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Creation of an information and logistics service center as a factor of increasing logistic service

The article deals with the issues of creating the center for information and logistic service and its role in enhancing logistics services. The Center for Information and Logistic Services will function on the principle of a «single window» and cover the entire logistic chain, uniting the subjects of the logistic process - both state bodies and private companies - into a single information space. Logistics organization through the center for information and logistics service will include a wide range of services of a larger number of logistics companies with the possibility of using their combined assets: cargo yards, warehouses, sites, rolling stock, car fleet, equipment and technologies. In addition, it is known from the experience of developed countries that when using information and logistics systems by enterprises, their transportation costs are reduced by 7-20 %, the costs of handling and storage of material resources are reduced by 15-30 %, and the total logistics Costs by 12-35%. The authors come to the conclusion that the new format of interaction «customer-carrier» on the basis of information-logistic service will allow all participants to reduce response time, reduce staff costs, ensure transparency and flexibility of tariffs and eliminate the risk of errors in communications.

Keywords: logistics, logistics service, logistics system, single window, logistics automation system, service delivery, logistics service providers, logistics center, supply chain management, transportation management system.

Improving the quality of logistic service is one of the important conditions for the growth of the state's economy [1]. At the same time, as a rule, large logistic enterprises possessing huge capital - a network of logistic centers and terminals, an impressive fleet of trucks, freight cars, special equipment - are able to provide a high level of quality of logistic service. As the experience of developed countries shows, improving the quality of logistics service is achieved by integrating a large number of enterprises that perform specialized logistic services into a single network [2]. Moreover, we note that modern digital technologies allow logistic companies to build close relationships, providing them with a fast, high-quality, virtual data exchange.

Taking into account the experience of developed countries in the field of logistics services, we proposed a mechanism for improving the quality of logistic services in the context of implementing the strategy of industrial and innovative development. The proposed mechanism envisages the creation of the Center for Information and Logistic Service (CILS), which will operate on the principle of a «single window» and cover the entire logistic chain, bringing together the subjects of the logistic process - both state bodies and private companies - into a single information space.

Organization of logistics through the center of information and logistics services on the principle of a single window under a single agreement on a new technology will include a wide range of services of a larger number of logistics companies with the possibility of using their combined assets: freight yards, warehouses, sites, rolling stock, car park, equipment And technology. The main advantages of this approach for cargo owners include speed, convenience, transparency, flexibility of tariffs and time reduction [3]. Let's consider each of these parameters.

Speed. The higher speed of delivery will be achieved due to the normalization of the main components of the transportation process.

Convenience. Within the one-stop-shop system for all types of services, one contract is concluded, which includes the terms of all business units involved in the transportation: forwarders, freight companies, terminal warehousing companies, customs authorities (for foreign economic transactions).

Transparency. Most of the offered freight services will have a fixed rate. The client is entitled to use only the one that is interesting and beneficial to him.

Flexibility of tariffs. When ordering a service through an information and logistic center on the principle of a single window, the customer is given the choice of choosing the most favorable tariff plan and depending on the choice of receiving a discount.

Reducing time. Reducing the time of transportation is achieved through the construction of an optimal logistics scheme for the delivery of products. It takes into account the whole range of works, including the removal of goods from the warehouse of the cargo owner, handling and handling, as well as the use of motor transport services, payment of transportation payments through the territory of other states, provision of transport in accordance with specified parameters, documentation and related services. In this case, the client does not have to waste time finding third-party logistics companies, deal with issues of cargo handling and warehousing, as well as signing agreements with the owners of rolling stock.

Thus, the creation of an information and logistics service center on the principle of a «single window» helps to optimize the process of organizing a logistics service. At the same time, we note that in the context of a slowdown in economic growth, competition in the operator services market will only increase. In addition, the provision of one service is less attractive to users. Consequently, over time, logistics companies specializing in a particular section of the supply chain are able to provide their services under this service, which provides a discount policy, which will undoubtedly affect the reduction of the total cost of integrated services for the client.

This service is primarily addressed to small and medium-sized businesses that do not have their own logistics infrastructure.

The model of the proposed information and logistics service center is shown in Figure 1.

