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DEVELOPMENT OF DIGITALIZATION IN THE MANAGEMENT SYSTEM OF A LOGISTICS COMPLEX

Abstract
The purpose of the article is to study the features of the development of digitalization in the management system of the logistics complex. The transport complex serving important sectors of the economy is considered, with special emphasis on the development of the unified transport system of the Republic of Kazakhstan, modernization and efficiency improvement of all its elements in the resolutions of the Government of the Republic of Kazakhstan and other state documents. It was also noted that the transport sector of the republic plays a special role in ensuring the further dynamic and sustainable development of the economy of Kazakhstan, the implementation of the state strategy for its integration into the world economy. The development of the transport sector should take into account the current state and prospects of economic development, as well as the best international practices in the development of transport and logistics systems. Hence, the high relevance of solving issues aimed at the development of transport and logistics, which led to the importance of choosing the author's research and research in this area as a real sector of the economy of Kazakhstan. In this article, the authors considered the stages of implementation of the state program "Digital Kazakhstan" on the basis of the basic principles, identified goals and objectives. The system nature of the design work of the intelligent transport system is shown. The solution of tasks for the implementation of the program "Roadmap for the formation of the food belt of Astana for 2017–2018" is justified. Based on the results of a study of the transport sector in the context of the modern development of the economy of the Republic of Kazakhstan, the authors identified problematic issues and made appropriate conclusions.

Key words: transport, industry, state program, digital Kazakhstan, economy, system, sector, development.

Introduction

Currently, the importance of the transport sector in the economy of each country is growing, since the level of transport development directly affects the competitiveness of the economy and the country's security. Transport is an important sector of the domestic economy of Kazakhstan, which plays a significant role in the structure of GDP. The significant territory of the republic and the low population density achieved in recent years, the high rates of economic development of Kazakhstan create a growing demand for transport. Accordingly, the movement of population and freight flows is

becoming more and more popular in the context of annual economic relations, economic development and interaction of the regions of Kazakhstan. In addition to the economic function, transport performs a social function, provides communication between the population within the framework of kinship and friendship, participates in the organization of leisure, education, cultural development, as well as in solving various social problems.

In the President's Address to the people "Strategy" Kazakhstan–2050": a new political course of the established state" [1], the task is set to double and 10 times increase transit traffic through Kazakhstan by 2020–2050 logistics facilities. It is important to pay attention to the land, "said the President of the Republic of Kazakhstan.

The draft state program for the development of transport infrastructure until 2020 was developed with the support of the world Bank and has been approved previously by all interested state and local Executive bodies and associations. In fact, this is the first large-scale plan in the history of the country for the development of Kazakhstan's transport infrastructure and its integration into the world transport system.[2]

The purpose of this study is to study modern approaches in the management of the transport and logistics system of Kazakhstan. The economic assessment of the implementation of the "Digital Kazakhstan" Program was used to study the subject.

Literature review

A great contribution to the development of the theory and practice of logistics was made by the works of Russian scientists: Kalinina V.A., Grigorieva A.S. [3], Panova I.V. [4], Dorofeeva A. [5], Astafyeva N.V., Puzanova E.A. [6], Mazlova I.I., Gavrilova S.I. [7].

In the study of issues related with the development of the transport industry of Kazakhstan made such economists as: Mozharova V.V. [8], Erenyazova Zh.N., Talapbaeva G.E., Kultanova N.B. [9], Dnishev F., Alzhanova F. [10], Nurlanova N.K. [11], Iztileuova M.S. [13], Satova R.K., Suhova L.K., Guseva L.U. [14], Kaldibayev. S.U., Bizhanova A.S, Ahmediarova A.T., Kasimova D.T. [15].

Main provisions

The aim of state program "Digital Kazakhstan" is economic growth, increasing competitiveness and improving the quality of life of the population. To date, the implementation of the program involves following five basic principles (figure 1).
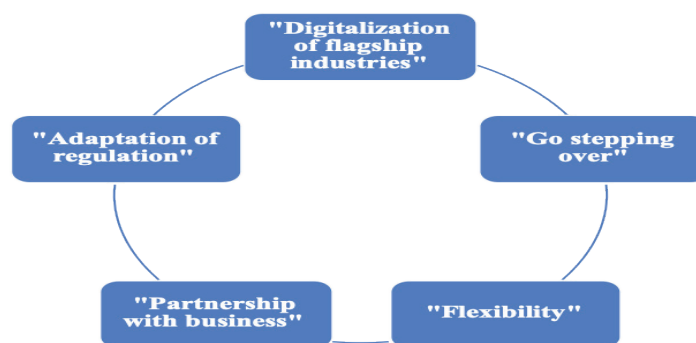

Figure 1 – Basic principles

Note – Compiled by the author on the basis of source [2].

