MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE
NATIONAL AVIATION UNIVERSITY
Faculty of Transport, Management and Logistics
Logistics Department

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BACHELOR THESIS

(EXPLANATORY NOTES)

OF GRADUATE OF ACADEMIC DEGREE

«BACHELOR»

THEME: «**Automation of logistics company's business processes**»

Speciality 073 «Management»

Educational and Professional Program «Logistics»

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Kyiv 2020

МІНІСТЕРСТВО ОСВІТИ І НАУКИ УКРАЇНИ
НАЦІОНАЛЬНИЙ АВІАЦІЙНИЙ УНІВЕРСИТЕТ
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ДИПЛОМНА РОБОТА

(ПОЯСНЮВАЛЬНА ЗАПИСКА)

ВИПУСКНИКА ОСВІТНЬОГО СТУПЕНЯ

«БАКАЛАВР»

ТЕМА: «***Автоматизація бізнес процесів транспортно-логістичної компанії»***

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Київ 2020

NATIONAL AVIATION UNIVERSITY
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Academic degree Bachelor

Speciality 073 «Management»

Educational and Professional Program «Logistics»

APPROVED
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«25» May 2020

TASK

FOR COMPLETION THE BACHELOR THESIS OF STUDENT

Kolisnichenko A.V.
(surname and name)

1. Theme of the master thesis: «Automation of logistics company's business processes» was approved by the Rector Directive №553/ст. of May 04, 2020.
2. Term performance of thesis: from May 25, 2020 to June 21, 2020.
3. Date of submission work to graduation department: June 05, 2020.
4. Initial data required for writing the thesis: general information about automation of business processes in transport logistics, information of the company «AsstrA Ukraine», production and financial indicators of the company «AsstrA Ukraine», literary sources on logistics and customer service process, Internet source.
5. Content of the explanatory notes: introduction, the essence of the transport logistics; ways to automate logistics processes; analysis the activity of the company «AsstrA Ukraine»; analysis the financial indicators of the company «AsstrA Ukraine»; identification of deficiencies in the company «AsstrA Ukraine»; ways to enhancement identified deficiencies; recommendations for improving the performance of business processes; calculation of the economic effect of the proposed measures; conclusions and appendix.
6. List of obligatory graphic matters: pictures, tables, graphs, diagrams illustrating the current state of problems and methods of their solution.

7. Calendar schedule:

№	Assignment	Deadline for completion	Mark on completion
1	2	3	4
1.	Study and analysis of scientific articles, literary sources, normative legal documents, preparation of the first version of the introduction and the theoretical chapter	25.05.20-27.05.20	Done
2.	Collection of statistical data, timing, detection of weaknesses, preparation of the first version of the analytical chapter	28.05.20-29.05.20	Done
3.	Development of project proposals and their organizational and economic substantiation, preparation of the first version of the project chapter and conclusions	30.05.20-01.06.20	Done
4.	Editing the first versions and preparing the final version of the master thesis, checking by standards inspector	02.06.20-03.06.20	Done
5.	Approval for a work with supervisor, getting of the report of the supervisor, getting internal and external reviews, transcript of academic record	04.06.20	Done
6.	Submission work to Logistics Department	05.06.20	Done

Student_____
(signature)

Supervisor of the master thesis _____
(signature)

8. Consultants of difference chapters of work:

Chapter	Consultant (position, surname and name)	Date, signature	
		The task was given	The task was accepted
Chapter 1	Associate Professor, Karpun O.V.	25.05.20	25.05.20
Chapter 2	Associate Professor, Karpun O.V.	28.05.20	28.05.20
Chapter 3	Associate Professor, Karpun O.V.	30.05.20	30.05.20

9. Given date of the task May 25, 2020.

Supervisor of the master thesis: _____ Karpun O.V.
(signature of supervisor) (surname and name)

Task accepted for completion: _____ Kolisnichenko A.V.
(signature of graduate) (surname and name)

ABSTRACT

The explanatory notes to the bachelor thesis «Automation of logistics company's business processes» comprises of 79 pages, 22 figures, 8 tables, 51 references, 1 appendix.

KEY WORDS: AUTOMATION OF BUSINESS PROCESS, SAFETY TRANSPORTATION, ELECTRONIC DATABASES, TRACKING, THREATS FOR THE TRANSPORT, TECHNICAL SUPPORT, AUTOMATION METHODS, OPTIMIZING RESOURCES.

The purpose of the research is to study the theoretical foundations of transport logistics and the main problems in the processes, as well as the development of design recommendations for improving the activities of the company "Asstra Ukraine" by automating business processes.

The subject of the investigation is the automation of business processes of the logistics activities of the company "AsstrA Ukraine".

The object of the research is the business processes of the logistics activities of the company "AsstrA Ukraine".

Methods of research are scientific inquiry, empirical, analysis and synthesis, modeling, expert assessments, extrapolation of time series.

Materials of the thesis are recommended for use during scientific research, in the educational process and in the practical work of specialists of different departments of the company.

CONTENT

NOTATION

BI – Business intelligence

CIS – Commonwealth of Independent States

CMR – Contract for the International Carriage of Goods by Road

CRM – Customer Relationship Management

ECM – Enterprise Content Management

EDI – Electronic Data Interchange

EPI – Electronic Position Indicator

ERP – Enterprise Resource Planning

EU – European Union

GPS – Global Positioning System

IT – Information technology

KPI – Key Performance Indicators

MES – Manufacturing execution system

OTM – Oracle Transportation Management

RPA – Robotic Process Automation

TMS – Transportation Management System

WMS – Warehouse Management System

INTRODUCTION

At the current stage of technology development in various fields of activity, there is a need for companies to switch to new working methods. Innovation is important for every industry. In order to remain competitive, companies need to use innovation and optimize their processes.

Now, for a logistics company, the ability to flexibly manage the supply chain, that is, the company's ability to respond quickly and at the lowest cost to changes in the external environment and violations of regulations, is an important competitive advantage.

The tool for this, first of all, is a good information IT system that helps managers and facilitates their work. The system should be configured not only in the company's processes, but also for the needs of customers, and also be able to capture all the nuances of working with a particular load.

Over the past decade, there has been a steady growth and spread of digital applications and platforms in logistics, partly due to a conscious push by companies to introduce technologies that increase efficiency and reduce costs.

The impact of digitalization and automation on the supply chain is widespread. Digitalization provides greater transparency in the supply and dispatch chains, and thereby improves supply chain management.

The tasks of these systems include:

– record physical data using sensors and influence physical processes;

– evaluate and store the collected data and actively interact with the digital and physical world;

– access globally available data and services as needed.

The theory and practice of transport and logistics activities are covered in the works of such scientists as Smekhov A.A., Chebotaev A.A., Basel B.P., Mirotin L.B., Shcherbav V.V., Merzlyak A.V., Koskur-Ogly E.O., Glogus O.V., Kalchenko A.G., Eremeeva L.V., Lavrikov I.V. However, the elucidated approaches to the improvement

of logistics activity by means of automation of business processes of enterprises do not contain practical recommendations for their application in the conditions of the modern environment.

The relevance of this topic is that the increase in competition in the Ukrainian and world markets encourages companies to spend a lot of effort and service at the highest level.

The automation of business processes is designed not only to provide consumers with the necessary information about the service, the location of the truck, the exchange of documents, but also to ensure the trust of the company's customers to the provider of these services. After all, thanks to information technology, the time to provide customers with the necessary information is reduced. The relevance of the research of the chosen topic is enhanced by the fact that in recent years the scientific and technological progress has contributed to the significant development of information support in the logistics field. Mankind is increasingly using computer technology, telephony, etc. to transmit information. As a result, companies can receive information through shared systems faster and more transparently.

The purpose of the research is to develop proposals and recommendations for improving the company's business processes by automating them.

To achieve this goal in the work it is necessary to solve the following tasks:

– the main essence of transport and logistics activities;
– to analyze the existing approaches to business process automation;
– to analyze the current activity of AsstrA Ukraine;
– identify shortcomings in the activities of the company "AsstrA Ukraine";
– provide recommendations for improving the company's business processes.

The object of the research is the business processes of the logistics activities of the company "AsstrA Ukraine".

The subject of the investigation is the automation of business processes of the logistics activities of the company "AsstrA Ukraine".

Methods of research are scientific inquiry, empirical, analysis and synthesis, modeling, expert assessments, extrapolation of time series.

Materials of the thesis are recommended for use during scientific research, in the educational process and in the practical work of specialists of different departments of the company.

CHAPTER 1
TRANSPORT LOGISTICS ACTIVITIES AND ITS BUSINESS PROCESSES

1.1 The essence of transport logistics activities

In modern society, there is a constant development and improvement of the transport industry, due to which the role and spread of this logistics industry, which is a service for high-quality and quick delivery of goods, is growing. In many developed countries, there is a tendency to make the role of such services more confident. The expansion of the logistics sector is one of the characteristic trends of the modern economy. Transport takes part at all stages of logistics – supply, production, distribution.

Transport logistics – is the movement of the required quantity of goods to the desired point, the optimal route for the required time and at the lowest cost.

Transport is an important link in the logistics system. It should possess a number of necessary properties and satisfy certain requirements in order to create innovative systems for the collection and distribution of goods. First of all, transport should be flexible enough to ensure the transportation process, subject to weekly or even daily adjustment, to guarantee frequent and round-the-clock delivery of goods to scattered and remote locations, to reliably serve the clientele in order to avoid the shutdown of enterprises or shortages at the customer. At the same time, transport must be able to transport small consignments at short intervals in accordance with changing user requirements and small-scale production conditions.

Transport is involved in many technological processes, fulfilling the tasks of the logistics system, and exists as a fairly independent transport area of logistics, requiring multifaceted coordination between participants in the transport process.

Thus, the tasks, the solution of which enhances the coordination of actions of the direct participants in the transport process, include:

– ensuring technical compliance of participants in the transport process;
– ensuring technological compliance of participants in the transport process;
– coordination of economic interests of participants in the transport process;
– use of unified planning systems.

The key role of transportation in logistics is explained not only by the large share of transportation costs in the overall composition of logistics costs, but also by the fact that the existence of material flow is impossible without transportation. Often, the transport service, supplemented by cargo handling operations, for example, at freight terminals, includes the vast majority of logistics activities in external and integrated logistics systems. Functioning in a market economy, transport enterprises (like other participants in the goods distribution process) should be focused on obtaining a single economic result in the logistics chain. Thanks to transport, the logistics process of goods distribution (starting from suppliers of raw materials and materials, covering various kinds of intermediaries and ending with consumers of finished products) is transformed into a single technological chain, and transport becomes an integral part of a single transport and production process. [34]

The use of transport logistics provides a real opportunity to optimize costs when loading and unloading goods, with the coordination of certain issues with the sender and receiver of the goods. Transport logistics includes a number of special functions that can increase the efficiency of the enterprise: packaging; cargo handling; warehousing forwarding; customs clearance; risk insurance.

