit by the rural people drives their interests in social capital participation. Rural households with greater access to credit have a higher probability of gaining an advantage from social capital. Iyanda [50] found access to credit to be related to social capital and by extension welfare outcomes of rural households. Access to sufficient credit could also improve efficient decisions on investment opportunities. The finding of the study is in agreement with Nwosu et al. [48].

Furthermore, rural people who are engaged in agriculture and who concentrate on cash crop production such as coffee, cocoa and palm oil have a higher probability of belonging to a social capital group. This is found to be significant at a 5 percent level. The results suggest that cash crop production attracts a higher level of returns to farming in most rural areas. Most of the general socio-economic factors such as age, gender and household size do not have any significant influence on the probability of belonging to a social capital group. This result founds agreement with studies such as Park D. et al. [1].

***Table* 4. Probit estimates of the factors determining the social capital**

	Probit regression estimates		**Marginal effect after probit**	
	Coef.	Std. Err.	Coef.	Std. Err.
Age	-0.373	0.299	-1.24	0.214
Gender	0.152	0.347	0.44	0.662
Education	0.459	0.059**	-7.72	0.000*
Household size	-0.382	0.267	1.43	0.153
Access to credit	0.162	0.048**	-3.40	0.001*
Years of farming experience	-0.304	0.263	-1.15	0.249
Cash crop ownership	0.376	0.059**	6.38	0.000*
Food crop ownership	-0.006	0.112	-0.05	0.959
Constant	1.654	1.164	1.42	0.155
LR chi2 (8) = 158.54 Prob > chi2 = 0.0000				
Log likelihood = -136.394				
Pseudo R2 = 0.3676				

* $p < 0.05$

Source: Data Analysis, 2020

The marginal effect of the probit model is presented in Table 5. The result shows that education could significantly (5 percent) raise the probability of adopting social capital by approximately 18 percent. Similarly, access to credit has the potential to significantly (5 percent) increase the probability of adoption of social capital by approximately 6 percent. The agrarian nature of most rural areas and part of its indicator of wealth-crop ownership- is also significantly (5 percent) related to the decision of the rural populace to participate in the social capital adoption. The marginal estimate of cash crop ownership shows about 15 percent increase in the probability of adopting social capital in the rural areas. The overall prediction value of the probability to adopt social capital given the significant socio-economic factors is approximately 55.1 percent.

***Table* 5. Marginal effects after probit**

	dy/dx	**Std. Err.**	**z**	**P > |z|**
Age	-0.148	0.119	-1.24	0.214
Gender	0.0599	0.137	0.44	0.662
Education	0.1819	0.024	-7.55	0.000*
Household size	-0.1509	0.106	1.43	0.153
Access to credit	0.0640	0.019	-3.39	0.001*
Years of farming experience	-0.12012	0.104	-1.15	0.249
Cash crop ownership	0.1485	0.023	6.37	0.000*
Food crop ownership	-0.0022	0.044	-0.05	0.959
LR chi2 (8) = 158.54 Prob > chi2 = 0.0000				
Log likelihood = -136.394				
Pseudo R2 = 0.3676				
y = Pr(y) (predict) =0.551				

* $p < 0.05$

Source: Data Analysis, 2020

Conclusion

Using rural communities in Nigeria, this study identifies the social capital dimensions that are prevalent in the rural areas and determines the influencing factors. Most rural communities still depend largely on agrarian activities and hence agricultural activities still prevail in these communities. Due to the geographical isolation of these rural communities from modern infrastructure and frequent Government interventions, social capital remains one of the key sources of support for their economic and general livelihood activities. Consequently, the existence and promotion of social capital are required to avert the continuous social and economic exclusion of most rural populace. In the absence of beneficial social capital, the characteristics of the rural populace portend a lack of opportunities and hence limitation to rural development. The results show that most of the respondents are already existing an active age bracket with a possible effect on the future productivity of the rural communities. Furthermore, there are more females than males indicating the responsibilities of rural development, if not reversed, will fall on the extent to which the women can work. The household size is also relatively large, indicating that the population of the rural communities may go beyond the managerial capacity of the women who constitute the majority in the rural areas. Educational attainment is also not encouraging with a possible potential negative effect on human capital development in the nearest future.

The prevailing social capital dimensions in the rural communities include cooperation and group action, and trust and solidarity. The findings from the study lead to the conclusion that rural communities can ensure that households bind together to jointly execute community projects and also pay attention to the joint reaction to unpleasant issues that might arise in the communities. Trust is still being held for authorities and strangers suggesting that both local and international support agencies and their activities would receive warm inception for developmental interventions in the rural areas. The existence of networks across close rural neighbours suggests an advantage for integrated support services across several communities. These opportunities are driven by some factors. The most significant of these factors include improvement of access to education, credit opportunities and extension of the experience of crop ownership to other aspects of rural businesses.

This study is limited in the aspect of investigating the consequence of social capital assets on various outcomes in rural communities. Hence, it is suggested that future studies should focus on identifying and isolating the effect of each of the dimensions on the potential economic and livelihood dimensions of the rural populace, especially in developing nations.

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ФАКТОРИ, ЩО ВПЛИВАЮТЬ НА СОЦІАЛЬНИЙ КАПІТАЛ У СІЛЬСЬКИХ ГРОМАДАХ НІГЕРІЇ

Соціальний капітал став важливим аспектом функціонування більшості сільських громад у країнах, що розвиваються. Однак вимірювання соціального капіталу в сільських регіонах різняться, а про фактори, що впливають на нього в сільській місцевості, відомо мало. Мета пропонованого дослідження – виявити вимірювання соціального капіталу в сільській місцевості, що переважають, і вивчити фактори, які визначають залученість сільських жителів у ці вимірювання. Польове дослідження, що складається зі структурованого і самостійно заповнюваного запитальника, було проведено серед сільських домогосподарств. Інформація в ході дослідження була отримана від 220 сільських домогосподарств у досліджуваному районі. Дескриптивний аналіз виявив соціальні мережі (3,875), норми (3,390), довіру і солідарність (4,115), співпрацю і групові дії (4,139) як домінантні вимірювання соціального капіталу в сільських громадах. Результати також показують, що співпраця, довіра і солідарність, а також мережі є, відповідно, домінантними вимірами соціального капіталу в сільській місцевості. Результати оцінки за пробіт-моделлю показують, що фактори, які з більшою ймовірністю пов'язані із соціальним капіталом у сільській місцевості, охоплюють освіту, доступ до кредитів і володіння фермою (товарна культура). Оскільки соціальний капітал стає необхідною умовою для розвитку сільських районів, то наші результати дозволяють припустити, що співпраця і створення мереж має бути полегшеним для людей у сільській місцевості. Крім того, необхідно також посилити політику, спрямовану на доступ до освіти, надання кредитів і розвиток основних професій у сільській місцевості.

Ключові слова: соціальний капітал, сільська місцевість, співпраця, соціальні мережі.

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ФАКТОРЫ, ВЛИЯЮЩИЕ НА СОЦИАЛЬНЫЙ КАПИТАЛ В СЕЛЬСКИХ ОБЩИНАХ НИГЕРИИ

Социальный капитал стал важным аспектом функционирования большинства сельских общин в развивающихся странах. Однако измерения социального капитала в сельских регионах различны, а о факторах, влияющих на него в сельской местности, известно мало. Цель данного исследования – выявить преобладающие измерения социального капитала в сельской местности и изучить факторы, определяющие вовлеченность сельских жителей в эти измерения. Полевое исследование, состоящее из структурированного и самостоятельно заполняемого вопросника, было проведено среди сельских домохозяйств. Информация в ходе исследования была получена от 220 сельских домохозяйств в исследуемом районе. Дескриптивный анализ выявил социальные сети (3,875), нормы (3,390), доверие и солидарность (4,115), сотрудничество и групповые действия (4,139) как преобладающие измерения социального капитала в сельских общинах. Результаты также показывают, что сотрудничество, доверие и солидарность, а также сети являются, соответственно, доминирующими измерениями социального капитала в сельской местности. Результаты оценки по пробит-модели показывают, что факторы, которые с большей вероятностью связаны с социальным капиталом в сельской местности, включают образование, доступ к кредитам и владение фермой (товарная культура). Поскольку социальный капитал становится необходимым условием для развития сельских районов, то наши результаты позволяют предположить, что сотрудничество и создание сетей должно быть облегчено для людей в сельской местности. Кроме того, необходимо также усилить политику, направленную на доступ к образованию, предоставление кредитов и развитие основных профессий в сельской местности.