The first principle, "digitalization of flagship industries" aims to implement the digital transformation of existing industries. The main task of digitalization of industries is a large-scale increase in productivity. This is achieved through the introduction of new technologies and adaptation of existing business processes. As well as creating a favorable ecosystem [3].

The second principle, "go stepping over". Kazakhstan will introduce the most advanced technologies and innovative approaches for long-term development. After all, they are able to ensure the sustainability of the future.

The third principle, "flexibility". When making changes to the Program, in cases stipulated by the current system of state planning, the Agile approach can be applied.

The fourth principle, "partnership with business". To achieve greater efficiency, it is important to involve the private sector in the implementation process. In this regard, it is important to create appropriate conditions for large enterprises, as well as small and medium-sized businesses [4]. Attracting investment and reducing costs for the digital transformation of the enterprise is a good support for the massiveness of this process. Especially in specific areas.

The fifth principle, "adaptation of regulation". During the implementation of the program, questions naturally arise. The state should take the initiative in the legislative processes to ensure the conditions of the digitalization process. This should be done on the basis of a comparison of the study of foreign experience. That in turn will help the competitive development of the country [5].

Materials and methods

According to the official data Of the Committee on statistics of the Ministry of national economy of the Republic of Kazakhstan (CC MNE RK), in 2018, the transport industry provided Kazakhstan with 8.3% of the total GDP produced (about 58.8 trillion tenge was the GDP of the Republic by production method). Over the past year, about 4.1 billion tons of goods were transported through the territory of Kazakhstan, which is almost twice as much as a decade ago. In General, the indicator of cargo turnover in the country increased from 369.8 billion tkm to 596.1 billion tkm in the period from 2008 to 2018, which is 61% more [6].

The task of digitalization of transport and logistics is also one of the priority directions of digitalization of the economic sector. High-quality transport and logistics infrastructure is the key to economic development of the country. Kazakhstan today has a fairly well-developed railway network, but the road network is not sufficiently developed and air transportation is excessively expensive. A big advantage is the location of the country, its transit potential [7].

The program "Digital Kazakhstan" provides the creation of an intelligent transport system. It will combine the functions of video surveillance, traffic management, driver notification of weather conditions and electronic payment for transport services. The introduction of an intelligent transport system will reduce the number of road accidents, as well as reduce the cost of road maintenance [8]. The use of electronic document management and a system of non-stop weighing of vehicles will ensure smooth transit through the country (Figure 2).
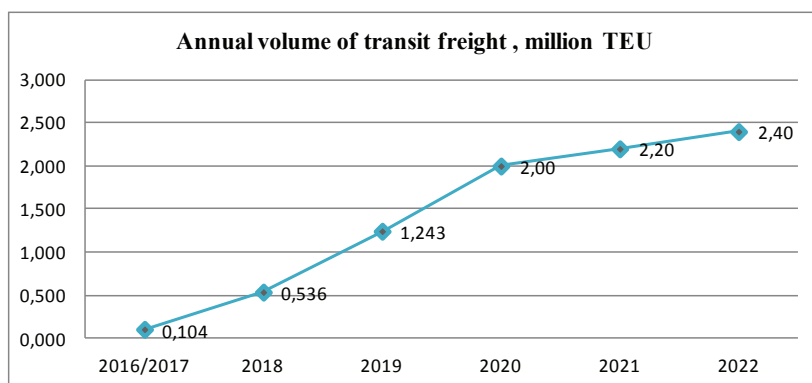

Figure 2 – Expected annual volume of transit freight, million TEU

Note – Compiled by the author on the basis of source [2].

In the direction of intelligent transport system. The project "multimodal transport management System" is being implemented in stages, which provides comprehensive automation of transport management processes, management of customer and contractor base, calculations of services and vehicles (figure 3).