In the field of cargo transportation, the use of logistics is the optimal solution for the efficient delivery of goods, the ability to deliver goods to destinations as quickly as possible with minimal risks associated with delivery. The main principles of transport logistics – optimization and reduction of costs associated with transport activities. These indicators are achieved due to savings in the transportation of goods on a large scale, the choice of optimal traffic patterns, high-quality and quick processing of necessary documents. [38]

The result of using a transport logistics system is a high probability of fulfilling the “six rules of logistics”: the right load, in the right place, at the right time, in the right quantity, of the right quality, at the lowest cost.

The tasks of transport logistics involve several areas of coordination of transport activities in the following areas:

• technical – consistency of parameters of various types vehicles in the transport and logistics chain (technical parameters of the cargo transported by various modes of transport);

• technological – the use of a single transportation technology adapted for all types of transport, which is involved in the transport and logistics chain (the minimum number of possible overloads);

• economic – building a single effective tariff system in the transport and logistics chain. [38]

Providing technical and technological connectivity in transport logistics requires coordination of the economic interests of participants, as well as the use of unified planning systems.

Technical connectivity in the transport complex means the coordination of vehicle parameters both within individual species and in interspecific context. This consistency allows the use of modal transport, work with containers and freight packages.

Technological connectivity involves the use of a single transportation technology, direct transshipment, unloading communication.

Economic cohesion is a general methodology for researching market conditions and building a tariff system.

Joint planning of commercial activities of participants in the logistics system means the development and application of unified schedule plans.

Modes of transport include air, rail, road, water, and pipeline. The area can be divided into infrastructure, vehicles and operations.

Rail transport is used to transport various types of cargo. The advantage of delivering this type of transport is the relatively lower cost of transportation and at the

same time quite fast delivery, large-scale deliveries (more than air transport and auto transport), no dependence on the season.

Disadvantages are insufficient preservation of cargo integrity, low accessibility to final destinations, and a limited number of carriers.

The wagon fleet consists of passenger and freight wagons. Freight wagons are divided into universal (covered, open wagons, platforms, tanks) and specialized, adapted for the transportation of a certain type of cargo (isothermal, acid, etc.). Covered wagons are used to transport valuable goods and goods that are afraid of precipitation; gondola cars – for mass dragged and timber cargo; tanks – for bulk cargoes, heavy and bulky goods are transported in conveyors with a carrying capacity of 400 tons.

To carry out cargo, commercial and other operations, the railway has cargo stations that are equipped with cargo devices and facilities. It carries out operations for the reception, loading and delivery of goods and baggage.

Air transport is mainly used for the transportation of expensive, perishable goods, as Air transport is the fastest and most reliable delivery method of all. Air travel is characterized by regularity and frequency, adherence to timelines. The disadvantage is the high cost, the dependence on weather conditions, weight restrictions.

Sea transportation is the transportation carried out by a vessel of any size on the water surface.

The main indicators characterizing river and sea vessels are displacement, cargo capacity, cargo capacity, vessel dimensions (length, width, side height) and draft when loaded and empty.

There are sea and river ports and marinas for carrying out operations on loading and shipping, receiving and issuing goods, organizing transportation and servicing the fleet.

The transportation of goods is carried out in containers of different capacities in a standardized form, for more efficient interaction with other modes of transport (the container can be put on a truck / rails with a loader and delivered to the final destination).

The main advantages of shipping, there is a cheap cost of transporting goods. Of the disadvantages – low reliability, because often the cargo disappears in the oceans, low delivery speed.

Transportations that are carried out with the help of cars of different sizes are called auto transport. This type of transportation is characterized by accessibility, as cargo can be delivered by land from the initial punt to the final destination, without changing modes of transport. It is also possible to carry a sufficiently large weight, depending on weight restrictions. Any type of cargo (dangerous, liquid, excise, etc.) can be transported by truck, if the truck has all the necessary permits for the carriage of goods.

Of the advantages of this type of transport there is the flexibility of transportation, you can easily change routes, adapt to current situations on the road, a fairly low cost of transportation, high reliability of supplies. At the same time, motor transport is one of the most dangerous and transportation is possible only if there is a road and mainly within the continent.

Pipeline transport – transportation through pipes of raw materials (liquids or gases) and products (chemically stable substances).

Of the advantages of this type of cargo transportation is the speed of delivery, volume. But on the other hand, in order to realize such transportation, it is necessary to build long ways, as far as necessary, not everywhere there is an opportunity to realize this. It also requires a large initial investment, but can soon pay off and start making a profit (depending on the volumes transported).

There is also the concept of multimodal transportation, which is the interaction of different modes of transport in the implementation of one supply [48].

Cargo marking is labels, conventional signs and marks directly on products, containers, packaging or on stitched, pasted or attached labels.

Correct, clear labeling of goods is a prerequisite for their fast delivery while maintaining quality during transportation.

Currently, there are different products, shipping, special and transport markings. Sending, commodity and special markings are applied by the consignor, transport – by the carrier or its agent [39].

Also, for the implementation of cargo transportation, a number of documents are required:

– CMR / Bill of Lading / Consignment note / Air way bill (several copies);

– Original invoice and also several copies;

– Packing sheet.

1.2 Automation of business processes of logistics transport companies and existing approaches of it

Constantly changing market conditions, high decision-making speed, multitasking in asset management and the need to reduce risks require modern approaches to organizing entrepreneurial activities. The solution to the increasingly complex internal and external environment of the enterprise is the comprehensive automation of business processes.

Automation of business processes is carried out using a project to implement an information system that allows you to automate not only accounting functions, but also business logic, issues of interaction between employees performing various functions within a single business process. Automation of business processes must necessarily address issues of interaction. [20]

The main tasks of business automation are the following:

– effective support of the operational activities of the enterprise, organization of accounting and control;

– preparation of any documents for partners, including invoices, invoices, reconciliation statements and business proposals;

– quick receipt of reports on the state of affairs in the company for any period of time;

– optimization of staff costs, increasing the efficiency of working time due to the release of workers from routine work;

– minimizing the negative impact of the “human factor” on the most important business processes;

– safe storage of information;

– improving the quality of customer service [19].

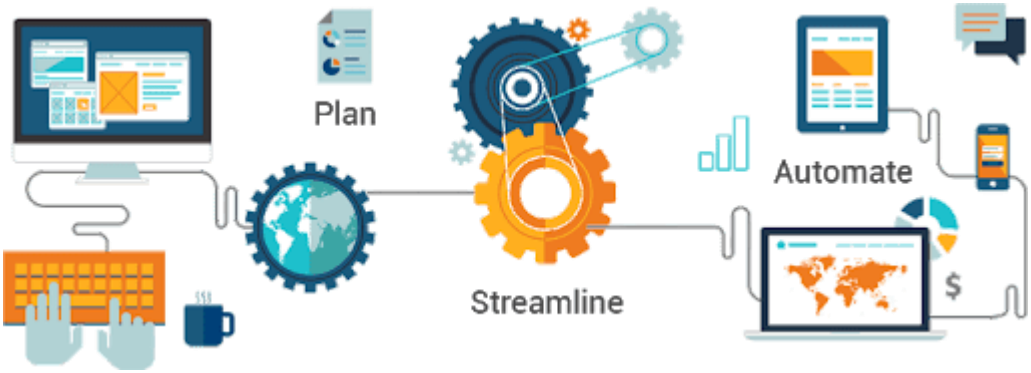

Figure 1.1 – Process of automation of the business processes

Automation by sites implies the process of automation of individual production or management divisions of an enterprise, united by functional basis.

Directional automation involves the automation of certain areas of the enterprise. Automation in areas of activity involves the participation in this process of all organizational units, the functioning of which is associated with the automated direction [30].

Full automation is the highest level of automation level at which all the functions of production control and management (at the enterprise level) are transferred to technical means.

Automation of accounting, payroll, personnel accounting – allows you to solve a rather resource-intensive task and provide management of the enterprise with consolidated management information. The management of the enterprise is drawn into

the process of mastering information technology and begins to formulate requirements for obtaining more detailed and timely information on the activities of the enterprise.

Automation of operational production and management accounting. In the course of solving this problem, the technological information of the enterprise is streamlined, operational production and warehouse, management accounting is being established. Management begins to receive operational and detailed information about the activities of its enterprise and may revise the planning mechanisms at the enterprise. In turn, detailed and timely management information is fundamental for accurate and detailed planning of the enterprise.

Automation of planning of material and labor resources – allows the enterprise management to improve the quality and speed of activity planning processes, sometimes it allows to reduce the costs of maintaining resources. The availability of planned and actual management information allows you to analyze and control the activities of the enterprise.

Automation of financial planning – allows you to plan, evaluate and analyze the activities of the enterprise in financial terms [43].

In the field of logistics, the automation of business processes is more relevant than ever, because due to the inefficient construction of internal logistics processes in the world, automation of business processes has become an acute issue against the backdrop of general globalization [49].

Logistics automation systems include various hardware and software components:

– Software (for integration, operational management, business management);

– Mobile technologies (radio data terminals);

– Fixed equipment: automated storage and search systems (cranes, machines), conveyors, industrial robots [22].

The TMS system is a necessary tool for enterprises providing transport logistics services (long-distance transportation, targeted delivery, transportation of dangerous goods or goods with special temperature regimes of transportation) or for companies delivering goods and cargo to their customers on their own (manufacturers or

distributors). The main objective of TMS is to offer a delivery route that will be most cost-effective for the company, taking into account all the conditions and parameters of transportation, and the most beneficial for the client from the perspective of delivery time and cost, cargo safety and reliability of the logistics operator in the future [29].

MapXPlus can successfully interact with the electronic enterprise accounting system. Receiving transport bills from it, the MapXPlus software package independently generates route sheets, distributing cargo flows in the most rational way between the vehicles and forwarders available to the enterprise. Moreover, the scope of MapXPlus is not limited to planning alone. Using GPS monitoring, the software package controls the actual implementation of planned targets.

GPS monitoring technology is based on determining the exact coordinates of an object (in this case, a car) using the Global Positioning System. If GPS monitoring is used at the enterprise, each car of the company is equipped with a special sensor, which in real time transmits the coordinates determined by GPS to the system. Thus, continuous monitoring of the transport of the enterprise is carried out.

Warehouse Management System (WMS) – an information system that automates the management of business processes of warehouse operations of a core enterprise.