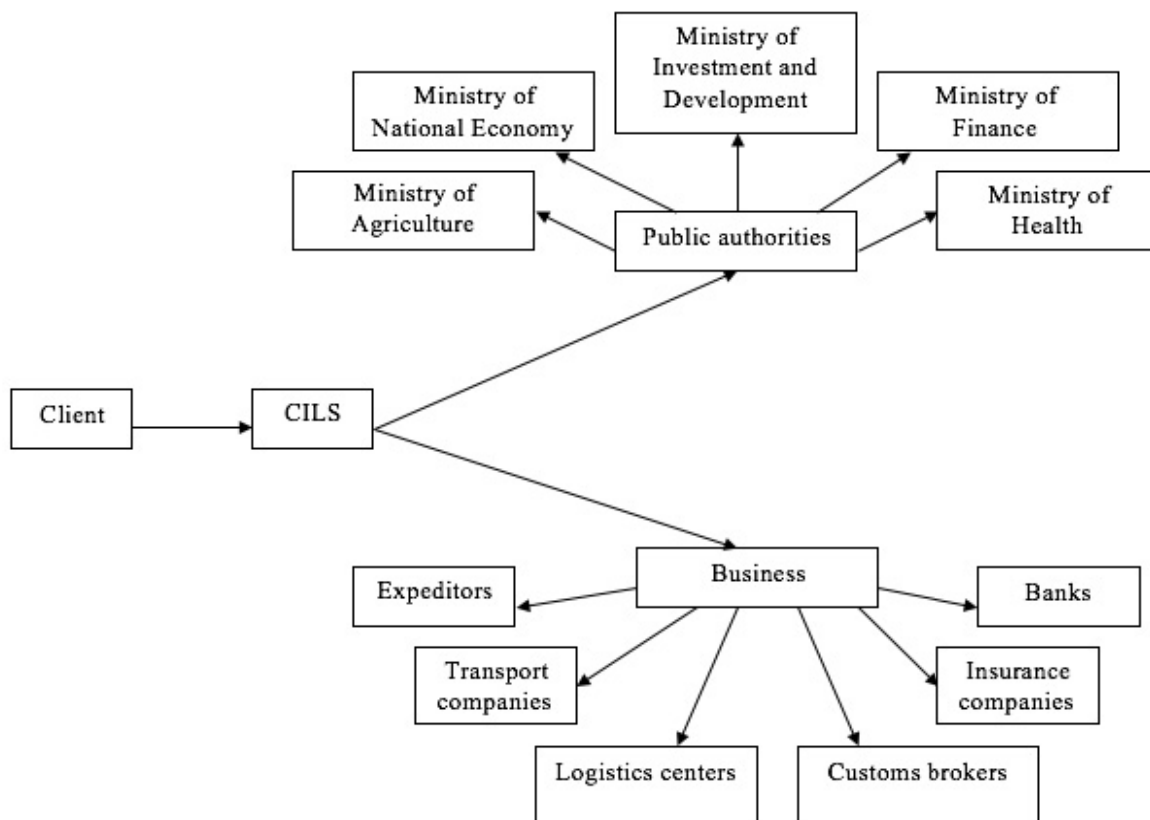


Figure 1. The model of the center for information and logistics services

As the basic components of the information and logistic service center model illustrates, it is suggested to distinguish two main sections that allow to effectively operate the logistics service system (Fig. 1)

Section 1 - information exchange, document circulation with state authorities on the principle of one window (B2G), allow the client to receive remotely public services in the shortest possible time. For example, when exporting products, the customer has the opportunity to electronically issue a customs declaration

Section 2 - information exchange, document circulation with business representatives on the principle of a single window (B2B), which allows the client to receive high-quality logistics services. CILS integrates the databases of its participants into a single central database. For example, when ordering transport services, CILS collects information from its partners' database, creates optimal options in a convenient form and offers

the client. When the client chooses a certain option, the service provider through the CILS enters into an electronic contract with him. This procedure is carried out remotely and in a short period of time.

The following categories of users interacting with the CILS should be distinguished:

- state bodies: customs, statistics committee; Transport Committee, Industry Committee, etc.
- producers (cargo owners);
- wholesalers, intermediaries, shops;
- general warehouses, freight terminals, logistics centers;
- carriers: auto. Railway, air;
- forwarders, 2PL, 3PL providers;
- financial companies: insurance companies and banks.

This system has the ability to provide:

- reference information with visualization on routes, tariffs and delivery dates, statistics, through planning and accounting;
- electronic registration of transportation documents and payment for services;
- preliminary information;
- monitoring and tracking the deployment and transportation of goods, identify problems.
- The introduction of this system has several advantages:
 - simplicity - work through the web window;
 - speed - remote work via the Internet;
 - universality - full access to all services and interaction with all transport participants.