Ключевые слова: социальный капитал, сельская местность, сотрудничество, социальные сети.

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MODELING OPTIMAL PRICE POLICY OF PHARMACEUTICAL COMPANIES FOR SALES MAXIMIZATION BASED ON DATA SCIENCE TECHNOLOGIES

The article contains the results of the application of Data Science technologies to modeling the results of marketing activities of pharmaceutical companies depending on the key elements of the marketing mix. The influence of pricing policy on the competitiveness of the enterprise and its position in the market is studied in detail. Based on the study, recommendations are offered for optimizing the price policy to maximize sales of pharmaceutical companies.

Keywords: price policy, marketing, Data Science machine learning, regression analysis.

Introduction. The competitive environment in which businesses operate requires them to provide efficient operations with sufficient profitability. Modern marketing focuses much attention on establishing a fair and reasonable price and tracking the relationship between the price level and sales volume. Pricing is an important component of the modern marketing system of any enterprise, where the main emphasis is on finding the optimal market price that will satisfy both the producer and the buyer [1].

The pharmaceutical industry is one of the fastest-growing in Ukraine. So, following the results of 9 months in 2019, the volume of retail sales of all categories of goods in the "pharmacy basket" amounted to ₴74.3 bn. ($2.8 bn.) Compared to the same period in 2018, sales increased by 15.9 percent in hryvnia and 18.3 percent in dollar terms. In physical terms, sales decreased by 3.1 percent and amounted to 1.25 billion packages.

In terms of sales of Ukrainian and foreign goods, the Ukrainian pharmaceutical market is characterized by the predominance of imported products in monetary terms. Domestic products prevail mainly in physical terms [2].

Indicators of the dynamics of the market of medicines in monetary terms show that the results of 9 months in 2019, the market developed mainly due to rising prices, as evidenced by the high inflation component, and due to the redistribution of consumption towards more expensive drugs (substitution index) (Fig. 1).

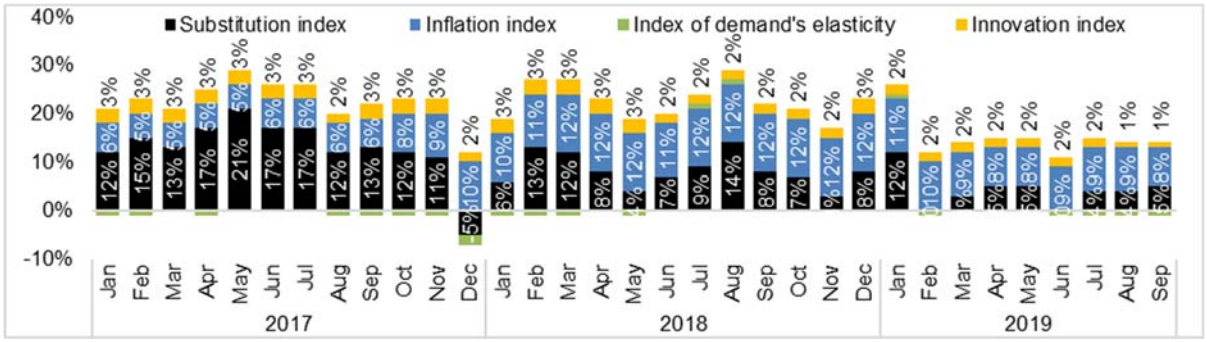

Figure 1. Indicators of changes in the volume of sales of drugs in monetary terms for the period from January 2017 to September 2019 compared to the same period of the previous year

Source: built up by the authors based on data from [2].

At the same time, according to the State Statistics Service of Ukraine [3], inflation in the pharmaceutical market and healthcare, in general, is still lower than in the country, as well as in comparison with many other categories of goods and services (fig. 2).

Figure 2. Growth rates of consumer prices for goods of different categories for H1 2019 vs H1 2018

Source: built up by the authors based on data from [3].

As a result of inflation, the weighted average cost of one package increased by 19.6 percent in nine months of 2019 compared to the same period in 2018 and amounted to ₴58.7 [2]. In such conditions, the increase in prices is partially offset by the growth of consumer income, because the development of the retail market depends almost entirely on the consumer and his welfare. In recent years, there has been an increase in both wages and incomes. The NBU continues to record a rise in wages, but its growth rate is slowing. Following the results of the second quarter of 2019, the State Statistics Service of Ukraine records an increase in real incomes of the population by 7 percent and by 17 percent in nominal [3].

Improving the economic situation in the country contributes to the development of the pharmaceutical market: in 2019, there are double-digit growth rates of sales of "pharmacy basket" goods in hryvnia and dollar terms, although they slowed down compared to the same period last year. According to the latest forecasts of experts, the development of the pharmaceutical market will continue, despite the impact of the COVID-19 crisis.

With the rapid development of the pharmaceutical industry and the solution of the problems related to the economic crisis, to improve the system of business competitiveness management, the mechanism of market pricing management is becoming increasingly important to increase competitiveness and maximize profits.

Pricing strategy in the system of international marketing occupies one of the key places [4]. Pricing is an integral part of marketing strategies, and there is significant potential for optimization for businesses that are deeply analyzing the market to find effective solutions and enhance their competitive advantage.

Making an informed decision on the choice of pricing strategy, its development using a systematic approach allow the company to succeed in the market. Based on this, there is an urgent need to improve the strategy of marketing activities and mechanisms for managing its components, and Data Science technology is the tool that opens up endless opportunities in this direction.

The **object of research** is the marketing activities of enterprises. The **subject of the study** is modeling and optimization of marketing results depending on the chosen price policy.

Literature review. The theoretical foundations of the study of pricing systems at the enterprise level and a wide range of issues related to the modeling of socio-economic processes are reflected in the works of such domestic and foreign scientists as I. Blagun, M. Kizim, T. Klebanova, V. Korinev, V. Ponomarenko, O. Pushkar, V. Khristianovsky, I. Ansoff, O. Gradov, F. Kotler, M. Porter, A. Thompson, V. Tarasevich, E. Utkin and many others.

Many Ukrainian scientists have paid attention to the theoretical and practical issues of marketing pricing policy. In our opinion, the greatest research on the mentioned problem was found in the works of L. Balabanova [5] and Y. Litvinenko [6]. R. Ivanova [7], I. Lipsitz [8], N. Noritsyna [9], focused on the relationship between marketing pricing in the enterprise and competitiveness. The importance of this issue for any enterprise was emphasized by O. Malysh [10] and V. Pankov.

The researches of the use of machine learning technologies and Data Science for modeling the marketing activity of enterprises were undertaken by such domestic and foreign scientists as Y. Bazhenov, R. Batra, J. Burnet, J. Büschken [11], M. Guz, T. Lukyanets, Y. Lysenko, A. A. Panasenko [12], F. Pankratov, A. Pargelova [13], E. Romat, J. R. Rositer, C. Sandage, V. Freiburger, D. A. Shakhov [12], S. Shapiro and others.

A significant amount of research has been conducted on this topic. Marketing mix modeling is the most commonly used method that involves building a regression model on historical data to display business metrics (sales) as a function of marketing and advertising variables, such as media activity, number of impressions, price index, and other variables such as seasonality, weather, market competition.

Mathematical modeling and data analysis open up many opportunities in the implementation of marketing activities of any enterprise. Thus, Chan and Perry (2017) [14] emphasize the importance for businesses to use different approaches to marketing modeling because advertisers need to understand the effectiveness of their media and marketing spend in driving sales to optimize the allocations of marketing budgets.

The contribution of regression analysis to media decision-making is quite significant, but there are alternative methods. Dawes et al. (2018) [15] describe evidence-based methods that have been shown to be useful for forecasting. Jin et al. (2017) [16], Zhang and Vaver (2017) [17] suggest using Bayesian hierarchical modeling.

According to research [14], the potential of MMM is often limited by the lack of detailed and qualitative data. As a solution, they propose to develop better data and models, as well as to test models using simulations as the main areas of improvement for MMM.

Unresolved parts of the overall problem. Despite the scientific achievements of these scientists, many issues in the search for ways to optimize pricing policy remain unresolved. The problems of pricing in the marketing system are well studied, but the optimization-marketing and forecasting mechanism for setting prices for products requires more thorough research. After all, an effective marketing pricing policy, as well as improving the pricing mechanism is a determining factor in the sale of products of any enterprise [1]. Adaptation of pricing policy in highly competitive industries is one of the areas of daily work of every pharmaceutical company in Ukraine and the world. Therefore, the search for data-based solutions to this issue is extremely important.