Enterprise Resource Planning (ERP) is a business process management software that integrates and manages finances, supply chains, operations, reporting, manufacturing, human resources.

Manufacturing execution system (MES)– a production process management system – specialized application software designed to solve the problems of synchronization, coordination, analysis and optimization of production within any production.

1C: Enterprise – a software product designed to automate accounting and management accounting (including payroll and personnel management), economic and organizational activities of the enterprise [25].

The chart [Appendix A] schematically shows the business process at AsstrA Ukraine upon receipt of an order.

As soon as the client makes a request for transportation to a representative of the marketing department, this request is sent for processing to the responsible person from the operations department. Next, a carrier is selected to whom a request is sent in the system with a price for confirmation. Only after these actions, a notification is sent to the client that his order has been accepted.

If this is a regular customer, the order comes directly to the representative of the operational department and the customer receives the same answer about the availability of the vehicle from the operational employee. A step is missed with the marketing department, since all the subtleties of transportation are already known to the operational employee.

1.3 Chapter summary

Transport is involved in many processes, fulfilling the tasks of the logistics system, in which coordination between the participants of the transport process is necessary.

The result of using the transport logistics system is a high probability of fulfilling the "six rules of logistics", that is, the necessary cargo will be loaded and delivered to the desired destination in the required quantity and quality, at the most affordable price.

Technical communication in the transport complex means the coordination of vehicle parameters both within individual species and in an interspecific context.

Modes of transport include air, rail, road, water, and pipeline. The area can be divided into infrastructure, vehicles and operations.

In turn, each type of transport has its advantages and disadvantages, the main criteria in which are speed and cost.

Automation of business processes is carried out using a project to implement an information system that automates not only accounting functions, but also business logic. Automation of business processes must necessarily address issues of interaction.

In the field of logistics, business process automation is more relevant than ever, because due to the inefficient construction of internal logistics processes in the world, automation of business chains has become an acute issue against the backdrop of general globalization.

CHAPRER 2
BASIC INFORMATION, FINANCIAL INDICATORS AND DEFICIENCIES IN THE ACTIVITIES OF THE COMPANY ASSTRA

2.1 Description of the company

Despite the unstable economy of the country, Ukraine has a huge logistic potential, which is able to bring the country to a more developed level. Today this potential is being realized very poorly, which is due to underestimation by the government and others who think that logistics affects only the economy at the macro level and at the level of management entities.

The current market of logistics of Ukraine is found at the stage of stabilization. It becomes more civilized, open, and professional. Company students are interested in the development of a firm and a client's client. Narrowly focused destinations in logistics are emerging.

Transport operators not only develop their competitive advantages, but they also cooperate. Sectoral associations, mergers, communities are active. This is the stage of active exchange in the process of obtaining a synergistic effect for each student.

For more than 20 years AsstrA (fig. 2.1) has been a reliable partner in the logistics and transport services market. The company offers a comprehensive service, including the organization of international transport by various modes of transport, import and export support, customs services, warehousing services, cargo insurance, project logistics, as well as trade services.

The goal of AsstrA Ukraine is broad, it can be divided into the following directions:

1. Customer centricity: to work for the help of clients' business development, thanks to the efficient organization of logistic services for long-term evaluation.

2. Relating to partners: to provide optimal cost and reliability solutions.

3. Relating to the staff: Provide the optimum conditions for efficient work, professional and personal growth.

Figure 2.1 – Logotype of the company “AsstrA”

In the company, there are professionals with great experience. Due to this the clients of the company have an excellent delivery of cargo.

History of the company:

1993 – Creation of AsstrA. It is listed in the Swiss Commercial Register.

1995 –The company targets its first market: road transport between Europe and the CIS. First employees. The company’s first steps.

1997 –The first AsstrA Network office opens in Minsk.

2000 – Network rolls out across the CIS. AsstrA operates from offices in Minsk, Brest, Moscow, Kiev, Bergamo and Vilnius. AsstrA launches AsstrA Transport to manage the company’s own fleet of truck.

2001 – Service range widens. Less-than-truckload (LTL) and full-container-load (FCL) services are added to the main full-truckload (FTL) offering. The company can deliver any consignment door-to-door.

Legal entity AsstrA Polska Sp. z o. o. is formed in Poland, and a new office in Saint-Petersburg is opened.

2002 – AsstrA offers customs brokerage service at a new agency at the border terminal in Koroszczyn, Poland. AsstrA Air Transport is established in Smolensk, Russia.

2003 – Development to the west and east. AsstrA Air Transport executes its first orders. The office in Yekaterinburg, Russia, and the customs agency in Kuznitsa, Poland, are opened.

2004 – Network rolls out across Europe. AsstrA joins the International Federation of Freight Forwarders Association (FIATA) as a member.

Air cargo shipments are available to AsstrA customers everywhere. AsstrA receives an ISO 9001: 2000 quality management system compliance certificate confirming that the entire company's services are offered at international quality standards. Branches open at the Borispol International Airport in Ukraine and Chelyabinsk in Russia as well as a new office in Magdeburg, Germany.

2005 – Year of the complex of services. Branches open in Odessa, Ukraine, and Shenzhen, China.

Logistic Operator Russia recognizes AsstrA as the best freight forwarding company in the country. AsstrA serves more than 1,000 customers and achieves 100 million euros in sales.

2006 – Customer-centricity guides growth. Multimodal heavy and oversized cargo and car transport services are launched.

The office in Almaty, Kazakhstan, and branch in Poznan, Poland, are opened.

2008 – Operations streamlined. AsstrA begins building an Oracle-based corporate IT system. In Warsaw, AsstrA Polska Sp. z o.o. receives Safety and Quality Assessment Systems certification for competence in chemical products transportation. AsstrA serves approximately 4,000 customers and achieves 150 million euros in sales.

2010 – Partnerships leveraged.

2012 – The year of harmony in AsstrA. The AsstrA Business Development Department launches the following industry-focused divisions:

– AsstrA Home Appliances & Consumer Electronics Logistics;

– AsstrA Spirits Logistics;

– AsstrA Industrial Gas Logistics.

The Prague, Czech Republic, office opens.

2013 – Innovation drives growth. The branch in Astana, Kazakhstan, opens. AsstrA's environmental management system receives an ISO 14001 certificate of compliance, and its food safety management system receives an ISO 22000 certificate

compliance. AsstrA serves approximately 4,000 customers – including a growing number of the world's largest multinationals – and achieves 200 million euros in sales.

2015 – 20 years of trust. AsstrA celebrates its 20th anniversary. AsstrA has grown into an international holding company with 22 branches in 11 countries and staff of about 800 people. The number of trade lanes and routes serviced is growing dynamically. AsstrA emphasizes offering the best services tailored to each client's individual needs.

Branches open in Antwerp, Shanghai, and Nizhny Tagil, Russia. The customs agency in Bialystok, Poland, opens. Structural units open in Baku, Azerbaijan, Ashgabat, Turkmenistan. A new tender review model is introduced to manage tender information.

The following industry-focused divisions are launched:

- AsstrA Livestock Logistics;
- AsstrA Steel Logistics;
- AsstrA Wood & Paper Logistics;
- AsstrA Fertilizers Logistics;
- AsstrA Fashion & Beauty Logistics.

2016 – New branches open in Gdansk, Poland, and Novorossiysk, Russia, as well as structural units in Vladivostok, Russia, and Istanbul, Turkey. AsstrA develops its Middle Eastern presence in Iran.

AsstrA joins the United Nations Global Compact. AsstrA's health and safety management receives an Occupational Safety and Health Administration 18001 certificate of compliance.

2017 – AsstrA has an active presence on the new Silk Road.

A five-year memorandum is concluded with the United Transport and Logistics Company in Russia to provide joint rail transportation along the China-Europe-China route.

AsstrA becomes an associate member of the International Coordinating Council for Trans-Siberian Transportation, whose goal is to ensure high-quality cargo delivery and the development of economic relations between the countries of Southeast Asia,

the Far East, Middle East, Central Asia, and Europe using Russian railway infrastructure.

An agreement was concluded with the Russian Railways Center for Corporate Transport Services to settle payments for transit routes across Russia.

The Chinese representative office of AsstrA Global Logistics (Shenzhen) Co., Ltd receives an official non-vessel operating common carrier license.

The Turkish branch of AsstrA Lojistik ve Tasimacilik Organizasyonu L.S.A. receives an R2 international freight transportation license.

2018 – new branch offices in Leon, France and Buharest, Romania. Creation of new specializing departments:

– AsstrA Steel Logistics;

– AsstrA Pharma Logistics;

– AsstrA Industrial Logistics.

2019 – new branch office on the new for company continent – North America. Establishment of the annual Forum for carriers [36].

Organizational structure of the AsstrA Company is presented in fig. 2.2.

The General Director is a strategic and operational plan. Ensures the fulfillment of legitimate tasks for the sake of economic indicators; fulfillment of financial commitments before the state budget, starters, customers and banks; the use of funds for the purpose; observance of the existing minds to pay for the transfer and the transfer.

Organizes work and effective interaction of structural divisions of the enterprise on the basis of application of planning methods, financial and labor costs, wide application of experience and improvement of technical level and quality of work, rational and economical expenditures of all kinds of resources, for achievement of high technical and economic indicators.