The main types of services that can be obtained through the CILS are listed in Table.

Table

Basic services of CILS

The direction of logistics services	Basic services
Transportation	Direct Transportation Registration of payments for transportation Management of motor transport
Optimization of transport services	Choice of carriers Consolidation of shipments Tariff negotiations
Warehousing	Warehouse Management Purchase returns Repacking, marking Inventory Management Managing order procedures Supply of materials
Expedition	Forwarding Cargo tracking Managing the execution of orders
Software and information support	Packages of logistics programs Design of information systems (IS) Software selection Maintenance of functioning of information systems Consulting services
Customs	Customs brokerage services Electronic declaration of cargo Temporary storage

The work of this center must comply with all legal requirements in the field of document circulation and provide for the transfer of liability for damage or loss of cargo, ensure independent and fair competition among participants, as well as equal access of all participants to the IT infrastructure of the system [4].

The algorithm of the CILS is shown in Figure 2.

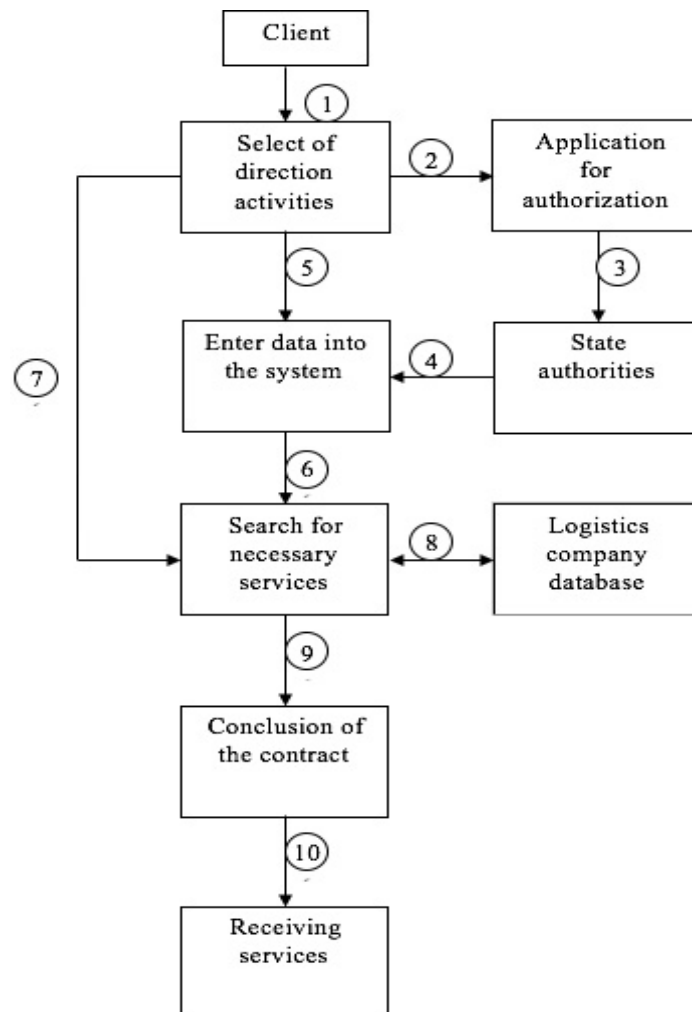


Figure 2. The algorithm for obtaining services

The general algorithm for obtaining services through the center of information and logistics services is illustrated in Figure 2. The order and sequence of actions are indicated by arrows and numbering: 1. The customer chooses the line of business - internal logistics, export transportation, transit transport; 2. If services related to foreign economic activities are needed-export and import shipments, or transit transportations, it is necessary to obtain permission from state bodies. Depending on the type of operation, the type of goods and the direction of the country, the system will generate a list of necessary permits with indication of the state bodies competent for this. A single window client submits only one application using an electronic digital signature. 3. The application is submitted for consideration to the relevant state bodies. The system will monitor the status of the application and notify the customers. 4. Obtaining all necessary documents. Documents are automatically transferred to the system. 5. Those customers who have authorization documents independently enter them into the system, skipping the fourth step. 6. Carries out the search of the necessary services, beginning from transportations and warehousing, finishing administrative logistics. 7. Clients who do not need documents go directly to finding the right services, skipping the previous steps. 8. The system processes the integrated partner database and selects the most appropriate options for the client's requirements. 9. The customer chooses the most optimal option for himself and concludes a contract with the contractor using an electronic digital signature. 10. Performance of obligations under the contract.