Methodology. The study includes results of economic and mathematical modeling (including the one based on machine learning technologies and regression analysis) of the dependence of sales (market share in volume and value) of certain drugs on the following factors: penetration of pharmacy networks (pharmacy coverage and drug availability for consumers), pricing policy (the ratio of the price of the drug compared to competitors), advertising activity of the brand and its competitors in all channels of communication (television, Internet, radio and outdoor advertising), recommendations of doctors and pharmacists and others.

Data on all indicators for the period from 2015 to 2019 were collected in a weekly breakdown for all drugs in the relevant category [18, 19, 20]. Due to confidentiality, all data in the article will be changed.

For the constructed multiple regressions, which were estimated by the method of least squares, hypotheses about the adequacy of the models, the significance of the coefficients, the presence of heteroskedasticity, and autocorrelation were tested.

Also, for the formation of recommendations for optimal pricing policy, an approach based on machine learning technologies was developed to determine the optimal range of price index (price compared to the average price of competitors) to maximize market share in packaging or market share in value depending on the company's goals.

Formulation of tasks and goals of the article. The purpose of the article is to study the impact of pricing policy on sales of pharmaceutical companies based on machine

learning technologies, as well as the formation of recommendations for optimizing the price of a particular product. The tasks of this work are to get acquainted with the development trends of the pharmaceutical market, the peculiarities of marketing activities in this area, and to outline ways to improve the efficiency of the marketing activities of companies in the pharmaceutical industry.

Main results of research. The high level of competition in the pharmaceutical market, the increase in the price of advertising activity, and the desire to constantly increase sales among manufacturers create the need to find effective marketing solutions. To achieve such goals, it is necessary to actively use the data available on the market, using machine learning technologies and data mining. Data Science is an extremely effective tool for improving the effectiveness of marketing activities of pharmaceutical companies, its optimization, and greater validity.

The case studies of several brands of pharmaceutical companies will show how with the help of economic-mathematical modeling and other Data Science technologies can analyze what factors and to what extent affect the business results of the enterprise (sales or market share in the category). Understanding the factors of influence makes it possible to calculate the elasticity of sales to each factor and as a result to calculate the optimal range for each of them taking into account their marginal utility (for example, calculating price elasticity and finding the optimal value of the price index – the ratio of brand price and average market price). In addition, understanding the effectiveness of each communication channel allows you to develop an effective media strategy for the brand.

Process and results. The project was deployed following the most widely-used analytics model CRISP-DM [21, 22]. CRISP-DM describes the process through 6 main stages: "Business Understanding, Data Understanding, Data Preparation, Modeling, Evaluation and Deployment" (Fig. 3).

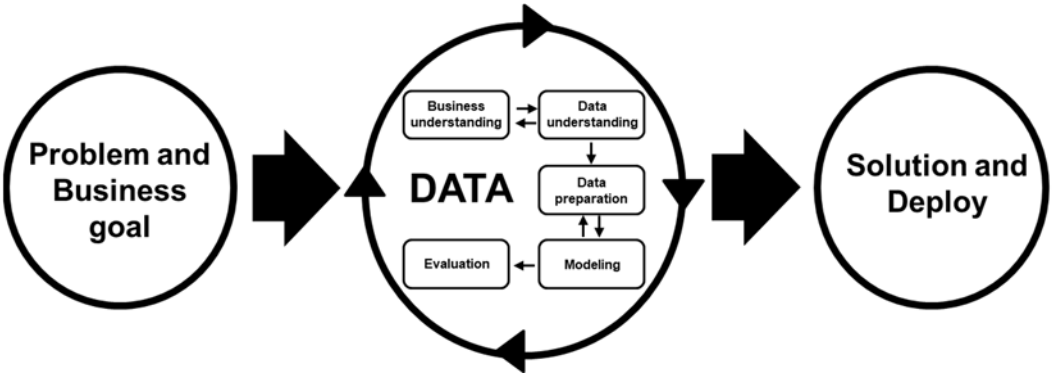

Figure 3. CRISP-DM

Source: built by the authors based on information from [23].

The process involves the possibility of a flexible transition between phases in any order, going back when the need arises. Data Mining has cyclic nature, as the process of finding solutions continues after the project has been deployed. The key learnings and expertise from the previous cycle can generate new, probing business questions, which have a positive influence on future data mining processes [23].

At the first stage of working with a business task, it is necessary to dive in detail into the specifics of the brand and the category for which the analysis is conducted to understand all the factors that affect the final performance of the business. In this case, we are working with a brand that is the leader in the category, but is gradually losing its position under the onslaught of those brands that have active media support on television, as well as actively promoted to doctors and pharmacists.

In addition, the specificity of this category is the existence on the market of two forms of the drug – drops or syrup (liquid form) and capsules or tablets (solid form), so in the future when using machine learning to model market share will be considered separately model for liquid and solid forms of the drug (Fig. 4).

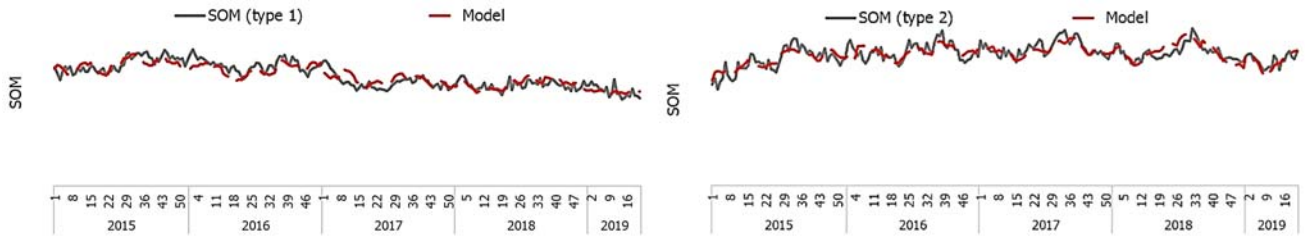

Figure 4. Models for liquid and solid forms of the drug

Source: author's calculations based on data of the pharmaceutical company from Proxima Research, as well as the Industrial Television Committee and Nielsen Ukraine (data modified due to confidentiality) [18, 19, 20, 24].

The economic and mathematical model allows:

- Identify the factors that affect sales, as well as the extent of this impact;
- Assess the elasticity of sales for each factor;
- Predict the target metric depending on the plans of each factor;
- Give recommendations on the optimal/necessary values of each factor to achieve the goals;

- Compare the influence of factors for the company's brand and competing brands in the case of model building for other brands also.

Among the main factors influencing the dynamics of sales and market share of the drug, the following should be noted:

- Base level (set of rational and marketing factors);
- Penetration – the level of coverage of pharmacies (percentage of pharmacies in which the drug is available);
- Pricing policy – price index in relation to competitors (the ratio of the price of the drug and the average market price in this category);
- Doctors' recommendations;
- Pharmacists' recommendations;
- Media activity of competitors in terms of communication channels, creativity, etc.;
- Brand's media activity in terms of communication channels, creativity, etc.

It is the assessment of each of these factors using machine learning methodology that creates the basis for finding effective marketing (including media) solutions and forming an effective strategy for the company's development for the future.

The constructed models have high-quality indicators (coefficients of determination R^2 are 78 percent and 70 percent, respectively, and the average error is less than four percent, the model is adequate, all factors are significant, the model is characterized by lack of autocorrelation and heteroskedasticity), which confirms their practical application for optimization of marketing activities.

The optimal model for each form of the drug is the multiple regression model and looks like this:

$$SOM = Constant + a1 * Penetration_1 + a2 * Penetration_2 + a3 * Price\ index + a4 * Doctors + a5 * Pharmacists + a6 * Adstock(TV1) + a7 * Adstock(TV2) + \dots + an * Adstock(TVn) + b1 * Adstock(TV\_Competitor\_1) + b2 * Adstock(TV\_Competitor\_2) + \dots + bm * Adstock(TV\_Competitor\_m)$$

where *SOM* – share of the market in Volume; *Adstock* is the instant, prolonged and lagged effect of advertising on consumer purchase behavior, which indicates the influence of TV activity during a time. $Adstock(TV)_t = TV_t + a * Adstock(TV)_{t-1}$.