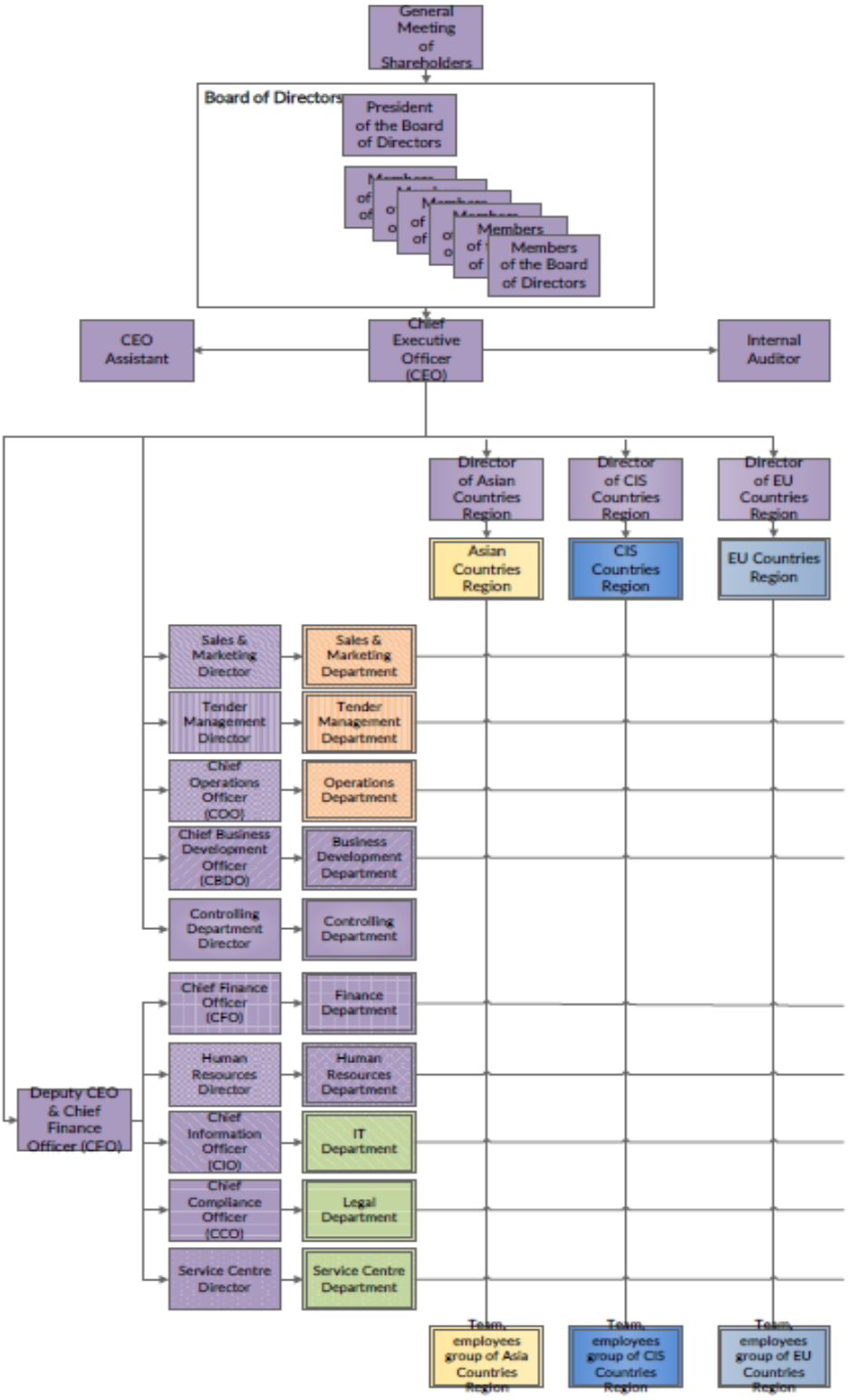

Figure 2.2 – Organizational structure of the AsstrA Company

Provides law enforcement, active management refinement and functioning in market minds, strengthening contractual and financial discipline.

Deputy Director General – Strategic Planning, Operational Management, Security Issues. He is obliged not only to put the staff in the knowledge of all orders and orders

of the higher management, but also to secure their execution. For a director, his or her offender is a feedback link with employees, informing about the applicable situations in the work of the company and the measures taken for them.

Financial director – one of the top executives of the company, responsible for managing the financial flows of the business, for the financial plans a report. Defines the organization's financial policy, develops and implements measures to secure its financial stability. Manages financial management by proceeding from strategic goals and perspectives of organizational development, and by definition of financial management sources

Functional responsibilities:

1. Organization of management of financial resources of business, regulation of financial relations.

2. Conducting negotiations with partners: banks, credit institutions and so on.

3. Coordination of work on conducting the analysis of the financial-economic state of the company.

4. Development and control of the accounting, tax, credit, investment policy.

5. Distribution of financial resources between departments.

Director of Personnel – organizes the conduct of experiments, development and implementation of a set of plans and programs for work with personnel in order to obtain and consolidate the necessary specialties and qualifications at the enterprise of employees based on the application of scientific methods of forecasting and planning the need for personnel, taking into account the balance of development of workers and social sphere, social sphere, rational utilization of human potential, taking into account the perspectives of its development and expansion of capacity in new economic conditions.

Sales and Marketing Director – an expert in marketing policy development based on an analysis of the characteristics of the services used by the enterprise and forecasting demand. The person who leads the study of the main activities that shape the dynamics of demand for company services, the ratio of supply and demand in the market, technical and other characteristics of competing services.

Tender Management Director – a person who views information on requirements and methods for submitting and preparing proposals, explains the conditions of the tender and manages the preparation of the tender, controls the management of tenders in order to ensure its compliance with the organization's requirements, contribution to the calculation of costs and prices, coordination of tender reviews and deadlines and adjusting them according to customer requirements.

Chief operations officer – one of the managers responsible for day-to-day operations, the day-to-day operations of the corporation under the supervision of a general director (CEO) and / or board of directors.

The Chief Business Development Officer is a person with knowledge of all matters related to the organization's business, in order to identify new sales prospects and stimulate business growth and product development requirements.

Responsibilities may include:

– develop business development plans, develop and implement processes to support business growth by identifying customers and markets;

– promote business growth by working with clients and business partners;

– application development and other systems [1].

Controlling department director is the person who manages all the activities in the department. Responsibilities include communication with customers and suppliers, and also acts as a mediator between employees and customers.

Chief Information Officer is the head of the company responsible for the management, implementation and ease of use of information and computer technologies. The CIO analyzes how various technologies benefit the company or improve the existing business process, and then integrates the system to realize this benefit or improvement [2].

The Chief Compliance Officer is the corporate officer responsible for overseeing and managing compliance issues within the organization, ensuring that the company complies with regulatory requirements and that the company and its employees comply with internal policies and procedures [3].

Service center director – a person who controls everything related to the amenities for the staff, the duties include quality control of cleaning, the availability of all necessary staff, management of food and household supplies.

AsstrA's experts identify optimal warehouse locations that take into account itinerary, cargo type, and the individual needs of each customer. It also provides specialized equipment to ensure maximum safety while handling and storing cargo.

The company offers all necessary warehousing services, including cargo prepacking, packing, repacking, labeling, tagging (with stickers we can print), and cargo palletizing.

The strategic locations of AsstrA`s warehouses allow to deliver goods quickly at the appointed time and place. Warehouses in the EU (Italy, Germany, Poland, Lithuania and Latvia) are perfect for the consolidation of cargo, including excise taxed goods, and are used for the transshipment of packaged goods.

After freight loading, the driver can register with one of AsstrA's customs agencies located in Magdeburg, Koroszczyn, Kuznica or Bialystok. Our employees will send the necessary shipping documents to the EPI center and inform the driver about his EPI account number. Payment for EPI services will be made at the time of provision and does not require a contract. Faster customs clearance processing and checkpoint passage, resulting in reduced cargo transit delivery time. Reduced workflow thanks to process automation. Electronic document filing helps avoid the risk of paperwork errors. Less human error related to customs transit permits, as a unique transportation number is sufficient to obtain a permit.

AsstrA Partners can refuel and pay road tolls within the EU and the CIS with special, cashless smart cards. The company guarantee transport owners a high-quality, modern, and effective fuel management system that helps mitigate road risks.

One of the important criterions of company's logistics quality is the geographical coverage. The company has offices in 21 countries – Zurich (Switzerland), Minsk, Brest (Belarus), Bergamo (Italy), Magdeburg (Germany), Moscow, Novorossiysk, Vladivostok, St. Petersburg, Yekaterinburg, Smolensk, Chelyabinsk, Nizhnij Tagil (Russia), Kiev, Odessa (Ukraine) , Vilnius (Lithuania), Warsaw, Koroshchyn, forge,

Poznan, Bialystok, Gdansk (Poland), Shenzhen, Shanghai (China), Almaty, Astana (Kazakhstan), Baku (Azerbaijan), Ashgabat (Turkmenistan), Antwerp (Belgium), Istanbul (Turkey), Bucharest (Romania), Leon (France), New York (USA) and new branches in Hungary, Great Britain, and Uzbekistan [22].

2.2 Analysis the company by Porter's five forces and SWOT matrix of the company AsstrA

1. Threats to new entrants

The company AsstrA offers a comprehensive service, including the organization of international transport by various modes of transport, import and export support, customs services, warehousing services, cargo insurance, project logistics, as well as trade services.

The greatest advantage for the company is the provision of services by different modes of transport. It is also important for customers to be able to deliver different sizes of trucks, as this can make shipping cheaper.

For a company, new firms in the same environment are direct competitors, as they will lower prices for customers to get them in their customer base, as well as give suppliers higher than market prices – just to get them in their ranks. Of course, for this they will need time, and so that AsstrA will not lose their positions, they will also have to give customers discounts and not lose their opportunities, in this point, the reputation that has been developed over the years is very important.

The main barriers for new companies in the modern logistics market is competition, since it will be difficult for a new company to get customers (to get it by lowering prices), and companies should be prepared for the fact that for a long time their activities will be unprofitable.

Now, number of competitors (Zammler, Raben, Pan-Logistics, etc.) is few thousand logistician companies that works on different countries and with different services.

In past 2 years, there are much more import and export from Ukraine, so the logistician market is more developed now, and according to this, many see potential in this area.

Also, you need to expand the list of competitive advantages, now the main ones for the company are: settlement with suppliers not in cash, but in the form of cheap fuel, speeding up payments, providing customs broker services, own warehouses, etc.

2. The bargaining power of suppliers

Suppliers are companies that provide AsstrA with freight capabilities, as well as some of them provide cargo customs services, temporary storage.

Suppliers can influence both positively and negatively on the company's profitability.

This is influenced by factors such as: the presence of competition among carriers, the season, the political and economic situation, the amount of supply and demand in the market.

Suppliers can also collaborate with competitive companies, and in such way the company`s competitors will know information about clients of the company and manipulate on sums on the market.

Suppliers are divided into several categories: A, B, C, G.

The first category includes regular carriers (an average of 5-10 cars per week), several hundred of which make up 15% of all in the company. The value of such carriers is that they are flexible – if you need to make concessions for the price – they go if the loading plans have changed – they quickly adapt to new ones, always be in touch with the forwarder.

The second category is approximately 25-30% of all carriers of the company. The number of cars per week is about 5. The provision of services is the same as that of category A.

Group C includes carriers that rarely use the services of a company. The last group includes carriers with which our company has not made transportation for a long time, blacklist carriers, etc.

3. The bargaining power of buyers

The bargaining power of buyers indicates the pressure that customers exert on the business organizations to get high-quality products at affordable prices with excellent customer service. This force directly influences the AsstrA's ability to accomplish the business objectives. Strong bargaining power lowers profitability and makes the industry more competitive. Whereas, when buyer power is weak, it makes the industry less competitive and increases the profitability and growth opportunities.

The company in the group of customers distinguishes ordinary and key. The number of key customers is not very large, but the turnover from their orders is about half the company's turnover. Among them are companies such as Procter and Gamble, Nestle, Syngenta, Samsung, Mars, Henkel, DHL, SKF, IKEA and etc.

