Scenarios of Change of Enterprises in the Conditions of Digitalization

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Abstract: The paper investigates the issues of determining possible scenarios for the development of oil pipeline enterprises under the influence of digitalization. On the basis of the online platform "Google Trends" the relevance of the study of "digitalization" is substantiated, its significance in Ukraine and the world is determined. On the basis of domestic and foreign scientists researches, statistical data, review of normative-legal base it is offered to define three kinds pipeline transport of oil enterprises development scenarios in digital space. The main assumptions for the baseline and pessimistic scenarios are put forward, which allowed to predict the directions of development of the enterprise. Taking into account the forecasts of state companies on the volume and prices of sales of products (goods, works, services) in 2020 - 2023; forecast indicators of economic and social development of Ukraine for 2021 - 2023; strategic guidelines of the energy strategy of Ukraine for the period up to 2035; norms of deduction to the state budget of the corresponding payments the basic reference points for the investigated enterprise which should be realized under the conditions of any scenario of their development for the near future are allocated. A visual presentation of scenarios for their development.

1 INTRODUCTION

Due to the critical decline in oil production and refining at refineries, Ukraine is overly dependent on imported raw materials, so the use of the transit potential of the oil transportation network is particularly important, including for energy stability in the economy. Reliability and continuity of hydrocarbon supply are factors of sustainable development of the state, as pipeline transport is the most environmentally friendly, cost-effective and technologically simple means of hydrocarbon supply. However, in the time of dynamic information changes, research has become relevant to determine the scenarios of their development in the context of digitalization, which plays a decisive role both indirectly and directly. It is important to study the level of economic digitization and society as a whole in different countries with the initial data of the ranking of global digital competitiveness for the retrospective period. Research, in fact, should be based on the results of a comparative assessment of countries' ability to perceive and effectively use digital technologies as a way to change regulatory practices, business models and society as a whole. And on this basis it is necessary to single out the place of Ukraine among the digitalized space, which in the future will allow to emphasize the highly specialized issues in the direction of the oil transportation industry. The above indicates that the relevance of the chosen issue is timely and essential.

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2 LITERATURE REVIEW

In the period of permanent changes, the process of digitalization is of great interest, because its skillful application provides dominant features in a competitive environment. Obviously, the nature of such changes produces the search for alternatives, scenarios and strategies. In the range of such transformations, considerable attention is paid to the issues of effective implementation of digitalization. Outdated technologies, methods of communication, motivation systems and ill-considered decisions, lead to the need for digital development of industrial enterprises, as noted by the authors Horal L., Korol S., Havrylenko M., Hvostina I. and Shyiko V. (Horal et al., 2020).

According to K. Kuprina and D. Khazanova, digitalization is a way to digitize any kind of information (Kuprina, 2016). O. Halapsis takes a slightly different position on this issue, defining digitalization not as a method, but as a process related to the tendency to bring into electronic form a variety of information types used by man, the researcher tentatively called "digitization of being" (Halapsis, 2006).

Given the above, it is difficult to agree with the opinion of A. Koptelov, who distinguishes digitization ("digitization") from digitalization ("digitization"), defines the latter as the process of creating a new product that originally exists in digital form and can not be transferred to physical media without significantly reducing its quality (Koptelova, 2021).

Simultaneously, companies in terms of digitization play a decisive role in achieving the Sustainable Development Goals (SDGs) (Allen et al., 2019). Under sustainable development is understood “development that meets current needs without compromising the capabilities of future generations satisfying their own needs” (World Commission on Environment and Development [WCED], 1987) (World Commission on Environment and Development, 1987). The concept integrates economic, social, environmental, and intergenerational dimensions (WCED, 1987) (World Commission on Environment and Development, 1987). Sustainable development is not an end state that can be achieved, but a “moving target” that is continuously changing (Gaziulusoy et al., 2013) (Gaziulusoy et al., 2013). Hence, the concept of sustainable development emphasizes that human well-being and environmental sustainability are influenced by one another, while being integrated across space and time (WCED, 1987) (World Commission on Environment and Development, 1987).

Companies are increasingly engaging with sustainable development and most large companies say to embrace the SDGs. However, the world is hardly developing in a sustainable direction. As progress is too slow around the world (Independent Group of Scientists appointed by the Secretary-General, 2019 (Independent Group of Scientists appointed by the Secretary-General., 2019; Sachs et al., 2019), there is increasing consensus that “a much deeper, faster and more ambitious response [is needed] to unleash the social and economic transformation needed to achieve our 2030 goals” (UN, 2019, p. 2) (United Nations, 2019). In turn, sustainable development is critical for companies' activities. Companies depend on ecosystems and on economic and social capital (Whiteman et al., 2013; Williams et al., 2017; Winn & Pogutz, 2013).

3 APPLICATION, ANALYSIS AND DISCUSSIONS

Under the current development conditions Ukrainian oil transportation industry development, which are produced by the challenges of the digital environment and the limitations of the Covid-19 pandemic, the requirements for adaptability, flexibility and quality in the activities of oil transportation companies are growing. Each of them, in particular JSC "Ukrtransnafta" is in search of alternative solutions, in choosing the guidelines of its development and determining the strategic direction of development. When faced with problems on a daily basis, they are faced with the question of choosing goals, methods, tools and means that would help determine and adhere to the scenario of their development. In fact, in order to choose the most effective one, it is necessary to operate not only with the current management system, but also with the current state of their development, in particular in the context of digitalization.