8 complexes of "Special automated measuring tools" were launched in 2017, fixing the transportation of goods in excess of the established norms. 12 SAIS complexes were launched in 2018, in 2019 it is planned to launch another 26 systems.
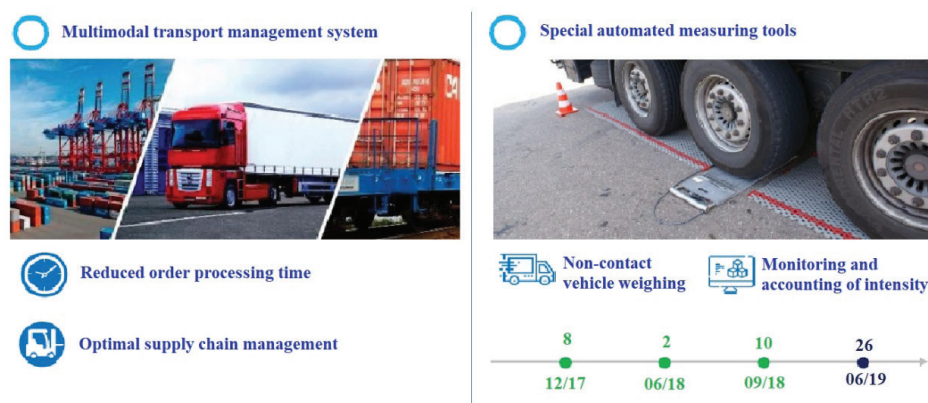
Figure 3 – Digitalization of transport and logistics

Note – Compiled by the author on the basis of source [15].

A road asset management system is also being implemented, within which 16 mobile laboratories have been launched. The system will provide transparency and quality monitoring of road works, both during repair and during the warranty period [9].

Results

As a result of the implementation of the project "intelligent transport system" in 2018, 279 jobs were created. By 2025, it is planned to create an additional 1.5 thousand jobs.

The government approved the "Road map for the formation of the food belt of Astana for 2017–2018".

The roadmap for the formation of the food belt of Astana for 2017-2018 was approved in October 2017. The food belt zone includes 17 districts of Akmola region and 4 districts of Karaganda region [10].

In Akmola region in 2017, 36 milk collection points, 56 family feedlots and one slaughter point were created. For 9 months of 2018, 19.4 thousand tons of meat and sausages were produced-by 1.5 thousand tons. The volume of production of processed milk amounted to 41.6 thousand tons, butter-601 tons, cheese and cottage cheese-651 tons.

Last year, 38 family feedlots, one slaughter house and 11 killing grounds were established in Karaganda region. For 9 months of 2018, 8 milk collection points were created. Since the beginning of the year, 32.6 thousand tons of raw materials have actually been processed. Produced 10.7 thousand tons of meat, sausages-3.5 thousand tons. The volume of production of processed milk amounted to 9.5 thousand tons, butter-368 tons, cheese and cottage cheese-1243 tons [11].

Within the framework of the preferential financing program of JSC "NC "SEC "Astana", loans were issued to Kenmart and Astykzhan shopping centers in the amount of 300 million tenge to replenish working capital in exchange for price fixing in Astana last year. As a result, fixed prices were set for 49 products. As part of the implementation of food belt projects around Astana within a radius of 50 km, 92 projects (16 – dairy, 56 – meat and 20 – other projects) have been identified [12].

Discussion

The objectives of the updated Roadmap for the formation of the food belt of Astana for 2018–2021:

Development of production in the zone of the food belt.

◆ it is planned in 2018–2019 to build a meat processing complex with a capacity of 5 thousand tons / year for the production of the missing volume of meat products in Astana (Akmola region);

◆ in 2020–2021, 16 dairy farms will be built to load milk processing enterprises (5-in Akmola region and 11-in Karaganda region);

◆ in 2019–2020, work will be carried out to restore irrigated lands for growing the missing volumes of vegetables [13].

Creation of conditions for ensuring stable supplies of food products from other regions of the Republic, the production of which is impractical in the zone of the food belt. For this purpose, the mechanism for assigning the status of "Participant of the food belt of the capital" will be introduced, which will provide the subjects of the agro-industrial complex with priority access to markets in the city, including municipal markets, etc. [14].

Development of trade and logistics infrastructure. For this purpose, a wholesale distribution center will be created in Astana to provide an opportunity for domestic agricultural producers to enter the market of wholesale buyers [15].

Implementation of additional measures to protect the market from nonconforming products. This is the strengthening of interaction of state bodies to protect the market from inappropriate products by increasing the volume of research, monitoring the safety of imported and manufactured products with media coverage of the facts of violations of the legislation requirements of the Republic of Kazakhstan.

Conclusion

In comparison with Western countries, Japan and the United States the development of IT technologies in many sectors of Kazakhstan's economy was not efficient. Obviously it is important to carry out digital modernization in industries as soon as possible. Since the competitiveness of the economy of Kazakhstan and, accordingly, the welfare of citizens directly depend on it. According to the state program "Digital Kazakhstan", the growth of labor productivity in the section "Transport and warehousing" in 2022 should be about 21%.