The main characteristic of them is contractual activity – fixing a certain price for a certain period under certain conditions and observing the KPI, do not exclude the possibility of price revision in certain situations. The number of trucks per week is also fixed.

The remaining customers do not have consistency in orders, but are more loyal to prices and downloads (floating date, requirements).

4. The threat of substitute products

The company provides various types of services – air, railway, auto and sea transportation. Also, transportation of excisable products, liquid cargo of various hazard levels, transportation of oversized cargo, groupage. Transportation is carried out in the countries of Europe, Asia and sea transportation from / to the United States.

Each of the services provided by the company can be adjusted according to the wishes of the client, as this is a client-oriented company.

True, this can entail a change in prices both for the smaller and for the larger.

5. Competitive rivalry

Fuel program, expediting payments to carriers, development of our own loading selection platform (similar to Lardi Trans), provision of customs services, our own warehouses, our own transport, and highly qualified personnel.

SWOT matrix of the company is presented in fig 2.3.

	Strengths: High level of customer satisfaction; Reliable suppliers ; Automation of activities ; Highly skilled workforce ; Strong Brand Portfolio ; Strong Free Cash Flow ; Good Returns on Capital.	**Weaknesses:** The marketing of the products left a lot to be desired; Not highly successful at integrating firms with different work culture; Financial planning is not done properly and efficiently; There are gaps in the product range sold by the company; Not very good at product demand forecasting .
Opportunities: The new technologies; Decreasing cost of transportation in high season for the clients (more profitability) ; The market development ; Economic uptick and increase in customer spending; Government green drive; Organization's core competencies ; New trends in the consumer behavior .	Development strategy of own software technologies; The market development ; Economic uptick and increase in customer spending; Automation of activities ; Highly skilled workforce; Strong Brand Portfolio ; Reliable suppliers .	Create a program for calculating financial planning, Develop SMM advertising and advertising mailings to customers, implement information on new services / banner in the signature of company representatives, Expanding service capabilities will expand the client base.
Threats: No regular supply of innovative products; Rising pay level; Liability laws in different countries are different; Changing consumer buying behavior; The demand of the highly profitable products is seasonal; Expanding the presence market, finding new customers and laying new delivery routes; Intense competition.	Company expansion, Access to new markets, The emergence of new services, Changing consumer buying behavior.	The company does not provide a full range of logistics services, The transportation safety system is imperfect, Because of the long chain inside the company it is impossible to make quick decisions

Figure 2.3 – SWOT matrix of the company

2.3 Overview of economic activity of the AsstrA

The financial state of the enterprise depends on the results of its production, commercial and financial activities.

The analysis of the financial state of the enterprise allows the determination of:

– somewhat stable enterprise;

– whether it is credible to pay with the creditors;

– what profit did you earn and why.

The purpose of the analysis of the financial and financial position of the enterprise is to evaluate the past activity of the enterprise, its position at the given moment and its position.

As long as the production and financial plans are successfully implemented, the financial position of the enterprise is positively affected.

The operative diagnostics of the financial and economic state of the enterprise leads to the use of coefficients, which permits the connection.

The financial activity of the enterprise includes the aggregate of operations from the acquisition and expulsion of the production pins, in the vertices of the end, their use in the production The analysis of the financial state of the enterprises is carried out with the aim of improving the organization of the finances and increasing the efficiency of their use.

The financial position is the most important characteristic of business activity and the hope of the enterprise.

The financial state of the enterprise depends on the production or commercial results of the activity, the effectiveness of the organization and the use of the financing. The higher the production and sales performance, the lower the profitability, the higher the profitability and profitability, the better the financial position of the enterprise.

The effective financial and economic activity of an enterprise is a duty to base on the system of the most important financial and economic indicators. Their correct choice depends on the adoption of management decisions, the structure and cost of

assets, the capital of the enterprise and their profit. Thus, the financial position represents the most important characteristic of the economic activity of the enterprise in the external environment.

The quality of goods and services, the cost of sales, the cost of production and sales – all these affect the cost of production, and therefore, the price that will pay. In this case, the price must be acceptable to the consumer, otherwise, the necessary sales volume will not be provided.

The analysis allows the presence of cash or absence in the organization of a financial torsion, to identify their causes and to identify measures for the elimination of these reasons. The analysis also gives the opportunity to discuss the degree of payment and the liquidity of the organization and to predict the possible bankruptcy.

The analysis of the financial and economic activity of the enterprise gives the opportunity to give an estimate of the effectiveness of the business, that is, to refine the degree of the effective activity.

Constant financial conditions give a positive influence on the execution of production plans and the securing of production needs by necessary recourses.

The main objective of the financial activity is to decide when to use the financial resources for the development of the production and to obtain the profit.

In the global practice, such groups of indicators are distinguished, which describe:

– the main state of the enterprise;

– liquidation of the enterprise;

– financial stability (payment aid) of the enterprise;

– business activity of the enterprise;

– the profitability of financial and financial activities.

The dynamics of changes in the estimated financial performance indicators show the positive results of AsstrA AG, which is presented in the Table 2.2, which is based on the financial statements according to the financial results of the activity of the goods Consider the more detailed financial indicators of the activity.

The analysis of production indicators of the activity of the logistics service provider “AsstrA Ukraine” showed that during the last three years the company fulfilled 79527 orders from customers (table 2.1).

Table 2.1 – Volumes of services provided by AsstrA Ukraine, units

№	Types of services	Years			Total
		2017	2018	2019	
1	2	3	4	5	6
1	Road transportation	12569	13154	13882	39605
2	Air transportation	451	487	492	1430
3	Sea transportation	4986	5631	6007	16624
4	Rail transportation	2080	2259	2544	6883
5	Warehouse services	1208	1355	1367	3930
6	Brokerage services	3642	3654	3759	11055
7	Total	24936	26540	28051	79527

For better analysis of the presented data, we calculate the changes of indicators by years in absolute and relative values (table 2.2).

So, we see that the volume of services provided for all types of activity of the company AsstrA is increasing from year to year. In 2017-2018, the largest percentage increase was observed in the provision of sea freight (+ 12.94%), the smallest growth was in brokerage services (+ 0.33%).

According to the comparison of 2018-2019, the situation has changed. The largest increase in the volume of transportation was recorded by rail transportation (+ 12.62%), and the smallest – by warehouse service (+ 0.89%).

In general, we see that the percentage increase in traffic in 2019-2020 is less than the percentage increase in traffic in 2018-2019 (+ 5,69% versus + 6.43%). This indicates a negative trend in the activity of AsstrA, but at the same time, an increase in indicators as a whole is also observed.

Table 2.2 – Dynamics of services provided by AsstrA Ukraine

№	Types of services	2017	2018	Absolute change, units	Relative change,%	2019	Absolute change, units	Relative change,%
1	2	3	4	5	6	7	8	9
1	Road transportation	12569	13154	585	4.65%	13882	728	5.53%
2	Air transportation	451	487	36	7.98%	492	5	1.03%
3	Sea transportation	4986	5631	645	12.94%	6007	376	6.68%
4	Rail transportation	2080	2259	179	8.61%	2544	285	12.62%
5	Warehouse services	1208	1355	147	12.17%	1367	12	0.89%
6	Brokerage services	3642	3654	12	0.33%	3759	105	2.87%
7	Total	24936	26540	1604	6.43%	28051	1511	5.69%

For the sake of clarity, we present the volumes of services provided by AsstrA in the form of diagrams (fig. 2.4).

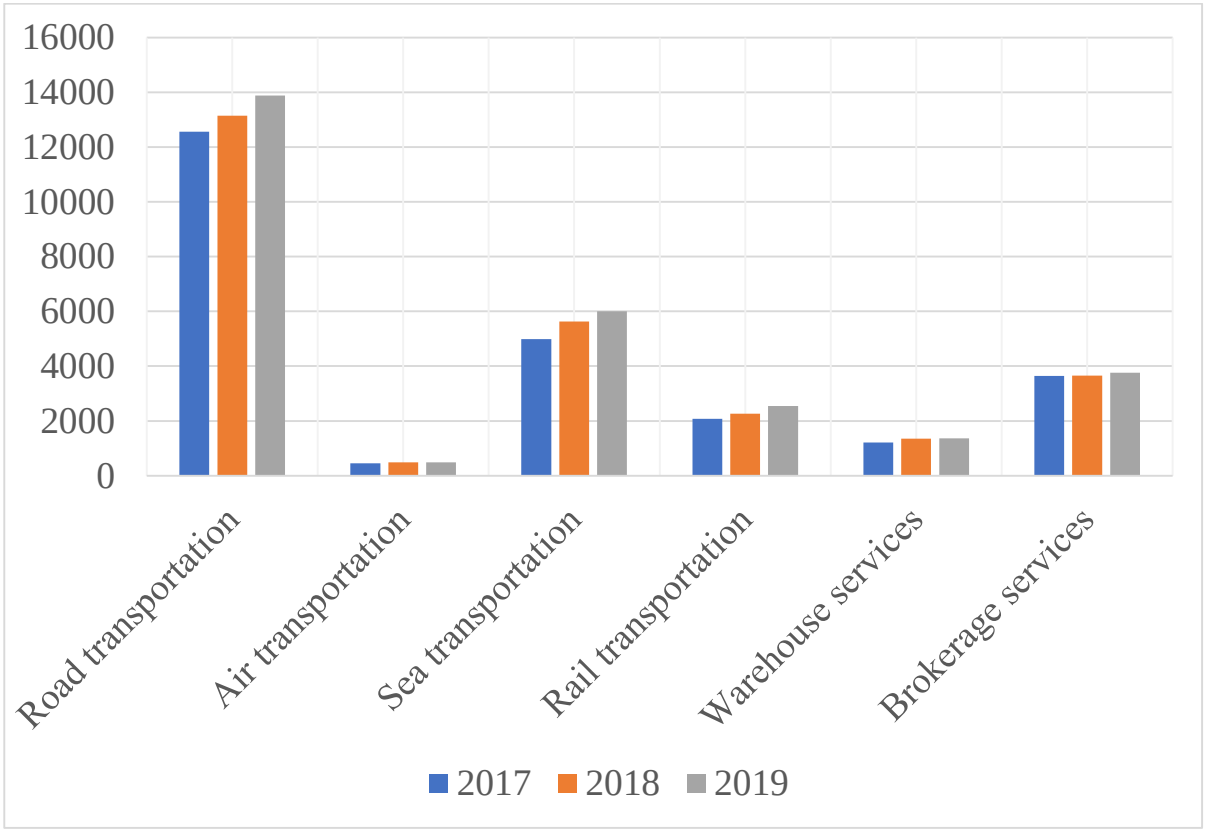

Figure 2.4 – Comparative analysis of provided services, units

According to the data, we see that the percentage of the volume of services provided has not changed much over the past 3 years. Trucking makes up the largest share of the services provided each year. Their share is about 50%. In second place with an average percentage of almost 20% we see shipping. Brokerage services occupy the third place (on average 15%), rail transportation – 8%, storage services – 5%, and the smallest share in the volume of services – air transportation (less than 2%).