Therefore, first of all, examining the interpretation of the definition of "digitalization" in Ukraine, we can say that over the past five years, interest in this category has grown significantly, especially this year, which indicates the timeliness and need for its implementation (Fig. 1).

The data of fig. 1 indicate that domestic interest in this category began only recently, in particular in 2018, but most studies fall on 2021.

The same situation is observed in the world (Fig. 2).

Generally speaking, we can say the last 2-3 years direction arouses great interest digitization, due to competitive advantages, including: providing added value to goods through quality services; high-level communication; enhancing company image; lower prices through process automation and digitization of business processes; transparency of internal and external processes; increased customer loyalty to the company (Ligonenko et al., 2018).

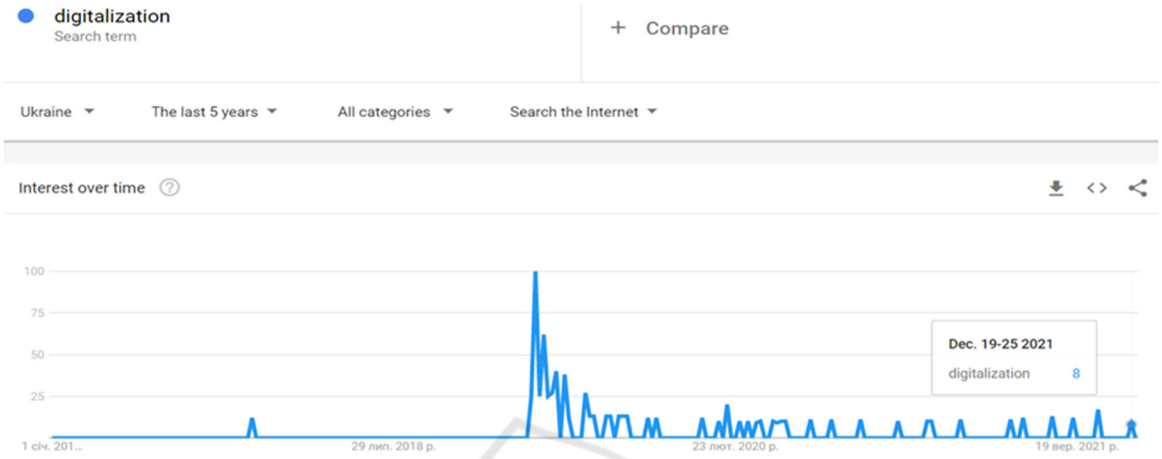

Figure 1: Dynamics of research on the definition of "digitalization" in Ukraine for 2016-2021.

Source: generated by the authors on the platform (Trends Google, 2021)

At the same time, digitization expands the information space by reducing the information costs of creating new information products. Obviously, this significantly speeds up and simplifies the search for information, information exchange and strengthens cooperation between enterprises. This, in turn, affects the working methods of enterprises, the search for favorable living conditions and the quality of interaction between the population and its authorities. Under such conditions, scientists consider changes in economic processes, repositioning of production to create material products of services, and globalization of the economy to be the most important signs of the development of a new society in the era of informatization and digitalization (Dubyna & Kozlyanchenko, 2019).

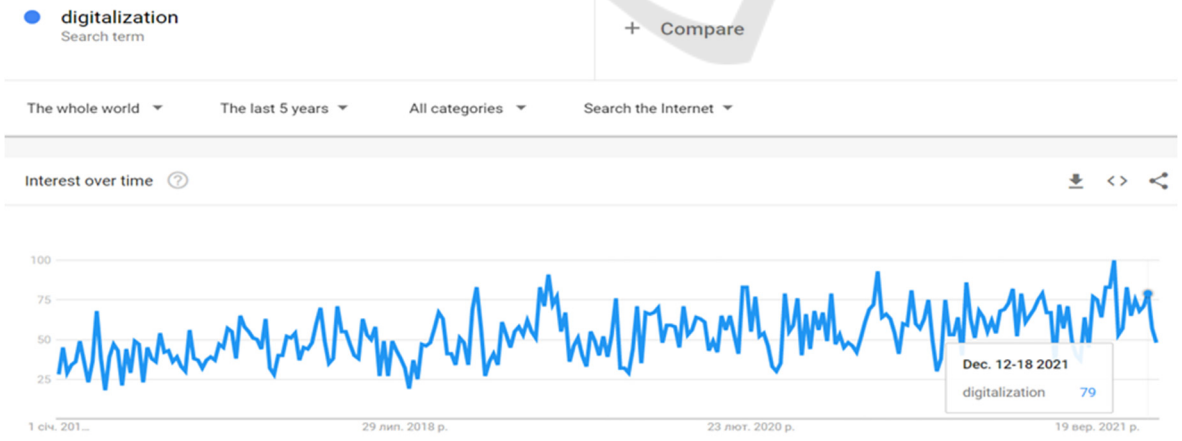

Figure 2: Dynamics of research on the definition of "digitalization" in the world for 2016-2021.