The basic level of sales/market share is the level of sales that the company will have in the short term with a minimum level of presence in pharmacies, a minimum price level compared to competitors, minimal work with doctors and pharmacists, no media activity in the brand for which conducted analytics, and competing brands, and includes some other qualitative characteristics.

Depending on how long the drug has been on the market, the share of the baseline impact on sales and market share will range from the minimum level to most of the sales of the drug. So, if the drug is on the market in the last few years and we conduct analytics from the moment of its withdrawal, the baseline will be absent and vice versa – if the drug is on the market in the last 5–10 years or more, the share of the baseline will be significant.

On the example of our brand, the base level provides a significant share of sales – 57 percent, but this factor is stable in the short term (is a constant in the model), so it is the right work with other factors creates opportunities for the brand for future growth (Fig. 5).

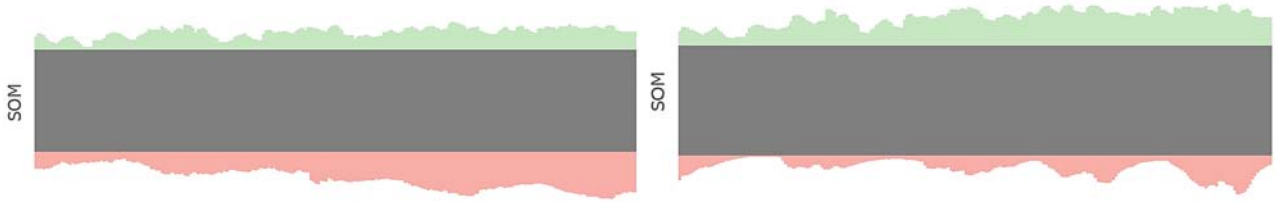

Figure 5. Model decomposition by a different group of factors (base line, positive factors, negative factors)

Source: author's calculations based on data of the pharmaceutical company from Proxima Research, as well as the Industrial Television Committee and Nielsen Ukraine (data modified due to confidentiality) [18, 19, 20, 24].

To understand the impact of each factor on sales, it is necessary to analyze in detail the dynamics of each of them, assess their impact through the construction of models, as well as compare all indicators with indicators for competing brands in the category.

Factor 2 – penetration. Of course, the right level of penetration is an integral part of effective brand development, because the presence on the shelf is a key sales factor not only for pharmaceutical companies but also for all FMCG brands. Our brand is one of the leaders in the pharmaceutical market and in 2019 reached a high level of penetration for the main SKU – at 90 percent actively increasing it in previous years. Changes in penetration during the analyzed period provided a significant additional increase in brand sales.

Factor 3 and 4 – recommendations of doctors and pharmacists. Working with doctors and pharmacists is one of the key channels of communication with the consumer, as we often make the final purchase decision after a doctor's recommendation or pharmacist's advice. Therefore, the proper level of work with doctors and pharmacists is a necessary condition for the effective functioning of the company and the brand in the market. Of course, working with doctors and pharmacists, even at a low level, provides an increase in the company's sales, and its strengthening increases the company's efficiency and sales. Thus, changes in work with doctors and pharmacists during the analyzed period provided additional sales growth, generating X packages for the period 2015–2019.

Factor 5 is pricing policy. During 2015–2019, the company raised its pricing policy faster than its competitors, which led to an increase in the price index (the ratio of the price of the drug compared to average market prices). The average price of the drug is 5–25 percent higher than the

price of competitors, depending on the segment, which negatively affects the dynamics of sales in packaging.

Ukrainians are the nation that tends to save, so rising prices faster than competitors leads to switching to other brands and losing market share in packaging. Thus, changes in the price index during the analyzed period led to a loss of brand sales (Fig. 6).

Figure 6. The impact of price on market share in the dynamics of 2015-2019 (model decomposition)

Source: author's calculations based on data of the pharmaceutical company from Proxima Research, as well as the Industrial Television Committee and Nielsen Ukraine (data modified due to confidentiality) [18, 19, 20, 24].

However, if we talk about the price, a certain level of price increase may lead to a drop in sales in packaging, but generate an additional level of profit when the price increase compensates for the fall in sales in packaging and vice versa – a significant increase in drug prices can lead to a significant drop in sales in packaging and the company's revenue will be significantly reduced. Accordingly, there is potential for optimization depending on the price elasticity of sales and market share in value and volume.

Depending on the client's goals – to increase market share in money (increase profits) or increase market share in packaging (increase drug penetration among consumers), pricing policy recommendations will be radically different.

Based on the constructed econometric models for liquid and solid forms of the drug, we can derive the curves of market share in value and market share in volume depending on the price index, as the coefficients of models at the price index indicate how market share will change with increasing price index by 1 unit (the nature of the connection is linear in the case of constructing a linear regression or nonlinear in another case).

The market share in money and the market share in the volume are linked by a price index. Since the rate of change of market share in packaging does not coincide with the rate of change of the price index, there is a nonlinear relationship between the price index and market share in money, which leads to an optimization zone depending on business objectives.

On the example of this drug, the optimal value of the price index to maximize market share in money was – 1.0–1.4 (Fig. 7), which means that the drug should have parity prices to the market or be more expensive up to +40 percent to average market prices to obtain the maximum profit level. Depending on the goals of the business, such a methodology becomes a flexible tool for the pricing department, as it is possible to form a price recommendation to meet the goals of both market share in value and market share in volume.

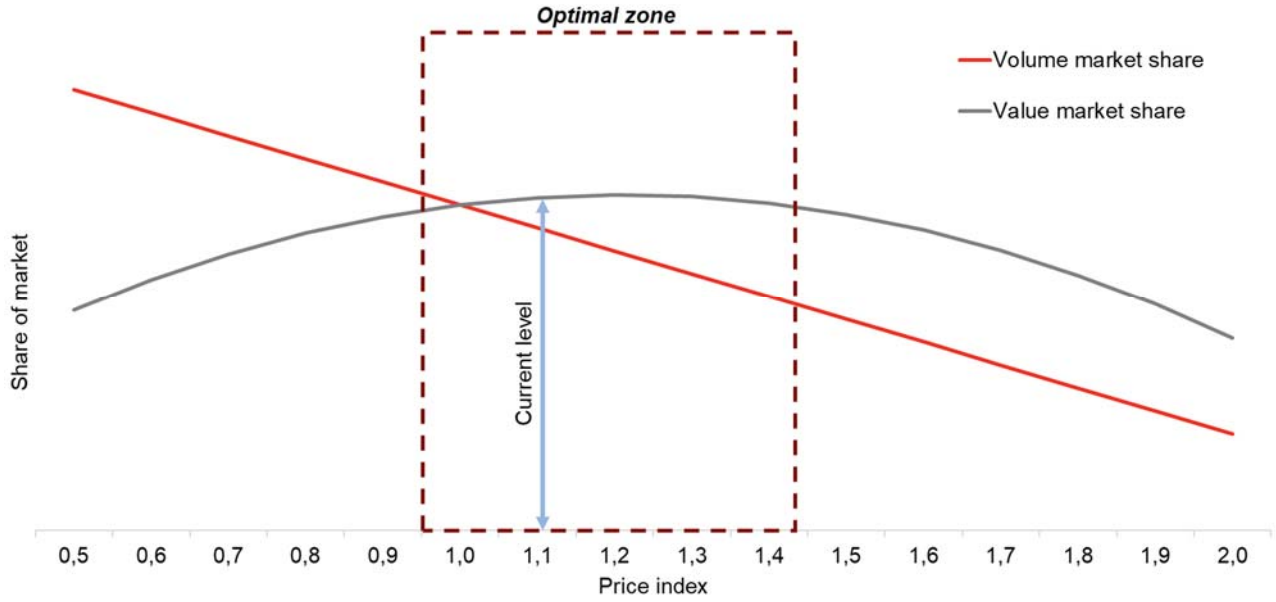

Figure 7. The optimal level of price index in terms of growth of value market share

Source: author's calculations based on data of the pharmaceutical company from Proxima Research, as well as the Industrial Television Committee and Nielsen Ukraine (data modified due to confidentiality) [18, 19, 20, 24].

Factor 6 and 7 – media activity of the brand and its competitors. One of the key factors in increasing sales is the active promotion of drugs through advertising because advertising is the main way of communication between producers and the end consumer.

The pharmaceutical market of Ukraine continues to develop actively. At the same time, it is highly competi-

tive, and in the struggle for the consumer, pharmaceutical companies are forced to actively promote their brands through advertising.