Next, we analyze the structure of services of the logistics company AsstrA and the change of this structure with the years (figure 2.5).

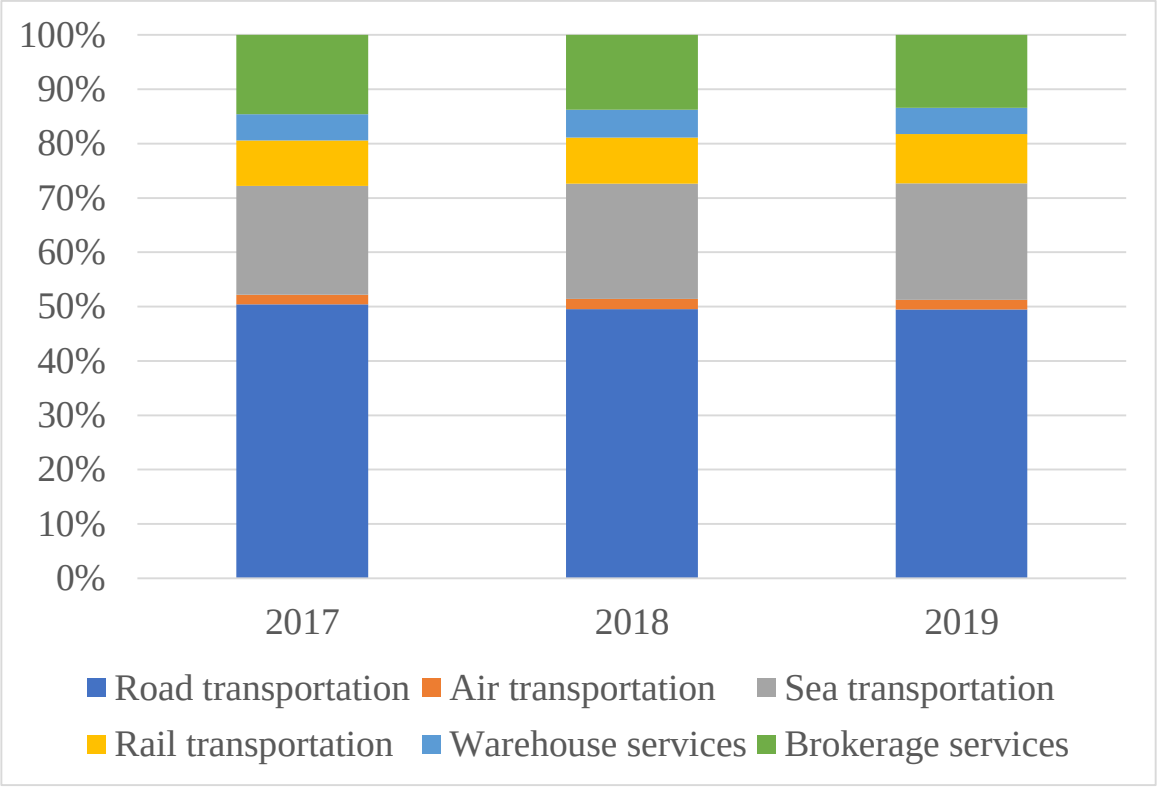

Figure 2.5 – Service structure of AsstrA Company

Fig. 2.6 presents the distribution of shares for all freight forwarding services, taking into account the mode of cargo.

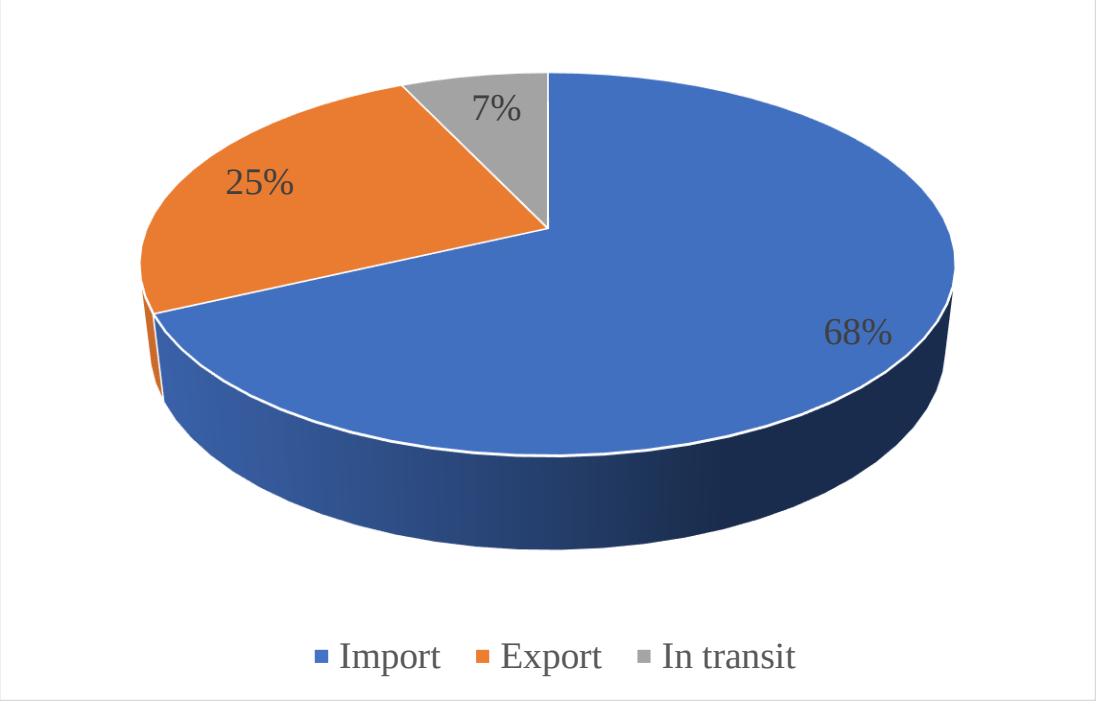

Figure 2.6 – Structure of services by mode of registration of cargo

As can be seen from the fig. 2.7, the activities of the logistics company AsstrA coincides with the general Ukrainian trends in excess of imports of goods over exports.

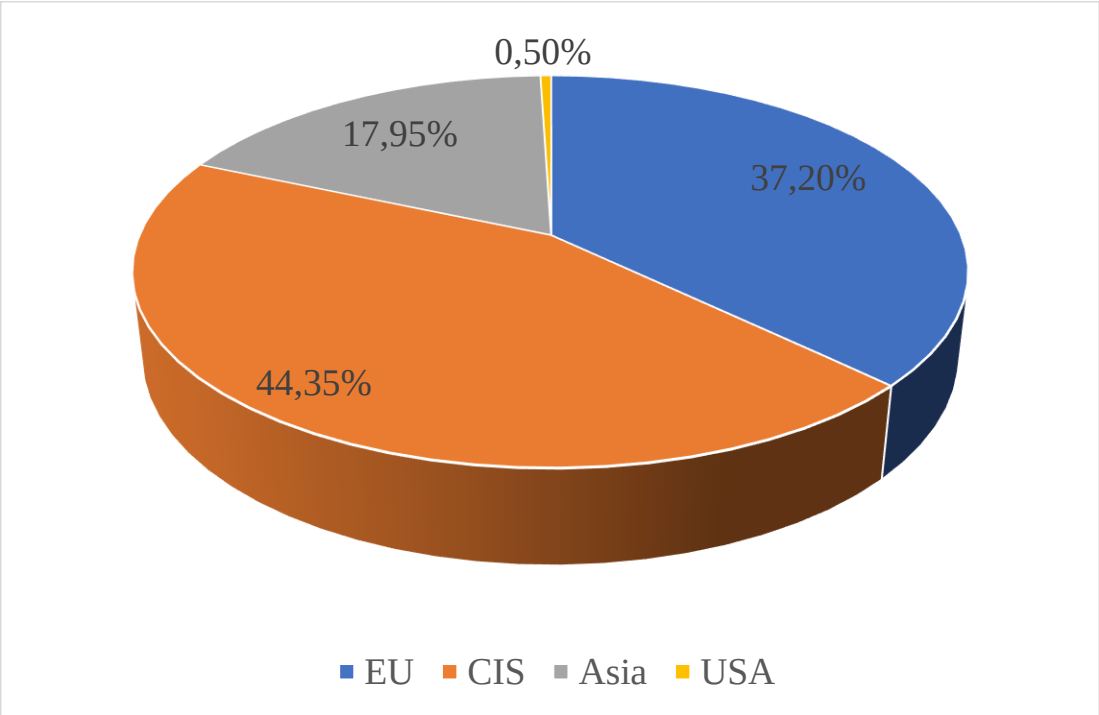

Figure 2.7 – Structure of loadings by ordering location

From the figure we see that mainly the company works with the European market and the market of the CIS countries, as well as with the Asian market, but in relatively smaller scale, it also entered the American market.

Most of the loadings are carried out in Poland, Germany, Italy, France, Central Europe, Russia.

For financial analysis, various sources of information are commonly used, among which are the standard forms of annual financial reporting, namely statement of financial performance (table 2.3).

Table 2.3 – Financial results of the AsstrA's activity, thousand UAH

№	Item	Line code	At the end of the year		
			2017	2018	2019
1	2	3	4	5	6
1	Net income from sales of products (goods, works, services)	2000	7701.0	9859.5	12356.1
2	Other operating income	2120	2913.0	3369.2	3846.0
3	Other income	2240	-	-	-
4	Total income	2280	10614.0	13228.7	16202.1
5	Cost of sales (goods, works, services)	2050	-	-	-
6	Other operating expenses	2180	8669.8	9512.5	12004.2
7	Other expenses	2270	-	-	-
8	Total Cost	2285	7802.8	9512.5	12004.2
9	Financial result before tax (2280 – 2285)	2290	2811.2	3716.2	4197.9
10	Income tax	2300	468.5	619.4	699.7
11	Net profit (loss)	2350	2342.7	3096.8	3498.3

For the sake of clarity, we will present the basic data of the table in the form of a diagram (figure 2.8).