Source: generated by the authors on the platform (Trends Google, 2021)

At the same time, comparative data on the level of digitalization of the economy and society as a whole in different countries, which are included, in particular, in the Global Digital Competitiveness Rating, are of interest (The IMD World Digital Competitiveness Ranking, 2020).

Diagnosis of countries in this ranking is based on their ability to successfully apply digital technologies, which are a tool to change not only regulatory practices but also business models and society as a whole.

This assessment is based on three complex factors, which have acquired the following typicaled names: knowledge, technological environment, openness to the future. In the future, each factor divided into three subfactors, which, in turn, are detailed using six indicators. The knowledge factor means the system of knowledge necessary for the discovery, understanding and creation of new technologies and which are divided into the following three subfactors: talent, education and retraining, scientific concentration. The factor "technological environment" is divided as a subfactor into regulatory framework conditions, capital and technological framework conditions. Future openness is specified through sub-factors such as adaptability, business agility, and IT integration (The IMD World Digital Competitiveness Ranking, 2020).

In 2020, the United States held the number one spot in this ranking, with all five of the best economies in the country, the index has not changed: the United States, Singapore, Denmark, Sweden and Hong Kong South Africa (Table 1).

Table 1: The dynamics of the level of digitalization level in the world, estimated on the based of key metrics in 2020.

General assessment and by individual factors	2020 year									
	USA	Singapore	Denmark	Sweden	Hong Kong CAP	Switzerland	Netherlands	Republic of Korea	Norway	Finland
Overall rating	1	2	3	4	5	6	7	8	9	10
1. Knowledge	1	2	6	4	7	3	14	10	16	15
2. Technological environment	7	1	9	6	2	11	8	12	3	10
3. Openness to the future	2	12	1	7	10	5	4	3	6	9

Source: generated by the author according to the data (The IMD World Digital Competitiveness Ranking, 2020).

US activity is largely determined by knowledge factors and future readiness. More specifically, this is supported by factors related to scientific concentration (eg percentage of scientific and technical employment and use of robots in education and R&D, capital (eg venture capital), adaptive settings (eg e-participation) and business agility). for example, world robots distribution or percentage of world robots).

The top 10 economies remain the same as in previous years. The United States continues to lead the IMD World Digital Competitiveness Rating for the third year in a row. Similarly, Singapore remains in second place. While Denmark is ahead of Sweden, rising one place (3rd place and 4th, respectively), CAP-Hong Kong rises three places to 5th. Switzerland falls to 6th place (from 5th) and similarly the Netherlands falls to 7th (from 6th). The Republic of Korea moves up to 8th (out of 10), Norway remains in 9th and Finland up in the top 10, dropping 3 places from 7th.

Ukraine is improving, moving up two places from 60th to 58th, driven by talent, especially digital / technological skills (40-27), e-participation (53-39th) and agility of companies (47th to 58th). 33rd) (Table 2).

Table 2: Dynamics of the level of digitalization in Ukraine, estimated on the basis of key indicators set for 2015-2020.

General assessment and by individual factors	Years					
	2015	2016	2017	2018	2019	2020
Overall rating	59	59	60	58	60	58
1. Knowledge	40	44	45	39	40	38
2. Technological environment	60	60	62	61	61	59
3. Openness to the future	61	61	61	61	62	61

Source: generated by the author according to the data (The IMD World Digital Competitiveness Ranking, 2020).

At the same time, in order to state the relevance of the study on digitalization purely in industrial enterprises in the context of identifying scenarios for their development, in particular in the context of oil pipelines, we use the tool "Google Trends". It makes it possible to investigate the timeliness of research through the widespread use of queries. Therefore, we will choose the oil transportation company JSC Ukrtransnafta as the only national operator that provides services for transportation of oil by pipeline to oil refineries of Ukraine and oil transit to Eastern and Central Europe (Official site of Ukrtransnafta JSC, 2021), and explore it among domestic and foreign consumers (Fig. 3).

The data of fig. 3 indicate that the global interest in this category, both the concept and the research of the company itself, over the past five years has a steep trend. Ukrtransnafta JSC reached the highest peak of popularity in 2018 and did not leave its consumers unattended during the entire research period.

Consumers from countries such as the Belarus, Ukraine, Russia, Germany and Poland have shown the greatest interest in the domestic oil transportation company (Fig. 4).