The key channel for the advertising activity of pharmaceutical manufacturers has long and stable been television. According to the All-Ukrainian Advertising Coalition (VRK) [20], in 2019 the volume of the TV advertising market (direct advertising and sponsorship) increased by 24 percent and amounted to ₴11.5bn, which corresponds to about 47 percent of the total volume of advertising media market of Ukraine in 2019 [20].

Pharmacists are one of the key advertisers on television. The share of investments of pharmaceutical companies in TV advertising consistently occupies about 30 percent of the total investment in this channel. If we talk in more detail about the investments of pharmaceutical companies, then the results of 9 months in 2019, they invested more than ₴2.1bn in advertising their brands on television, increasing their investment by 28 percent compared to the same period in 2018. Data on pharmaceutical companies' investments in TV advertising show a steady increase, but the volume of activity (EqTRPs – weighted target ratings) has been declining in recent years due to significant inflation [25].

The effectiveness of investment in advertising is determined by the indicators of EqTRPs, which ultimately affect the company's sales. Due to the rising cost of advertising tools due to high inflation among pharmaceutical companies significant preconditions are created for finding data-based solutions based on in-depth analysis of all available data on the market using Data Science technologies to optimize marketing (including media) solutions.

TV support ensures the growth of the brand's market share, but the TV activity of competitors has a significant negative impact. Realizing the significant negative impact of competitors' TV activity, it is important in the future to control SOV (share of voice) on TV and parity placement with competitors, because the more media activity a brand launches during the year, the higher sales it generates. The loss of voice on TV is the main reason for the loss of the brand's position in the market for our brand.

The effectiveness of advertising activity depends on a significant number of factors, both media (weekly pressure, periods, creatives, duration of videos, etc.) and non-media (including penetration and pricing policy). To test these hypotheses, similar economic and mathematical models were built for other brands in this category. After that, the results of all models were aggregated and the following conclusions were proved:

- The impact of penetration on the effectiveness of media activity: the lower the level of penetration of pharmacy networks, the lower the effectiveness of TV activity, because the interested audience, coming to the pharmacy can not buy the product due to its absence. The drug for which the analysis was performed has a high level of penetration, which has a positive effect on the effectiveness of TV support.
- The effect of price on efficiency from media activity is opposite, but also quite significant: the higher the price of the drug, the fewer interested consumers dare to buy because the price in this case is a barrier for the consumer (Fig. 8). The drug for which the analysis was performed is in the middle price group and has sufficient effectiveness from TV support. The optimal value of the price index to maximize sales of the drug: 1.0-1.4 (Fig. 7).

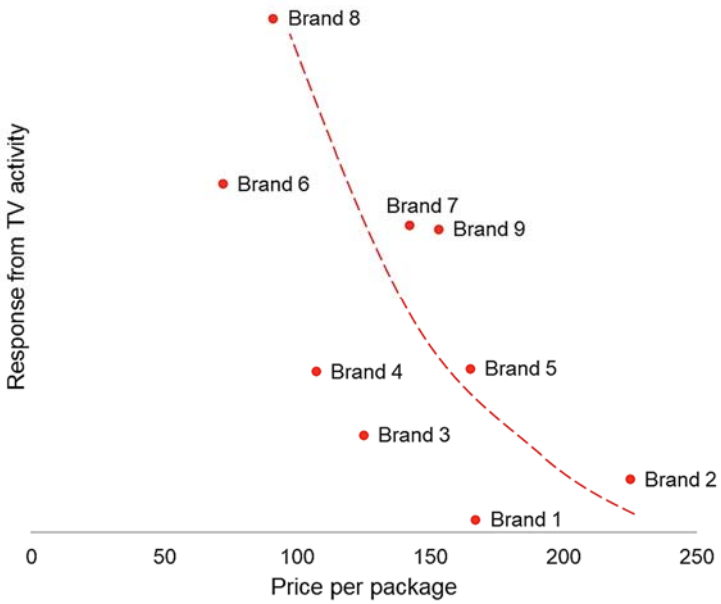

Figure 8. The impact of price on efficiency of media support

Source: author's calculations based on data of the pharmaceutical company from Proxima Research, as well as the Industrial Television Committee and Nielsen Ukraine (data modified due to confidentiality) [18, 19, 20, 24].

It is important to clarify that such recommendations cannot be taken simultaneously for all companies in the market, as the results are a combination of many factors and conditions that are formed at each time, which requires an individual approach in each case.

Conclusions and prospects for further development in this direction. Thus, the econometric model makes it possible to understand the contribution of each factor in the sale of the brand and to form recommendations for each of them. The econometric model in such conditions becomes a flexible tool for sales management because it allows you to find the optimal combination of parameters to meet business goals. Ongoing support for the model allows you to maximize the impact of each factor, which ultimately allows you to get the necessary business results for the minimum budget or higher business results for the existing budget.

Thus, the model and regular process of data analysis become a convenient tool for making operational marketing decisions:

- clarification regularly of the optimal price index taking into account the dynamics of competitors' prices and tracking its impact on sales;
- calculation of the forecast at different variants of activity in the communication channels with the consumer due to work with doctors and pharmacists;
- monitoring the effectiveness of the advertising campaign;
- calculation of the forecast for different combinations of factors (scenario forecasting);
- determination of optimal values of each factor taking into account the marginal efficiency;
- analysis of the impact of factors on brand sales, evaluation of winnings and losses.

The econometric model acquires the greatest value at the moment when it becomes a tool for business simulations and the possibility of implementing scenario forecasting. In such conditions there is an opportunity to work with various scenarios of development, for example:

- What will happen if we transfer the budget for TV activity to work with doctors and pharmacists?
- What will happen if we increase TV support by X% and reduce the price by Y%?
- What will happen if we raise prices by X% and increase work with doctors and pharmacists by Y%?

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МОДЕЛЮВАННЯ ОПТИМАЛЬНОЇ ЦІНОВОЇ ПОЛІТИКИ ФАРМАЦЕВТИЧНИХ КОМПАНІЙ З МЕТОЮ МАКСИМІЗАЦІЇ ПРОДАЖІВ НА БАЗІ DATA SCIENCE ТЕХНОЛОГІЙ

Подано наслідки застосування Data Science технологій для моделювання результатів маркетингової діяльності фармацевтичних компаній залежно від ключових елементів маркетингового міксу. Детально досліджено вплив цінової політики на конкурентоспроможність підприємства та його позиції на ринку. На основі проведеного дослідження сформовано рекомендації щодо оптимізації цінової політики для максимізації продажів компанії.

Ключові слова: цінова політика, маркетинг, Data Science, машинне навчання, регресійний аналіз.

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МОДЕЛИРОВАНИЕ ОПТИМАЛЬНОЙ ЦЕНОВОЙ ПОЛИТИКИ ФАРМАЦЕВТИЧЕСКИХ КАМПАНИЙ С ЦЕЛЬЮ МАКСИМИЗАЦИИ ПРОДАЖ НА БАЗЕ DATA SCIENCE ТЕХНОЛОГИЙ

Представлены последствия применения технологии Data Science для моделирования результатов маркетинговой деятельности фармацевтических компаний в зависимости от ключевых элементов маркетингового микса. Подробно исследовано влияние ценовой политики на конкурентоспособность предприятия и его позиции на рынке. На основе проведенного исследования сформулированы рекомендации по оптимизации ценовой политики для максимизации продаж компании.

Ключевые слова: ценовая политика, маркетинг, Data Science, машинное обучение, регрессионный анализ.

Annex 1

EXTENDED ABSTRACT IN ENGLISH AND REFERENCES (IN LATIN): TRANSLATION / TRANSLITERATION / TRANSCRIPTION

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INTERPRETIVE READING OF MARKET REPORT: A CASE FROM CONSULTING PRACTICE

To gain insights that guide important business decisions and, consequently, turn data into business actions, various methods and types of data could be used depending on the data's availability, accessibility, and costs. In consulting practice, the usage of widely published market reports and marketing studies is a standard routine. This paper is an example of how institutional theory could be applied in practice for analyzing and interpreting the findings from a typical market study. By contrast to other widely used qualitative and quantitative tools and techniques, applying institutional lenses is far to be mainstream for industry practitioners and strategy consultants. In the selected case from the wine sector, a market report has been hermeneutically "read" through lenses of institutional theory, which helped to identify coercive and mimetic types of isomorphism in the markets of Georgia and Ukraine.