So, we see that the total revenues of the logistics company "AsstrA Ukraine" increase from year to year. The dynamics of growth is significantly different:

– 2017 from 2017 to 2018, the growth rate of income was 24.63%;

– 2018 From 2018 to 2019, the growth rate of income was 22.48%.

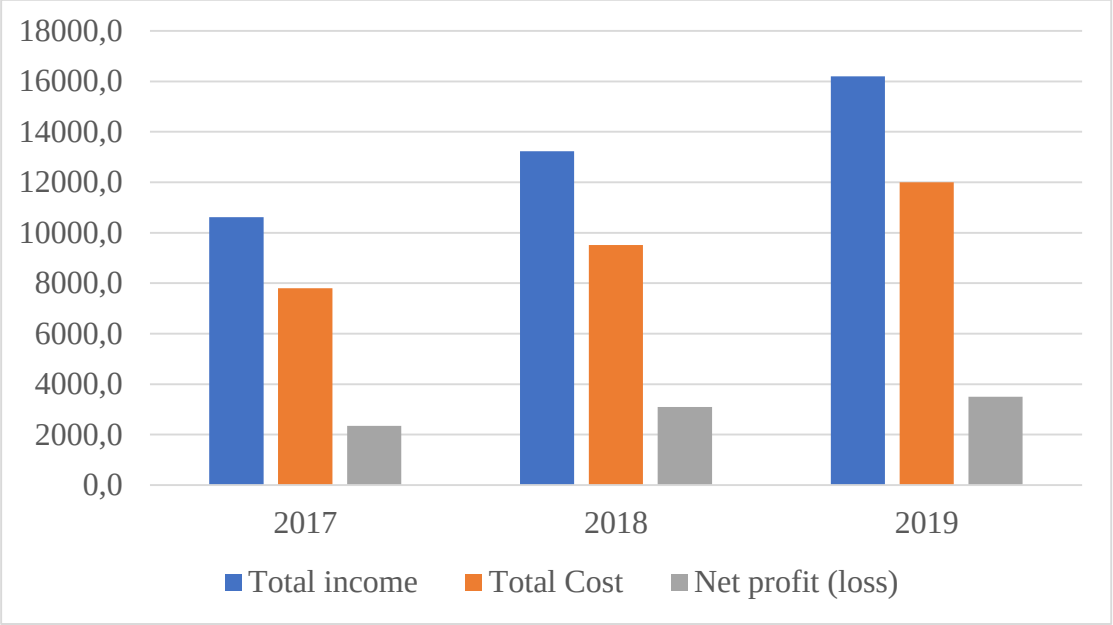

Figure 2.8 – Dynamics of AsstrA's key financial indicators, thousand UAH

Total company costs also tend to increase:

– 2017 from 2017 to 2018, the growth rate of expenditures was 21.91%;

– 2018 from 2018 to 2019, the growth rate of expenditures was 26.19%.

The quality of financial analysis allows you to identify key points in the dynamics of the enterprise in the future, as well as its opportunities for further improvement.

We see that the company has chosen the right path for its activities. The ratio of the financial screening results of the company in 2015 amounted to 32.19%, in 2019 – 12, 96%.

We can say that the logistics company AsstrA Ukraine has all the incentives for active development, with a stable annual growth of all indicators.

2.4 Identifying deficiencies in the company

Software development and constructive improvement of the computers themselves have made the application of a systematic approach more real. Progressive companies concentrated on training and recruiting staff with the education, knowledge and skills in order to work using a systematic approach.

The workflow has become much more convenient and faster. There are electronic databases with the necessary information on transportation, documents attached to them, emails, etc. The process of employee completion is also controlled, which simplifies the work of the controlling service. With the help of software, tracking the current financial condition of the company has become easier, since each employee has access to his plan and its actual implementation. For managers, the whole picture of the department is visible, for company leaders – all information on the implementation of the strategic plan of the company is given. Also, information systems contain all the necessary information about employees, which is very effective in working within the company, since you can remotely find out who specializes in what business and will contact this employee directly.

But if the technical support inside the company helps the smooth work of the company, then in the outside world there are a number of risks that are rarely avoided.

Despite the internal verification of the company's suppliers, sometimes scammers manage to fake information about themselves. This becomes possible through forgery of insurance policies of another company; scammers can also register companies with a similar name to a real logistics company. In the event that the logistics partner of AsstrA Ukraine has all the correct registration documents, a verified and paid insurance policy, experience gained over the years with the company, there are still risks of loss, theft of goods, smuggling due to unscrupulous employees of the transport company.

There are such threats for the transport and logistics company:

– terrorism;

– hijacking and piracy;

– illegal movement of people and smuggling of goods;

– different types of fraud.

There are many fraudulent schemes of cargo theft, the main ones are a front carrier, hacking company pages on exchanges for orders of cargo transportation, theft on the go, theft during night vacations and others (fig. 2.9).

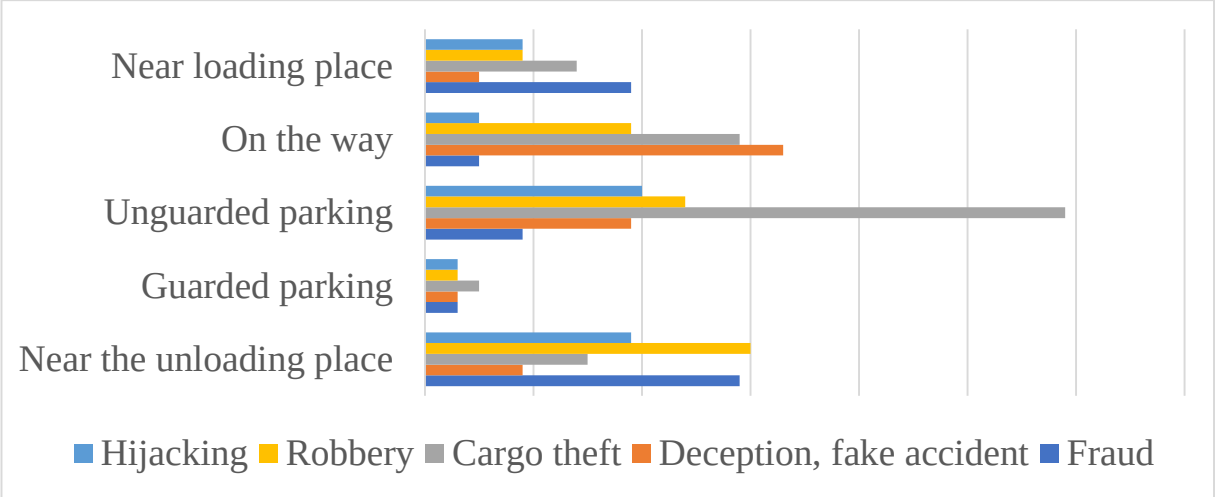

Figure 2.9 – Threat Matrix at Control Points

According to the shell company scheme, usually the organizers of the scheme are a group of scammers who buy a limited liability company with a clean history. The company changes the type of activity for freight transportation, hires drivers. This is followed by registration on exchanges for freight orders. Several of them are carried out in good faith, positive reviews appear, the company goes into the so-called “reliability zone”. A picture for a large order has been created. Under a large order, several machines are simultaneously loaded. In the process of completing the order, the drivers are quietly silent. The front director keeps in touch for a couple of days, but then he disappears.

Very often, scammers resort to the services of experienced hackers, with the help of which they hack the pages of companies with a good rating. Or they get access to the page through the employees of the carrier company. Both former and existing.

With such unauthorized use, a transportation order is taken, but front-line fraudsters arrive for loading and the cargo also disappears.

The algorithm of theft on the move is as follows: one scam car moves in front of the truck, reducing speed. The second car drives up close behind, the attacker skillfully moves to the hood and cuts the lock, penetrating the cargo compartment. Most often, these actions are performed to steal household appliances.

Also, thefts are popular among scammers during the driver's night rest, especially not in the area of guarded parking lots [42].

Due to all these dysfunctional actions, there are a number of risks for the company. These include financial settlement costs, disruption of production schedules and a decrease in KPI, damage to reputation and brand, and an increase in insurance premiums.

As a result of fraudulent actions over the past year, the company received a decrease in profits due to compensation for losses to the companies-defenders, the insurance premium doubled, the bonus fund for employees was reduced, and orders from some customers were also lost due to the loss of trust in the company.

2.5 Chapter summary

For over 25 years, AsstrA has been a reliable partner in the market of logistics and transport services. The company offers comprehensive services, including the organization of international transport by various means of transport, import and export support, customs services, warehousing services, cargo insurance, project logistics, as well as trading services.

The financial condition of the enterprise depends on the results of its production, commercial and financial activities.

Analysis of the financial condition of enterprises is carried out in order to improve the organization of finance and increase the efficiency of their use.

Effective financial and economic activity of an enterprise is an obligation to rely on a system of the most important financial and economic indicators. Their right choice

depends on managerial decisions, structure and value of assets, capital of the enterprise and their profits. Thus, the financial situation is the most important characteristic of the economic activity of the enterprise in the external environment.

According to the results of economic activity, we can say that the logistics company AsstrA Ukraine has all the incentives for active development with a stable annual growth of all indicators.

AsstrA has already implemented a number of automated processes – verification of insurance policies of suppliers, a single database of documents, etc.

Despite an internal check of the company's suppliers, fraudsters sometimes manage to fake information about themselves. This is made possible by forging insurance policies of another company; fraudsters can also register companies with the same name as a real logistics company. If the logistics partner of AsstrA Ukraine has all the correct registration documents, a verified and paid insurance policy, experience gained over the years of working with the company, there are still risks of loss, theft of goods, smuggling due to dishonest employees of transport companies.

CHAPTER 3
IMPLEMENTATION OF BUSINESS PROCESS AUTOMATION IN A COMPANY

3.1 Possible ways to eliminate the identified shortcomings

At the current level of development, process automation is one of the approaches to process management based on the use of information technology. This approach allows the management of operations, data, information and resources through the use of computers and software.

The main goal of automation is to improve the quality of the process. An automated process has more stable characteristics than a manual process. In many cases, process automation can increase productivity, reduce process execution time, reduce cost, and increase the accuracy and stability of operations [26].

One way or another, automation is considered a time-consuming and difficult task, and therefore, to solve it, it is necessary to adhere to a certain strategy, since it is the following of the strategy that will normalize the processes, and therefore get a number of effective advantages from automation. Briefly, the strategy is formulated as follows.

Understanding of the process the main think, its complete analysis, including determining the inputs and outputs of the process in question, the sequence of actions performed, the composition of resources, and so on. Next, you need to simplify the process, that is, unnecessary operations that are not beneficial, but only complicating the chain, should be removed. More often in this case, they propose a different technology for performing the process in question. The result of the strategy is automation, which takes place only if the process has been simplified, in other words, the easier the process is, the easier it is to automate it.