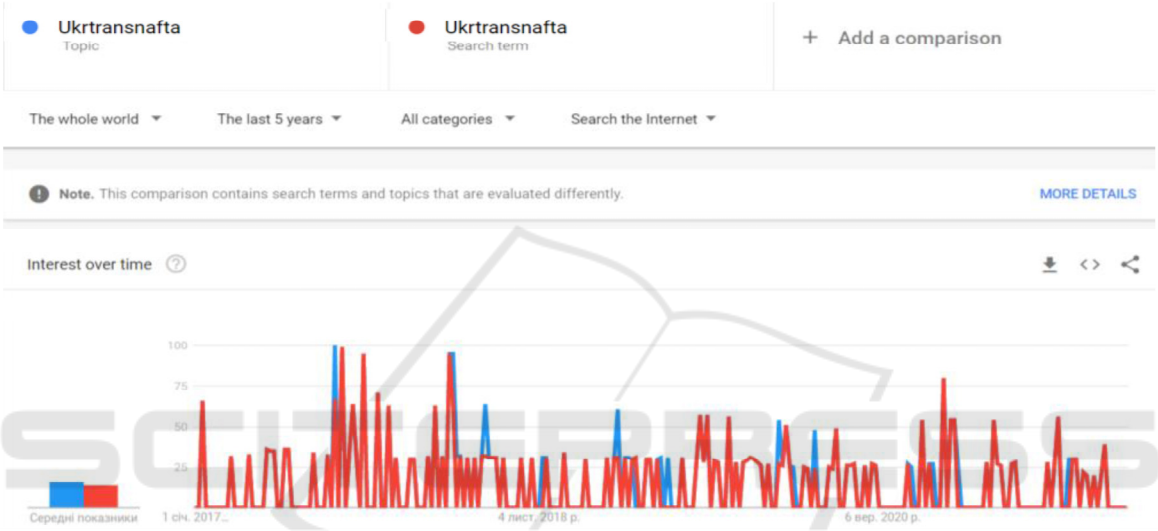

Figure 3: Popularity of Ukrtransnafta JSC (Ukrtransnafta) query in Google search engine in the world.

Source: generated by the author on the platform (Trends Google, 2021)

As we can see, the popularity of requests fluctuates greatly, this situation indicates the need to use digitalization tools to improve the efficiency of the "Internet" of oil transportation companies.

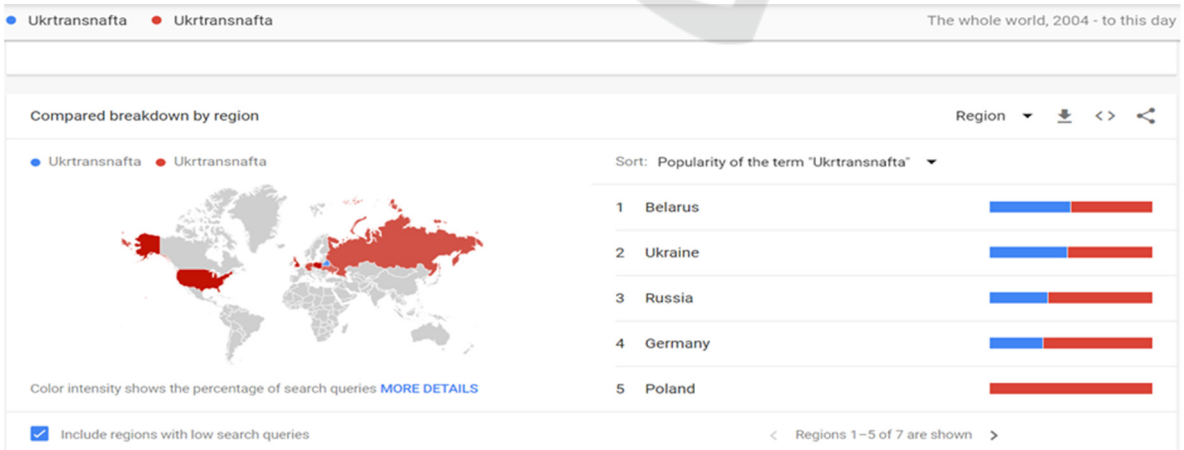

Figure 4: Popularity of the query JSC "Ukrtransnafta" (Ukrtransnafta) in the Google search engine among the countries of the world.

Source: generated by the author on the platform (Trends Google, 2021)

This, in turn, indicates that the strategic perspective needs to focus more on digitization processes through more active implementation. However, in general, the conceptual framework of digitalization and Ukraine's energy strategy for the period up to 2035 indicate that industrial enterprises, including oil, follow the digitalization strategy, which helps to abandon paperwork, increase transparency of business processes, reliability and efficiency of data. control access to information.

Therefore, the current field of activity of the oil sector is characterized by the total volume of transported oil of JSC "Ukrtransnafta", which according to the results of 2020. is 15.7 million tons, which is 1.5% more than in 2019. The volume of oil transportation for Ukrainian refineries increased by 8.9% (to 2.6 million tons), and transit decreased by 0.4% to 13.1 million tons (compared to 2019) (Official site of Ukrtransnafta JSC. 2021; Pavlova et al., 2021). The contract with PJSC Transneft, signed for 10 years (until the end of 2029), allows Ukrtransnafta JSC to pump at least 15 million tons of oil per year through the Druzhba oil pipeline. At the same time, unlike gas contracts, the contract does not provide for any obligations in terms of pumping volumes (PJSC "Transneft" acts as a logistics company that transports oil at the request of oil companies) (Ukraine 2020-2021: unjustified expectations, unexpected challenges (analytical assessments), 2020). During 2020 The share of gasoline imports from Belarus increased from 67% to 78% (by 163 thousand tons), while the volume of supplies from Lithuania decreased by 32% to 21% (to 235.1 thousand tons), due to the proposal of Belarusian Oil Company Ukraine to sell gasoline in the portfolio of diesel fuel under thermal contracts (Official site of the company "Consulting Group A-95", 2021).

At the same time, the volume of domestic oil refining is extremely low: Shebelinsky gas refinery is underloaded, and the volume of refining at the Kremenchug refinery amounted to 3 million tons (with a capacity of 18 million tons per year, and the possibility of refining at the level of "Euro-5" - 7 million tons).