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PUBLIC ADMINISTRATION MODELS AND HEALTHCARE SYSTEM REGULATION IN FOREIGN COUNTRIES

The article examines main models of public administration and regulation of health care systems, assessed with an account for their organizational and financial characteristics: predominantly state, predominantly social and insurance, predominantly private models. The predominantly state model characterized by a significant role of the state is observed in the UK, Greece, Denmark, Norway, Portugal, Sweden, etc., the predominantly social and insurance model is found in Austria, Belgium, Netherlands, Germany, France, Switzerland, and Japan with the predominantly private model followed in the USA, South Korea, and other counties. The international ranking on the effectiveness of health systems is attained in terms of their response to challenges of the global COVID-19 pandemic. Based on the analysis, the critical issues for the health care systems were highlighted: insufficient funding of the public health care system, irrational distribution of health care costs, as well as the fact that health care systems were not designed for an emergency situations. The irrational distribution of public funds is a consequence of the low efficiency of health care management at all levels, which leads to concomitant problems in health care, such as staffing and material support. Based on the study of the main foreign models of public administration and regulation of the health

care system, it was shown that for the Kazakh and Ukrainian models of the health-care system public administration, it is feasible to follow Germany and Singapore with their developed health insurance system based on a combination of the principles of individual responsibility and universal affordable medical care, as well as the well-coordinated systemic work of public health authorities in a state of emergency. Thus, further improving the efficiency of health care system management is one of the main tasks for social policy in Kazakhstan and Ukraine. Dealing with this task largely depends on the correct choice of the appropriate model of the health-care system public administration.

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THE IMPACT OF INNOVATION ON THE DEVELOPMENT OF THE GLOBAL COSMETICS PRODUCTS MARKET

The article analyzes the global market of cosmetic products, reveals the key importance of investment in research and development in ensuring high growth rates of leading companies in this market. The trends in the field of innovative development, which are followed by the industry, are shown, based on the data of the leading companies: Loreal, Estee Lauder, Unilever, Shiseido, Procter & Gamble and Coty.

It is proved that there is a certain polarization of innovations on the market. Therefore improving of the limited budget managing process for small- and medium-size market players with taking into account the principles and trends of the market leads to improved results and gained competitive advantages.

The paper emphasised that the impact of innovation on business results is undeniable, but diverse. There are many factors that determine this correlation, but the benefits of innovation can be both direct and indirect, so the relationship between different types of innovations, the benefits they provide and their impact on business results are demonstrated. It is determined, that the trend of using artificial intelligence and augmented reality for a more personalised consumer experience is becoming more developed; basic product innovations and a focus on sustainable business development continue to cover the innovation process of cosmetic companies, despite they are very costly.

The main challenges of the environment are identified and the impact of innovations on the ability of cosmetic companies to function and develop in conditions of high competition is characterised. The study is based on published materials of leading companies in the industry, in particular their regulatory documentation, financial and annual reports.

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EXPLAINING POLITICAL CHOICE: PROSPECTS FOR ECONOMIC THEORY

The goal of the article is to demonstrate the potential of the economic theory in political choice as opposed to market choice. The article analyzes the input of economic theory to analyzing political choice. The following research objectives were set: (a) to highlight the development of the modern economic theory with regard to political choice with special semphasis on studies dealing with transition nations; (b) to demonstrate relevance or irrelevance of economic voting concept under conditions of modern Ukraine; (c) to find out how the information imperfectness and its comprehension by consumers in the political market affect the resulting choice. The scope of this study extends to an individual's choice within the political market, and a subject is its distinctiveness under conditions of transition society. It is shown that political choice is characterized by inherent irrationality that gives space to different ways of external influencing voter preferences. The author proves that the economic vote is not present in the Ukrainian political context.

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FACTORS INFLUENCING SOCIAL CAPITAL IN RURAL COMMUNITIES IN NIGERIA

Social capital has become an important aspect of most rural communities in developing nations. But, the dimensions of social capital vary across rural regions while little is known about the factors influencing it in rural areas. This study aimed to identify the prevalent social capital dimensions in rural areas and examine the factors determining rural people involved in those dimensions. A field survey which consists of structured and self-administered questionnaire was carried out with rural households. The information of the survey was obtained from 220 rural households in the study area between August and October, 2019. The descriptive analysis identified social networks (3.875), norms (societal values) (3.390), trust and solidarity (4.115), and cooperation and group action (4.139) as the prevailing social capital dimensions in the rural communities. The results further suggest that cooperation, trust and solidarity, and networks are respectively the dominating social capital dimensions in the rural areas. The results from probit model estimates show that the factors that are more likely to be associated with social capital in rural areas include education, access to credit and ownership of farm (cash crop). Since social capital is becoming a prerequisite for rural development, our findings lead to the suggestion that cooperation, build-up of networks should be facilitated for people in the rural areas. Furthermore, policy direction towards access to education, credit provision and development of primary occupation in the rural areas should also be enhanced. Economic policy makers and rural development agencies are invited to continuously work on the identified factors to promote the individual, community and national development on equitable basis.

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MODELING OPTIMAL PRICE POLICY OF PHARMACEUTICAL COMPANIES FOR SALES MAXIMIZATION BASED ON DATA SCIENCE TECHNOLOGIES

The article demonstrates the results of the application of Data Science technologies (including machine learning and regression analysis) to modeling the results of marketing activities of pharmaceutical companies in Ukraine. The study was conducted based on historical data for the period from 2015 to 2019 in weekly detail to estimate the impact of key elements of the marketing mix (penetration of pharmacy chains, price policy, advertising activity of the brand and its competitors in all communication channels) on company's sales (share of the market in the relevant segment of drugs). Based on the results obtained, the article explains in detail the impact of price policy on the competitiveness of the enterprise and its position in the market. The impact of the price directly on sales, as well as on other factors (including the effectiveness of the brand's advertising activity) is estimated. Based on the research, the article contains recommendations for optimizing the price policy to maximize the company's sales (increasing market share in monetary or physical terms).

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Annex 2

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The Journal Editorial Report 2020
BULLETIN OF TARAS SHEVCHENKO NATIONAL UNIVERSITY OF KYIV. ECONOMICS

by Tetiana Murovana, Executive Editor

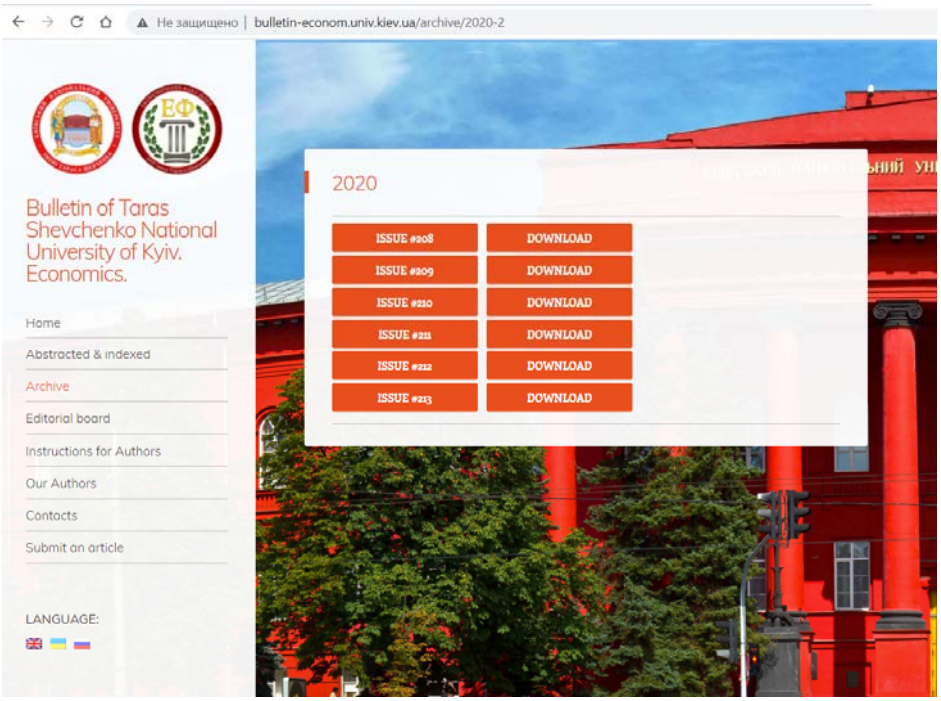
This annual report presents the summary statistics on the Bulletin operations in 2020. Since 2014, this report is published on the Bulletin website in a continued effort to increase the transparency of the editorial process: http://bulletin-econom.univ.kiev.ua/editorial-board/the-editorial-policy The report provides insights to the Bulletin for authors, reviewers, and readers about how the editorial team has improved its responsibilities.