Thus, the service calculates the cost of delivery, bypassing intermediaries. Then the system selects the appropriate carrier and generates data for electronic document management. As a result, the final cost of transportation is formed quickly and conveniently.

In addition, it is known from the experience of developed countries that when using information and logistics systems by enterprises, their transportation costs are reduced by 7-20 %, the costs of handling and storage of material resources are reduced by 15-30 %, and the total logistics costs by 12-35 % [5].

Thus, the center for information and logistics service through the integration of participants in the logistics chain into a single network contributes to the improvement of the quality of the logistics service and the receipt of a positive economic effect by reducing the time and reliability of deliveries, increasing turnover of circulating assets and reducing inventory levels, creating a more predictable and transparent system tariffs. Therefore CILS contributes to the successful implementation of the strategy of industrial-innovative development.

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Ақпараттық-логистикалық сервис орталығын құру логистикалық сервисті арттырудың факторы ретінде

Мақалада ақпараттық-логистикалық сервис орталығын құру және оның логистикалық сервистің сапасын арттырудағы рөлі қарастырылды. Ақпараттық-логистикалық сервис орталығы «бір терезе» принципі бойынша жұмыс істейді және логистикалық үдеріс субъектілерін бірыңғай ақпараттық кеңістікке біріктіру арқылы барлық логистикалық тізбекті қамтиды. Ақпараттық-логистикалық сервис орталығы арқылы логистиканы ұйымдастыру көптеген логистикалық компаниялардың кешенді қызметтерінен тұрады және олардың келесідей жиынтық активтерін қолдануға мүмкіндік береді: жүк тасымалдау көліктері, қоймалар, жылжымалы құрам, автомобиль паркі, құрал-жабдықтар және технологиялар. Сонымен қатар, дамыған мемлекеттердің тәжірибесі көрсеткендей, кәсіпорындар ақпараттық-логистикалық жүйені қолданған кезде олардың көлік шығындары 7–20 %, жүк түсіру және тиеу және материалдық ресурстарды сақтау шығындары 15–30 %, ал жалпы логистикалық шығындар 12–35 % төмендейді. Мақаланың авторлары келесі қорытындыға келеді: ақпараттық-логистикалық сервис негізінде «тапсырыс беруші» және «тасымалдаушы» арасында қалыптасқан жаңа форматтағы қарым-қатынас барлық қатысушылар үшін уақытты, жалпы логистикалық шығындарды қысқартуға, тарифтердің ашықтығын және икемділігін қамтамасыз етуге және коммуникациялардағы қателіктерді төмендетуге мүмкіндік береді.

Кілт сөздер: логистика, логистикалық сервис, логистикалық жүйе, бір терезе, автоматтандырылған логистикалық жүйе, қызмет көрсету, логистикалық қызмет көрсетуші провайдерлер, логистикалық орталық, жабдықтау тізбегін басқару, көлік жүйесін басқару.

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Создание центра информационно-логистического сервиса как фактор повышения качества логистического сервиса

В статье рассматриваются вопросы повышения качества логистического сервиса посредством создания центра информационно-логистического сервиса. Предложены механизмы центра информационно-логистического сервиса, функционирующего по принципу «единого окна», который охватывает всю логистическую цепь, объединяя субъектов логистического процесса, как государственных органов, так и частных компаний, в единое информационное пространство. Организация логистики через центр информационно-логистического сервиса будет включать в себя широкий комплекс услуг большого числа логистических компаний с возможностью использования их совокупных активов: грузовых дворов, складов, площадок, подвижного состава, автомобильного парка, оборудования и технологий. К тому же, из опыта развитых стран известно, что при использовании предприятиями услуг информационно-логистических систем их транспортные расходы сокращаются на 7–20 %, расходы

на погрузочно-разгрузочные работы и хранение материальных ресурсов уменьшаются на 15–30 %, а общие логистические издержки — на 12–35 %. Авторы пришли к выводу, что новый формат взаимодействия «заказчик–перевозчик» на основе информационно-логистического сервиса позволит всем участникам процесса сократить время реакции, снизить общие логистические издержки, обеспечить прозрачность и гибкость тарифов и исключить риск возникновения ошибок в коммуникациях.

Ключевые слова: логистика, логистический сервис, логистическая система, единое окно, автоматизированная логистическая система, предоставление услуг, провайдеры логистических услуг, логистический центр, управление цепями поставок, управление транспортной системой.