The EU4Energy Governance technical assistance project for the implementation of Directive 2009/119 / EU for the purpose of establishing minimum stocks of oil and petroleum products in Ukraine (IOS) has also been completed. According to the method of calculating the volume of stock, it should be 90 days of imports. From June to November 2020, representatives of the Verkhovna Rada, the State Reserve and the Ministry of Energy worked together with experts from the Secretariat of the Energy Community to implement this important element of the country's energy independence)Ukraine 2020-2021: unjustified expectations, unexpected challenges (analytical assessments), 2020).

It is obvious that the further situation in the oil transportation industry will be determined according to the current state of development in Ukraine and its guidelines for the future. In particular, in accordance with the decision of the Cabinet of Ministers of Ukraine dated 29.07.2020 № 671 "On approval of the Forecast of economic and social development of Ukraine for 2021 - 2023" projected indicators of economic and social development of Ukraine for 2021 - 2023.

In accordance with this normative legal act, the forecast is developed according to the most probable scenario, which takes into account the analysis of economic development in the retrospective period, the current economic situation due to force majeure and its consequences for Ukraine, and assumptions that with taking into account the impact of future external and internal factors. In the baseline scenario, one of the main assumptions is the end of the global COVID-19 pandemic in 2020 (Resolution of the Cabinet of Ministers of Ukraine, 2020).

Also, given the significant uncertainty in the forecasts of development, especially the world economy and the duration and recurrence of the COVID-19 pandemic, the Forecast summarizes two alternative scenarios, which provide a more successful for most economically developed countries to overcome the effects of the pandemic, protracted, with a corresponding impact on Ukraine's economic development. The Forecast also identifies potential development risks that are not considered in any of the scenarios.

The baseline scenario envisages a resumption of the positive trend of economic development after significant losses from the global COVID-19 pandemic in the world in 2020, and forecasts: GDP growth of 4.6% in 2021, 4.3% in 2022 and 4.7 % in 2023; the consumer price index (December to December of the previous year) is expected at 107.3% in 2021, 106.2% in 2022 and 105.3% in 2023; increase in the real average monthly salary of employees - at 12.1% in 2021, 6.0% in 2022 and 5.1% in 2023; the unemployment rate in 2021 - 9.2%, in 2022 - 8.5%, in 2023 - 8.0%; growth of exports of goods and services at 2.9% in 2021 with a further increase in growth to 6.4% in 2022 and to 8.2% in 2023 (Resolution of the Cabinet of Ministers of Ukraine, 2020).

Subsequently, when finalizing the Forecast, the conditions for raising the minimum wage to UAH 7,176 were taken into account. in 2023 and beyond, this document became a platform for strategic decision-making by the authorities. At the same time, this forecast determined medium-term vectors for business and investors, and forecast macroeconomic indicators were the foundation during the preparation of the draft State Budget of Ukraine for 2021.

At the same time, the strategic guidelines of Ukraine's energy strategy for the period up to 2035, approved by the Cabinet of Ministers of Ukraine dated 18.08.2017 № 605-r "On approval of Ukraine's energy strategy for the period up to 2035" Security, energy efficiency, competitiveness " components of oil transportation and present diversification of supplies, namely (Order of the Cabinet of Ministers of Ukraine, 2017):

1) maintenance of Ukraines oil pipeline system in a proper technical condition by means of service, inspection, repair, reconstruction, technical re-equipment of the equipment, systems and objects of oil pipeline system provided by regulatory documents;

2) further increase the efficiency of the system in order to ensure its competitiveness in the market of oil transportation services;

3) effective use of oil pipeline system capacities of Ukraine for reliable operation of existing oil transportation routes and creation of new directions of transportation;

4) attracting new volumes for oil transportation to domestic refineries, and transit through Ukraine;

5) active participation in projects of integration of Ukraines oil pipeline system with oil transportation systems and oil refining capacities of other countries for the organization of alternative supplies;

6) increasing the competitiveness of oil supplies from alternative sources through tariff policy, reduction of port dues, etc .;

7) ensuring the protection of investments in oil transportation projects;

8) introduction of modern technologies of transportation of different grades and blending (mixing) of oil;

9) ensuring high environmental standards of activity;

10) development of offshore oil transportation infrastructure facilities for the purpose of ensuring flexibility and multimodality of supply of petroleum and/or petroleum products;

11) improving the efficiency of the existing infrastructure for the supply of non-Russian oil to Europe;

12) measures to promote the implementation of trans-European pipeline projects.

In order to propose scenarios for the development of oil transportation companies, it is still necessary to focus on the forecasts of state companies on the volume and prices of products (goods, works, services) in 2020 - 2023 and standards for deductions to the state budget. The purpose of analyzing their scenarios is to provide a financial assessment of some of the fiscal risks that the Government may face from large state-owned companies by 2023. The key issue of the analysis is the financial results of state-owned companies in the face of negative macroeconomic shocks.