General situation

BULLETIN OF TARAS SHEVCHENKO NATIONAL UNIVERSITY OF KYIV. ECONOMICS is the academic periodical of Taras Shevchenko National University of Kyiv, Faculty of Economics. The journal covers a range of research topics in economic theory, insurance, risk management, reinsurance, public administration, international economics, business economics, management, marketing, investment management, theory of finance, banking, statistics, the ways and means of solving these problems. The journal is intended for researchers, practitioners, teachers, and students.

The journal is published 6 times a year (since 2017). It is peer-reviewed and indexed in international scientometric databases (Index Copernicus, Google Scholar, DOAJ, RePEc, Maksymovych Scientific Library, Vernadsky National Library of Ukraine, etc.). Scientific publication is included in the List of scientific professional publications of Ukraine, category "B" (Order of the Ministry of Education and Science of Ukraine No 409 of 17.03.2020). Certificate of state registration KV No 19866-9666PR from 29.04.2013.

The website of the journal stores archives since 2008 (online full volumes and single papers): http://bulletin-econom.univ.kiev.ua/ua/archive/2020-2



The Chief Editor of the journal is Prof. Anzhela Ignatyuk (Ukraine). Board of Editors and Reviewers consists of academicians from various countries: Ukraine, Bulgaria, Great Britain, Greece, Italy, Lithuania, Romania, Turkey, Croatia, Sweden: http://bulletin-econom.univ.kiev.ua/editorial-board

The submissions are dispersed to members of these Boards according to their fields of expertise. All members of the Editorial Board have articles that are indexed in Scopus and Web of Science databases.

The publication of the articles is carried out on a paid basis (after reviewing and e-mail about acceptance for publication). Articles are exempted from payment:

- PhD-students of Taras Shevchenko National University of Kyiv;
- staff of Taras Shevchenko National University of Kyiv;

- if the article is co-authored: 1) staff for free, the co-author pays 1/2 or 1/3 of the cost of the article (depends on the number of authors); 2) if the co-author from the partner university together with the KNU employee is free of charge; 3) If the authors of the university-partner without our employee then authors of the article – PAY (the cost is divided by the number of authors)

The issues are printed in the Publishing center "Kyiv University". This allows the journal to fulfill its long-standing public service mission of well-regarded and respected academic discourse.

In 2020 **6 issues** were produced (the normal number) - http://bulletin-econom.univ.kiev.ua/ru/archive/2020-2. As pursued, during 2020 the issues of the journal were published within schedule and included:

- **38 papers** printed, every 3d paper is printed in English;
- **54 unique** authors, every 5d author is from all over the world.

We are proud of the Journal's growing internationalization and increasing share of papers in English.

As to citation: h5-index =15, h5-median=21 (Google Scholar).

The Editorial Board felt that this was a particularly good year for the high-quality submissions.

The geographical distribution of all authors of accepted papers over the year: Ukraine, Bulgaria, United Kingdom, Kuwait, Romania, Poland. In 2020 turnaround times for editorial feedback to authors were as follows: max – 1 month, min – 7 days.

Indexing

Nowadays, we are indexed and abstracted in over 35 databases (Google Scholar, Index Copernicus, J-Gate, DOAJ, Science Index, Ulrich's Periodicals Directory, RepEc, CrossRef, OCLC WorldCat, Microsoft Academic Search, EconPapers, etc):

http://bulletin-econom.univ.kiev.ua/abstracted-indexed

The third year in a row **we received 100 points in the Index of Copernicus.**

English title:	Bulletin of Taras Shevchenko National University of Kyiv. Economics.
ISSN:	1728-2667 (print), 2079-908X (online)
GICID:	n/d
DOI:	10.17721
Website:	http://bulletin-econom.univ.kiev.ua/
Publisher:	Taras Shevchenko National University of Kyiv,Publishing center "Kyiv University"
Country:	UA
Language of publication:	DE RU EN UA

Deposited publications: 563 › Full text: 99% | Abstract: 100% | Keywords: 100% | References: 100%

Issues and contents

Year	Prev. meth.	Act. meth.
2019		100.00
2018		100.00
2017		100.00
2016		78.52
2015		70.91
2014		67.43
2013	6.54	

Impact factors are highly volatile, especially for journals that recently got indexed in the Index, and hence caution is advised at the time of evaluating these results. However, these results do suggest that there exist good opportunities for a high-quality international and generalist journal in the economic field, such as the BULLETIN OF TARAS SHEVCHENKO NATIONAL UNIVERSITY OF KYIV. ECONOMICS and that pursuance of tolerance in the editorial policy towards various research paradigms and methods of conducting research will make the Bulletin a "first choice" journal.

Statistics

The Statistics of 2017-2020:

Year	Volume	Articles	Authors	Foreign authors	Ukrainian authors	Articles in English	Articles in Ukrainian	Articles in other languages	Countries	Universities, organizations
2017	190	9	11	0	11	0	9	0	1	4
	191	8	11	8	3	8	0	0	7	8
	192	7	11	3	8	1	6	0	2	5
	193	8	10	0	10	0	8	0	1	8
	194	10	13	0	13	0	10	0	1	5
	195	6	14	2	12	5	0	1	2	8
2018	196	13	18	0	18	0	18	0	1	8
	197	8	13	1	12	0	8	0	2	8
	198	12	27	21	6	12	0	0	5	11
	199	8	11	2	9	1	7	0	2	6
	200	9	18	3	15	1	8	0	2	9
	201	11	20	13	7	7	4	0	4	6
2019	202	8	18	8	10	5	2	1	5	9
	203	8	12	3	9	2	6	0	3	8
	204	9	19	5	14	2	7	0	4	9
	205	8	15	5	10	3	5	0	4	9
	206	6	13	3	10	2	4	0	4	6
	207	6	11	0	11	2	4	0	1	5
2020	208	6	16	5	11	3	3	0	4	7
	209	6	13	6	7	3	3	0	4	4
	210	6	14	9	5	4	2	0	4	6
	211	6	15	5	10	2	4	0	5	7
	212	6	14	4	10	2	4	0	2	5
	213	6	10	0	10	0	6	0	1	3

The last year was another good one for the journal. As **Statistics** show, our **submission numbers** reached a new high of more than 57 at the end of 2019, reflecting the growing international status of the journal, which now receives papers from over 13 countries each year. The average rate of papers' decline is 20 **percent**. We have just a few recalls by authors. As well just 10 percent of rejections were because of plagiarism. We have a double peer-review system.

The journal has free access to the archive and we have already thousands of visitors.

Series-Handle: repec:scn:pnoeeq

Address on IDEAS: https://logec.repec.org/scripts/seriesstat.pf?item=repec:scn:pnoeeq

Address on EconPapers: https://econpapers.repec.org/article/scnpnoeeq/

Page views (file downloads) on participating RePEc services:

Last month (2020): 160 (28)

Last 3 months (2020): 1011 (93)

Last year (2020): 2270 (331)

Since start: 19898 (2496)

Top items in the series: http://logec.repec.org/scripts/seritemstat.pl?h=repec:scn:pnoeeq