As you know, logistics costs of domestic producers in the structure of the cost of finished products in the equity ratio is about 40%. Therefore, it will be possible to reduce logistics costs several times due to the construction of infrastructure and the choice of optimal routes for the transportation of goods by manufacturers.

As a result, a number of larger problems arise. The level of automation in industrial production and the use of new technologies remains low. Lack of professional staff with sufficient competence.

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ЛОГИСТИКАЛЫҚ КЕШЕНДІ БАСҚАРУ ЖҮЙЕСІНДЕ ЦИФРЛАНДЫРУДЫ ДАМЫТУ

Аңдатпа

Мақаланың мақсаты – логистикалық кешенді басқару жүйесінде цифрландыруды дамыту ерекшеліктерін зерттеу. Қазақстан Республикасы Үкіметінің қаулыларында және басқа да мемлекеттік құжаттарда Қазақстан Республикасының бірыңғай көлік жүйесін дамытуға, оның барлық элементтерін жаңғыртуға, экономиканың негізгі салаларына қызмет көрсетуді қамтамасыз ететін көлік кешені жұмысының тиімділігін арттыруға ерекше көңіл бөлінеді. Сондай-ақ, Қазақстан экономикасының одан әрі серпінді және тұрақты дамуының мемлекеттік стратегиясын іске асыруды, оның әлемдік экономикаға кірігуін қамтамасыз етуде Республиканың көлік кешені ерекше орыналады. Көлік кешенін дамыту кезінде экономиканың жай-күйі мен даму перспективаларын, сондай-ақ көлік-логистикалық жүйелерді дамытудың үздік әлемдік тәжірибесін ескеру қажет. Осы жерден көлік-логистикалық құрылымды дамытуға бағытталған міндеттерді шешудің жоғары өзектілігі туындайды, бұл Қазақстан экономикасының нақты секторы ретінде осы саланы зерттеу мен авторлық зерттеуді таңдаудың маңыздылығына себепші болды. Бұл мақалада авторлар базалық қағидаттар негізінде «Цифрлық Қазақстан» мемлекеттік бағдарламасын енгізу кезеңдерін қарастырды, мақсаттары мен міндеттері анықталды. Зияткерлік көлік жүйесінің жұмыс істеу жобасының жүйелілігі көрсетілген. «2017–2018 жылдарға арналған Астана қаласының азық-түлік белдеуін қалыптастыру жөніндегі жол картасы» бағдарламасын іске асыру бойынша міндеттерді шешу негізделген. Көлік саласын зерттеу қорытындысы бойынша Қазақстан Республикасы экономикасының қазіргі дамуы шеңберінде мақала авторлары проблемалық мәселелерді анықтады және тиісті қорытындылар анықталды.

Тірек сөздер: көлік, сала, мемлекеттік бағдарлама, цифрлық Қазақстан, экономика, жүйе, сектор, даму.

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РАЗВИТИЕ ЦИФРОВИЗАЦИИ В СИСТЕМЕ УПРАВЛЕНИЯ ЛОГИСТИЧЕСКИМ КОМПЛЕКСОМ

Аннотация

Цель статьи – исследование особенностей развития цифровизации в системе управления логистическим комплексом. Рассматривается транспортный комплекс, обслуживающий важные отрасли экономики, с особым упором на развитие единой транспортной системы Республики Казахстан, модернизацию и повышение эффективности всех ее элементов в постановлениях Правительства Республики Казахстан и других государственных документах. Также отмечено, что транспортный сектор республики играет особую роль в обеспечении дальнейшего динамичного и устойчивого развития экономики Казахстана, реализации государственной стратегии ее интеграции в мировую экономику. Развитие транспортного сектора должно учитывать текущее состояние и перспективы экономического развития, а также лучшие мировые практики в развитии транспортно-логистических систем. Отсюда высокая актуальность решения вопросов, направленных на развитие транспорта и логистики, что обусловило важность выбора авторских исследований и исследований в этой сфере как реальном секторе экономики Казахстана. В данной статье авторы рассмотрели этапы реализации государственной программы «Цифровой Казахстан» на основе ключевых принципов, обозначили цели и задачи. Показана системность интеллектуальной транспортной системы. Обосновано решение задач по реализации программы «Дорожная карта по формированию продовольственного пояса Астаны на 2017–2018 годы». По результатам исследования транспортного сектора в контексте современного развития экономики Республики Казахстан авторы выявили проблемные вопросы и сделали соответствующие выводы.

Ключевые слова: транспорт, отрасль, государственная программа, цифровой Казахстан, экономика, система, сектор, развитие.