The model considers the basic, stressful and optimistic scenarios of possible developments, which are based on forecasts (expectations) of state companies on the volume and prices of sales of products (goods, works, services) in 2020 - 2023; forecast indicators of economic and social development of Ukraine for 2021 - 2023, approved by the resolution of the Cabinet of Ministers of Ukraine of 29.07.2020 № 671 "On approval of the Forecast of economic and social development of Ukraine for 2021 - 2023"; norms of deductions to the state budget of the corresponding payments (Resolution of the Cabinet of Ministers of Ukraine, 2020).

The risk assessment as a result of the analysis reflects the possible trend of financial forecasts under the implementation of different scenarios and may deviate from the actual situation due to the impact of events not taken into account in the scenarios.

So, according to the forecast of economic and social development of Ukraine for 2021 - 2023 (Resolution of the Cabinet of Ministers of Ukraine, 2020).

JSC Naftogaz of Ukraine and its subsidiaries (Naftogaz Group) until 2023 will continue to carry out a full cycle of operations on exploration and development of oil and gas fields, operational and oil and gas exploration drilling, transportation and storage, sale and supply of natural gas and petroleum products to consumers.

The main subsidiaries and joint activities until 2023 are presented as follows: production of gas, oil and products of their processing: JSC "Ukrgazvydobuvannya" (share: 100.0% of shares); PJSC "Ukrnafta" (share: 50.0 + 1 share); Petrosanan, joint venture with the Arab Republic of Egypt and the Egyptian General Petroleum Corporation (share: 50.0% of shares); SE "Zakordonneftogaz" (share:

100.0% of shares); Karpatigaz LLC, joint activity with Misen Enterprises AB (share: 49.99% of shares); transportation of oil and gas: JSC "Ukrtransgaz", JSC "Ukrtransnafta", JSC "Ukrspetstransgaz" (all share: 100.0% of shares); wholesale and retail trade in oil, gas and products of their refining: SC "Gas of Ukraine" (share: 100.0% of shares); Naftogaz Ukrainy Gas Supply Company LLC (share: 100.0% of shares); Naftogaz Trading Gas Supply Company LLC (share: 100.0% of shares); Naftogaz Trading Europe AG (share: 100.0% of shares, Switzerland); OJSC Kirovogradgaz (share: 51.0% of shares); Ukravtogaz (share: 100.0% of shares) (Resolution of the Cabinet of Ministers of Ukraine, 2020).

According to the forecast of economic and social development of Ukraine for 2021-2023 we forecast the amount of net profit (loss) of Naftogaz until 2023 (Table 3).

Table 3: Net profit (loss) of Naftogaz Group (UAH million) for 2018-2023.

Types of scenarios	2018	2019	2020	2021 (forecast)	2022 (forecast)	2023 (forecast)
Baseline scenario	11567	63294	(18002)	7 827	15 801	15 806
Stress scenario	11567	63294	(18002)	(2180)	(1960)	(1870)
Optimistic scenario	11567	63294	(18002)	1450	1090	970

Source: calculated by the authors taking into account (Resolution of the Cabinet of Ministers of Ukraine, 2020).

Modeling of Naftogaz Group activity was carried out on the basis of forecasts of JSC Naftogaz of Ukraine regarding volumes and prices of sales in 2020-2023 (considered as a baseline scenario).

At the same time, regardless of the scenarios considered in the model, the Naftogaz Group's current liquidity ratio is projected to be consistently high in 2020-2023. It is calculated as the ratio of current assets to short-term (current) liabilities), which indicates the sufficiency of working capital to meet current obligations.

Therefore, regardless of the scenarios considered in the model, in the absence of growth in sales and prices that will ensure profitability, without receiving JSC "NJSC" Naftogaz of Ukraine "in 2020 funds from the state budget as compensation for special duties in the amount UAH 32.2 billion, there was a loss-making activity of the Naftogaz Group in 2020-2023, which will have a negative impact on the amount of payments to the state budget.

This information on possible performance indicators of the Naftogaz Group in 2020-2023 is estimated, does not take into account all possible revenues and expenses of the Group's companies, and cannot be considered as a guarantee of such indicators in the future. At the same time, taking into account the modeling of NJSC Naftogaz of Ukraine in accordance with the forecasts for 2021-2024, it is necessary to pay attention to the corporate component of the strategy, as after the change in 2021 operating model and results of the Naftogaz Group (Information on fiscal risks and their impact on the state budget in 2022, 2021). Based on this, the main assumptions for the baseline and pessimistic scenarios are made (Table 4).

Table 4: Basic assumptions for baseline and pessimistic scenarios (Information on fiscal risks and their impact on the state budget in 2022, 2021).

Baseline	Pessimistic
The forecast on volumes, prices of purchase and sale of products in 2021 - 2024 is taken into account in accordance with the expectations of the Company.	The forecast of volumes, purchase and sale prices in 2021 - 2024 is taken into account in accordance with the Company's expectations.
Transit revenues - according to the 5-year contract with Gazprom and expenses - according to the contract with the transport system operator.	Transit revenues - according to the 5-year contract with Gazprom and expenses - according to the contract with the transport system operator.
The growth of the Company's operating expenses is taken into account at the level of growth of consumer price indices and producer prices, according to the forecast approved by the resolution of the Cabinet of Ministers of Ukraine from 31.05.2021 № 586.	Expectations for growth of consumer prices and producer prices are taken into account in accordance with the alternative scenario of the forecast approved by the resolution of the Cabinet of Ministers of Ukraine from 31.05.2021 № 586.
Expectations to change the exchange rate are taken into account in accordance with the forecast approved by the Cabinet of Ministers of Ukraine 31.05.2021 № 586.	Assumptions about the exchange rate change at the level of + 5% per year compared to the baseline scenario are taken into account.
Expectations that the Company will receive income from participation in the capital of Naftogaz Group enterprises in 2021 - 2024 are taken into account at the level of indicators of the financial plan of NJSC Naftogaz of Ukraine for 2021.	It is assumed that the Company will not receive income from participation in the capital of Naftogaz Group enterprises in 2021 - 2024.