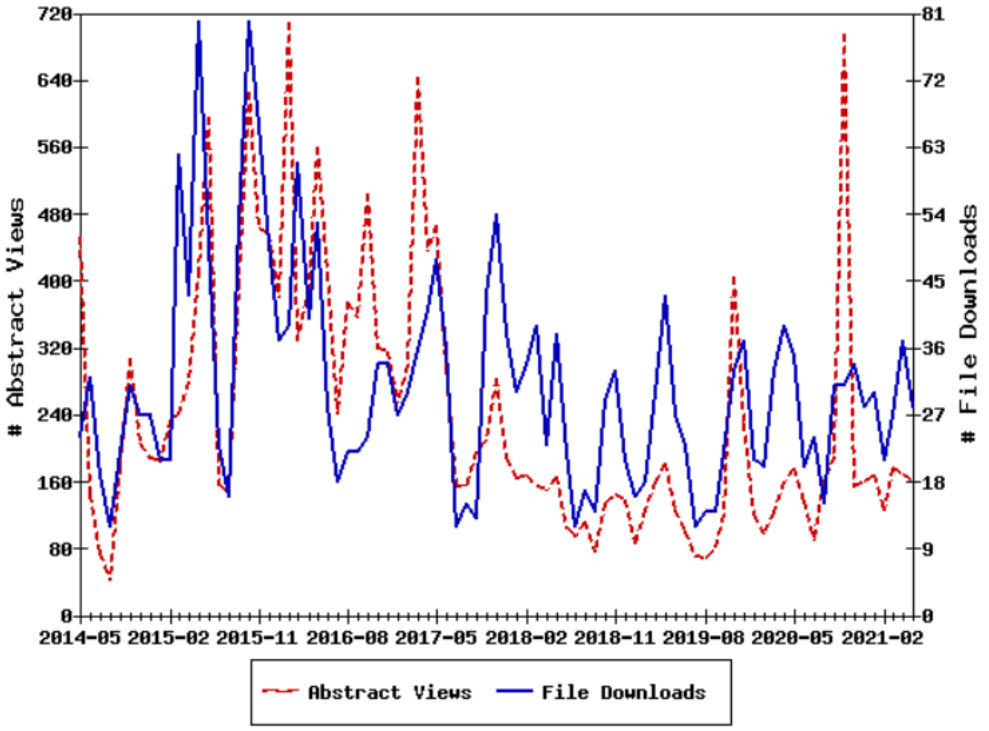
Access Statistics, 2020

Month	Downloads	Abstract views
01	21	121
02	20	99
03	33	124
04	39	160
05	35	177
06	20	136
07	24	90
08	15	162
09	31	190
10	31	696
11	34	155
12	28	160

The most downloaded papers according to RePEc services:

Top 10 journal articles by file downloads

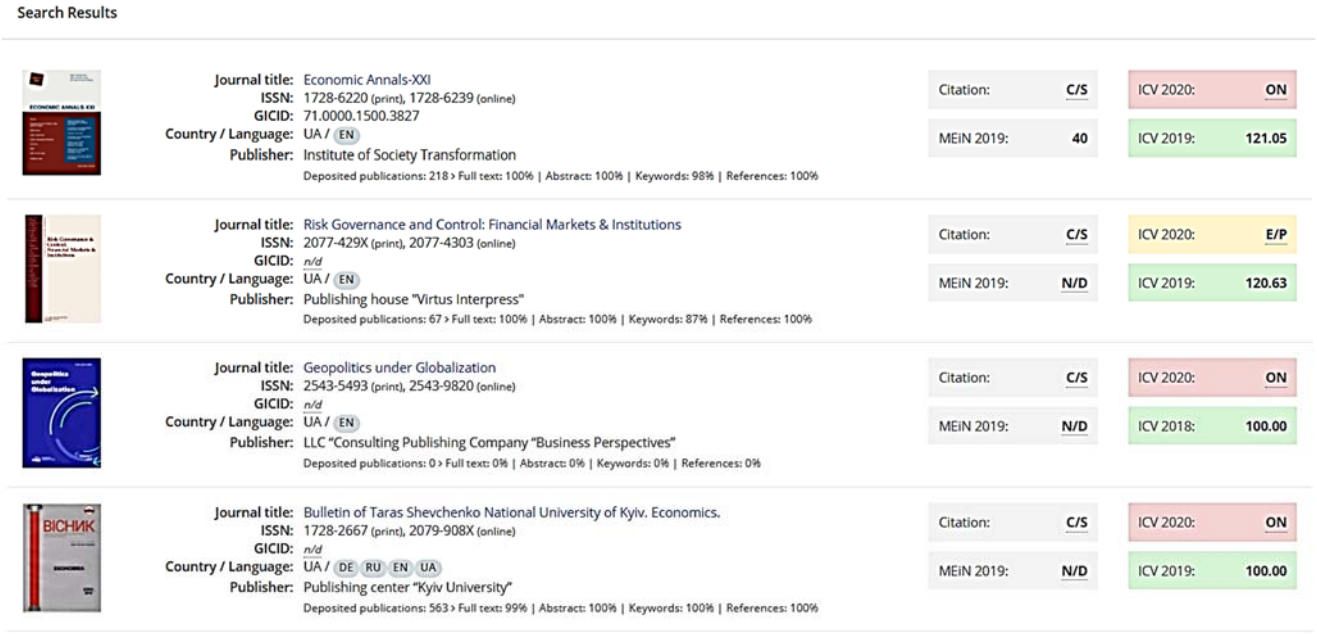
Rank	Journal Article	Abstract Views			File Downloads		
		3 months	12 months	Total	3 months	12 months	Total
1	Modern trends of development of international derivatives market V. Shelydko and V. Virchenko	5	13	247	3	3	70
2	Foreign experience of social entrepreneurship development N. Ignatovych and V. Gura	14	33	170	1	9	46
3	Financial globalization – global imbalances – global financial crisis R. Orăştean	3	16	106	1	5	39
4	Growing a business – mergers and acquisitions M. Boia	6	9	78	2	2	36
5	Financial market of Azerbaijan: current condition and future perspectives R. Guliyev	4	10	188	0	0	33
6	Peculiarities of composition the modern financial mechanism O. Bulkot	0	7	104	0	1	28
7	Profitability, liquidity, leverage and corporate governance impact on financial statement fraud and financial distress as intervening variable A. N. Adi, Z. Baridwan and E. Mardiati	10	45	61	2	20	28
8	Cryptocurrency: era and field of financial innovations V. Korneev and O. Cheberyako	4	41	74	1	9	28
9	Using system dynamics in macroeconomics K. Lawler, T. Vlasova and Alfredo Moscardini	7	38	56	4	16	27
10	Next generations of consumers – challenges and opportunities for brands A. Budac	7	19	68	5	7	27



Impact factors for all years (last 10 years):
Simple impact factor: 0.042 (0.026)
Recursive impact factor: 0.001 (0.002)
Discounted impact factor: 0.01 (0.008)
Recursive discounted impact factor: 0.001 (0.002)
h-index: 3 (2)
Euclidian citation score: 5.168 (4.288)
Aggregate ranking: 4242.27 (3159.66)
For more details, see: http://ideas.repec.org/top/#series

Our ranks in

Index Copernicus gave us 100 for 2020 and we are top-3 in Economics (Economics, econometrics, finance (miscellaneous), Ukraine) according to the ICV.



Editorial policy

During 2020 the journal faithfully continued to implement its aims and scope as defined in 2013. It is: "The Bulletin is the international scholarly journal of Taras Shevchenko National University of Kyiv. Devoted to the advancement of economic knowledge, it provides a forum for the publication of high-quality socio-economic research manuscripts. The journal acknowledges its European origins and the distinctive variety of the Ukrainian and European economic research community. Conscious of these origins, the Bulletin emphasizes openness and flexibility, not only regarding the substantive issues of economic research but also for paradigms, methodologies, and styles of conducting that research.

What we are working on now

International bases. Filling with information of international scientometric databases in which the Bulletin is presented.

Improving the quality of articles. Compliance with the Bulletin's editorial policy with the requirements for articles published in Scopus and WoS

Website. Updating the structure and content of the site, editorial policy, approaches to attracting reviewers, and peer review

Popularization of the publication. Dissemination of information about the Bulletin via e-mail, advertising on social networks, etc.

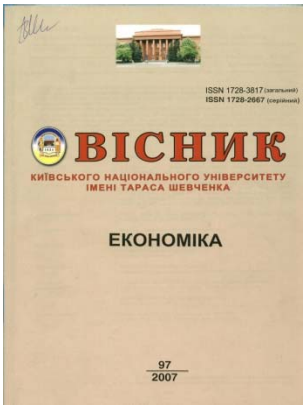
The journal is very pleased to announce a new Chief Editor, Executive Editor, and some members of the **Editorial and Review Boards:**

http://bulletin-econom.univ.kiev.ua/editorial-board

http://bulletin-econom.univ.kiev.ua/editorial-board/our-peer-reviewers

They bring expertise across a range of quantitative applications. We would like to warmly thank all those who have generously given their time to review articles for the journal.

We strongly encourage academics from across the field to submit their work to the journal and in closing I know I speak for the entire Editorial Board when I express my unreserved thanks to the large team of referees who support the journal. Without your continued support, the journal could not survive. Thank you all for your cooperation.



Вісник Київського національного університету імені Тараса Шевченка. Економіка – це рецензований, цитований у міжнародних наукометричних базах науковий журнал, що видається із 2017 року чотири рази на рік і присвячений дослідженням в економічній сфері.
Журнал видається з 1958 року

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Внесено до Списку друкованих періодичних видань, що включаються до Переліку наукових фахових видань України (категорія "Б")
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