In accordance with the baseline and pessimistic scenarios, the Company's information on the expected sales volumes in 2021-2024 was taken into account when modeling the results of Naftogaz Ukrainy's operations.

Thus, in accordance with the Company's expectations in 2021, natural gas sales are expected to decrease from 17.6 to 15.2 billion cubic meters compared to 2020 (by 2.4 billion cubic meters, or 13.7%). Sales of natural gas in 2022 - 2024 are expected at about 15.5 billion cubic meters (Table 5).

Table 5: Net profit (loss) of NJSC Naftogaz of Ukraine (UAH million) (Information on fiscal risks and their impact on the state budget in 2022, 2021).

Types of scenarios	2018	2019	2020	2021	2022	2023	2024
Baseline scenario	13 613	50 658	(18 002)	7 827	15 801	15 806	20 215
Pessimistic scenario	13 613	50 658	(18 002)	(72)	(3 065)	(5 755)	(7 086)

As shown in Fig. 5, in 2021 - 2024, according to the baseline scenario, profitable activity of Naftogaz Ukrainy is expected, according to the pessimistic scenario - unprofitable activity of the Company.

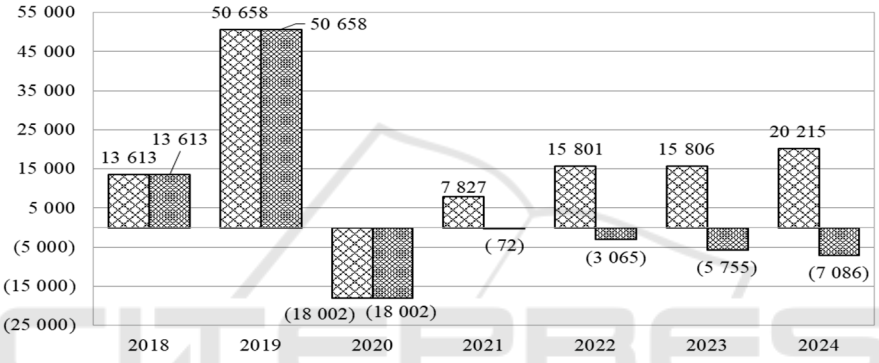

Figure 5: Dynamics of change in net profit (loss) of NJSC Naftogaz of Ukraine under the conditions of the baseline and pessimistic scenarios for 2018-2024.

The value of the debt ratio of NJSC Naftogaz of Ukraine during 2018-2020 (at the level of 20-25%) indicates the constant dependence of the Company on borrowed capital, while in both scenarios in 2021-2024 the value of this indicator is expected at the same level (Table 6).

Also, both scenarios are expected to have a high value of the current liquidity ratio of Naftogaz of Ukraine in 2021-2024 (calculated as the ratio of current assets to short-term (current) liabilities and reflects the possibility of repaying short-term liabilities from current assets).

Table 6: Debt ratio of NJSC Naftogaz of Ukraine for 2018-2024 (Information on fiscal risks and their impact on the state budget in 2022 2021).

Types of scenarios	2018	2019	2020	2021	2022	2023	2024
Baseline scenario	19,5%	24,7%	23,1%	25,2%	24,0%	22,3%	18,5%
Pessimistic scenario	19,5%	24,7%	23,1%	24,0%	23,2%	22,0%	17,4%

This indicates the sufficiency of the Company's working capital to meet current obligations (Table 7). Therefore, in the event of a pessimistic scenario, the Company's unprofitable activity is expected in 2021-2024, which will have a negative impact on the volume of payments to the state budget of relevant taxes and payments.

Table 7: Current liquidity ratio of Naftogaz of Ukraine for 2018-2024 (Information on fiscal risks and their impact on the state budget in 2022, 2021).

Types of scenarios	2018	2019	2020	2021	2022	2023	2024
Baseline scenario	1,80	2,90	3,54	3,92	3,72	3,74	3,42
Pessimistic scenario	1,80	2,90	3,54	4,60	4,00	3,60	2,74

In addition, according to the Company's information provided to the Ministry of Finance (Information on fiscal risks and their impact on the state budget in 2022, 2021), In 2022-2024, the Company plans to purchase imported gas at prices well below gas prices, in particular in the European market, which has recently tended to grow rapidly, which may affect the Company's results of operations and will require risk mitigation measures. in its activities, in particular by optimizing costs.

Modeling of the expected financial results of NJSC Naftogaz of Ukraine was carried out without taking into account the consequences of the implementation of the Law of Ukraine "On measures aimed at overcoming the crisis and ensuring financial stability in the natural gas market" (from 14.07.2021 № 1639-IX).

However, the information on the expected performance of Naftogaz of Ukraine in 2021-2024 is estimated, does not take into account all possible revenues and expenses of the Company, reflects the possible trend of financial forecasts in different scenarios and may deviate from the actual situation due to in event scenarios and cannot be considered as a guarantee of the occurrence of such events in the future.

Therefore, taking into account the forecasts of state companies on the volume and prices of sales of products (goods, works, services) in 2020-2023; forecast indicators of economic and social development of Ukraine for 2021 - 2023; strategic guidelines of Ukraine's energy strategy "for the period up to 2035; norms of deductions to the state budget of the relevant payments can be identified as the main benchmarks for the oil transportation company JSC "Ukrtransnafta", which must be implemented under any development scenario in the near future, in particular in 2021:

1. Support of the infrastructure of the NAFTA Division for full-fledged remote operation in the state of quarantine prevention (about 1,600 users), including PrykarpatZakhidTrans (300 users).
2. Complete the integration of the infrastructure of the central office of JSC Ukravtogaz into the infrastructure of the NAFTA Division.
3. Implementation of PIMS (Oil Pipeline Management and Integrity Management System), IDOCHUB, Cisco Email Security Appliance (ESA), McAfee Advanced Threat Defense, Port Security projects.
4. Commissioning of fiber-optic lines in the area of st. Luhova - data center in Kyiv.
5. Complete the implementation and work on the project "ACS TP NPS Kurovichi for the implementation of SCADA for the Company."
6. To start works on laying fiber-optic lines on the section "VZ LVDS Kremenchuk-KP TM 53 km".
7. Put into commercial operation SVN (video surveillance system) at the facilities "PZD Odessa", "Snihurivka", "Pleshchivka", "Kurovychi".
8. Complete the RFID project.
9. Start work (1st stage according to the schedule) on the JI project (leak detection system).
10. Implement a software package for email protection.
11. Implement the GIS system (ARCGIS).
12. Deploy the centralized SCADA IT infrastructure.
13. Complete the implementation of the first infrastructure of the Ukravtogaz CNG filling stations in the IT infrastructure of the Division.

The outlined strategic vectors of development make it possible to assess the level of strategic management of innovative development of oil transportation companies for any scenario of their development, in particular JSC "Ukrtransnafta".

Thus, the obtained results make it possible to compare them with strategic guidelines and determine the basic (3), stressful (2) and optimistic (3) scenarios for the development of the oil transportation company (Fig. 6).

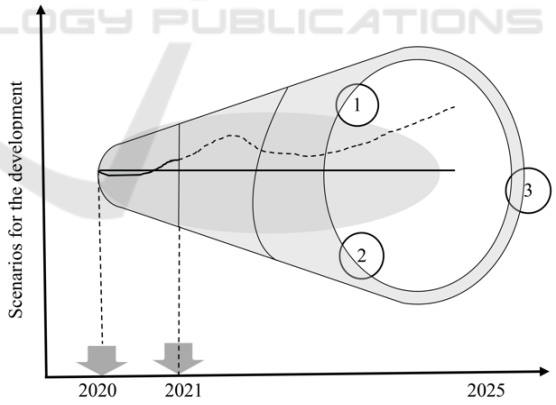

Figure 6: Scenarios for the development of JSC "Ukrtransnafta" for 2020-2025.
Source: author's development

We believe that under such conditions strategic vectors of development of oil pipeline transport enterprises are possible, including: increase in the volume of oil transportation by main oil pipelines; ensuring stability and permanence transportation of oil both to Ukrainian refineries and in transit to European consumers; diversifying the sources and

routes of supplying oil to Ukraine and transiting through Ukrainian territory in order to strengthen the country's energy security; compliance with the highest quality standards of oil transportation services through the territory of Ukraine; ensuring the reliable functioning and integrated development of the national oil transportation system through the implementation of promising investment projects (Mykoliuk et al., 2020).

4 CONCLUSIONS

Thus, as practice shows, the analysis of economy and society digitalization level as a whole in different countries should be based on the initial data of the ranking of global digital competitiveness, which took place in 2015-2020. The comparative assessment of countries in this ranking should be based on the ability to perceive and effectively use digital technologies as a change tooling regulatory practices, business models and society as in general. Such diagnostics makes it possible to single out Ukraine's place among the digitized space in the time range.

Scenarios for the development of oil transportation companies should be based on basic, stressful and optimistic options for possible developments. In addition, they should be based on the forecasts of state companies on the volume and prices of sales of products (goods, works, services) in 2020 - 2023; forecast indicators of economic and social development of Ukraine for 2021 - 2023, approved by the resolution of the Cabinet of Ministers of Ukraine of 29.07.2020 №671 "On approval of the Forecast of economic and social development of Ukraine for 2021 - 2023"; Strategic Guidelines of the Energy Strategy of Ukraine "for the period up to 2035, approved by the order of the Cabinet of Ministers of Ukraine from 18.08.2017 p. № 605-p «On approval of the Energy Strategy of Ukraine for the period up to 2035 "Security, energy efficiency, competitiveness"; norms of deductions to the state budget of the corresponding payments. Also, the strategic vectors of development of oil transportation companies should be focused on domestic and European consumers.

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