Ultimately, the enterprise management system will be not only a tool for managing the company, but also a means for making decisions. Such a system will become a repository of corporate documents and the history of business processes, which means that it will make the business transparent, and therefore, the most effective [11].

First you need to identify monotonous, repeating, but at the same time standardized and well-described elements of the business process that do not add value to the client. Such tasks can be found in the current affairs of the back office, accounting or operations departments. An example is customer service by the sales department. Repeated actions can be automated, which will free up time to strengthen cooperation with customers and increase sales.

For this, it is necessary to conduct an analysis, search for automation methods, test the effectiveness of the selected method and then implement it. In case of success, it is recommended to implement the use of the tool in all processes where these actions occur. This will increase the benefits derived from automation.

The experience of people who know the tools and their capabilities has a great influence on the search and choice of automation methods. A significant role in process optimization is played by the creativity and involvement of employees.

Automation of business processes allows you to develop in a modern, rapidly changing world. Moreover, automation is a prerequisite for the successful development of the company in any of the industries.

Market needs takes into account the effectiveness and competencies of specialists, allows you to develop complex motivational schemes, effectively conduct training when hiring or to improve the skills of existing employees. Personnel selection techniques, the process of forming a personnel reserve and the organizational structure of the enterprise have also become more productive through the use of automation tools. New systems offer not only access to personnel information and the ability to generate reports, but also the ability to conduct analytical work, which affects the adoption of personnel decisions. In fact, such a voluminous complex of tasks to be solved turns the activities of the personnel service into real management of the

company's human resources. The market presents developments in the field of automation of personnel management processes.

Most operations performed in the company require documentary evidence. Contracts are concluded with suppliers and customers, payment is made by payments, goods are shipped by waybills, work or services are provided by acts and invoices. The list of documents can be continued further, while all of them must go a certain way within the enterprise, be checked, agreed and approved.

The influence of the human factor leads to errors, loss of paper, delays in coordination and other factors that do not contribute to the rapid passage of the document to all authorities and timely contact with the addressee. Similar problems are encountered even in small companies with small volumes of activity, and in large firms this can be disastrous.

The larger the company, the more separate subdivisions and branches in it, the more noticeable will be the loss from working exclusively with paper media at all stages of the document life cycle.

When all documents are in one electronic database, it becomes possible to track the movement and current status of each paper. [27]

Practice shows that automation of processes in the vast majority of cases contributes to a tangible increase in quality – both products and their production management.

Documents and other corporate information are of considerable value, as well as material resources. To be competitive, modern approaches to document processing are needed, and it is important to pay sufficient attention to information security issues.

The introduction of an electronic document management system allows you to solve all these problems, as well as:

– the coordinated work of all departments is ensured;

– increases employee productivity by reducing the time it takes to create, process and search documents;

– increases the efficiency of access to information;

– setting differentiation of access to documents [23].

The electronic document management system has a number of indisputable advantages compared to the traditional approach to office work: increasing productivity due to quick access to any category of documents; maintaining the relevance of information; decrease in the influence of the "human factor"; reduction of material costs associated with the creation and storage of documents; creation of conditions for effective interaction between departments; the possibility of collective work on official documentation; reduced staffing requirements; reduction of risks of loss or damage of information; automation of reporting; system integration with office programs (fig 3.1).

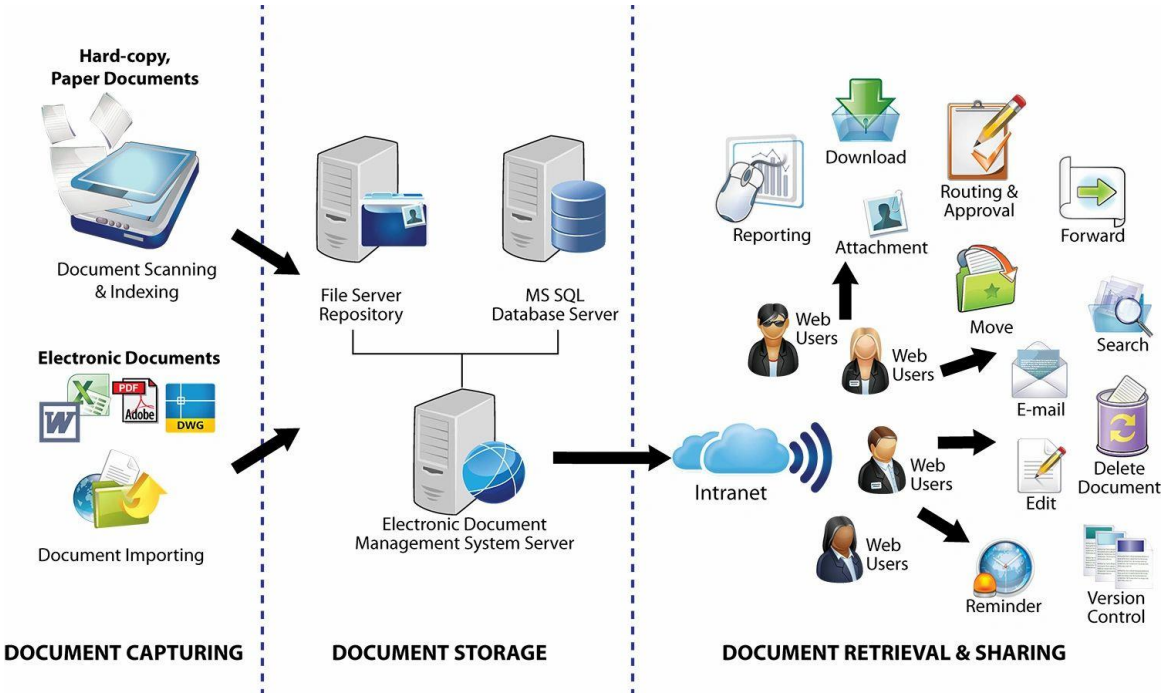

Figure 3.1 – EDMS chain of processes

At the same time, introducing EDMS, the company receives not only tangible, but also tangible intangible benefits. As practice shows, automation helps to improve the perception of official documentation, increase discipline, as well as increase the corporate consciousness of staff. [24]

Thus, the effect of the introduction of an electronic document management system consists of a direct effect from the introduction of the system associated with saving money on materials and working time of employees, and an indirect effect associated

with improving management processes, such as control of executive discipline, the possibility of accumulating knowledge.

Basically, cargo is transported by several means of transport – first it is a truck, then to a ship, train or plane. Accordingly, during transportation, it is necessary to contact many services – port, customs, etc.

The TMS-solution automates the calculation processes necessary for the transportation of goods: optimal loss of cargo, control of residues, calculation of gas mileage, optimal number of stops on the way, and much more. TMS business logic analyzes incoming data based on key performance indicators. Additional functions are also possible in TMS systems, which, for example, help to conduct tenders for transportation and reconcile settlements with counterparties.

Thanks to data analysis and optimization of cargo transportation processes, TMS allows saving on the delivery process [18].

The entire transportation process, as a rule, is clearly regulated and monitored, but often individual links in the transport chain fail, which leads to financial losses for the companies involved in this chain. For more efficient and faster work, now many manufacturers prefer to reduce such risks as theft, corruption, cargo substitution, unauthorized travel, incorrect weighing, tracing the entire route of cargo transportation and fixing each previously determined vehicle route through the territory of their own enterprise.

In most cases, the source of these problems is the human factor, which increases the level of data distortion even in the absence of intentional corruption of the process by the operator. The staff, one way or another, affects the internal and external movements of vehicles, in almost half of the cases of damage remaining unpunished.

Overloading, embezzlement of raw materials and finished products, incorrect weighing in order to underestimate the weight of the cargo, unauthorized access of vehicles to the enterprise and departures from it are only a small fraction of the possible threats to the budget of organizations arising from the unfair work of existing personnel. Also, a separate article of the forced costs of enterprises often comes from the untimely receipt of information about the processes being carried out. Often, many

problems are connected precisely with the lack of technical equipment for managing geographically remote objects from one head office, which, in addition, entails the need for additional personnel, most often managers. So, for example, in the interaction of two or more organizations or remote branches of one company, the presence of a single information space can both expand management capabilities and reduce the risk of inconsistent personnel actions.

The most productive way to solve the problems described is to fully automate and, accordingly, control the entire transport chain remotely and without or with minimal involvement of personnel in the algorithm performed.

When starting the software, the first task is to build the route necessary at the given time using simple tools and a convenient interface. The program allows you to create several variations of routes at a time, which are easily edited later and saved in an updated form.

Automation of the processes of movement of vehicles across the territory of the enterprise and the processes of shipment positively affects not only the economic situation in the organization, but also such factors as:

• increased throughput at points by reducing data processing time;

• improving security by fixing the vehicle number and storing its photos in the database of process control systems;

• automatic error-free recognition of the vehicle through the application of radio frequency identification technology and the identification of attempts to unauthorized access to the enterprise;

• elimination of risks of entering incorrect data into the documentation;

• improving control over the movement of vehicles throughout the facility [28].

A restriction system for new supplier partners should also be introduced. To prevent unverified carriers from transporting liquid cargo, transporting goods of high potential. Also, for safety reasons, mandatory cargo insurance should be introduced for several shipments of a new supplier.

3.2 Recommendations for improving the company's activities

Nowadays, when technologies are developing by leaps and bounds, it is very important to keep up with the times, since any delays or lags can result in a round sum for the company, spoiled image, loss of customers, etc.

Therefore, to improve the business processes of the company, they should be automated. AsstrA Company, every year more and more improves its technical support, thus simplifying the work for both employees and all business partners of the company.

Automation of business processes is not a one-time promotion. To increase the benefit, it is worth launching a program in the company that will unite all types of activities in this area. This will facilitate management and allow more efficient reporting of changes within the organization. Repeated actions can be automated, which will free up time to strengthen cooperation with customers and increase sales. For this, it is necessary to conduct an analysis, search for automation methods, test the effectiveness of the selected method and then implement it. In case of success, it is recommended to implement the use of the tool in all processes where these actions occur. This will increase the benefits derived from automation. [21]

IT solutions help increase the speed of processes and the availability of information. As you know, who owns the information, he owns the world. Already now it is considered normal that five years ago it was unique to the client, for example, a cargo tracking service. The trend is only intensifying: the more we accumulate information about cargo transportation, the more accurately we can predict the behavior and performance of such transportation in the future. This will save people from routine tasks and reduce downtime costs due to incorrect delivery planning. Therefore, now the Internet of Things and RPA-technologies (Robotic Process Automation) are actively introduced in logistics (fig 3.2).

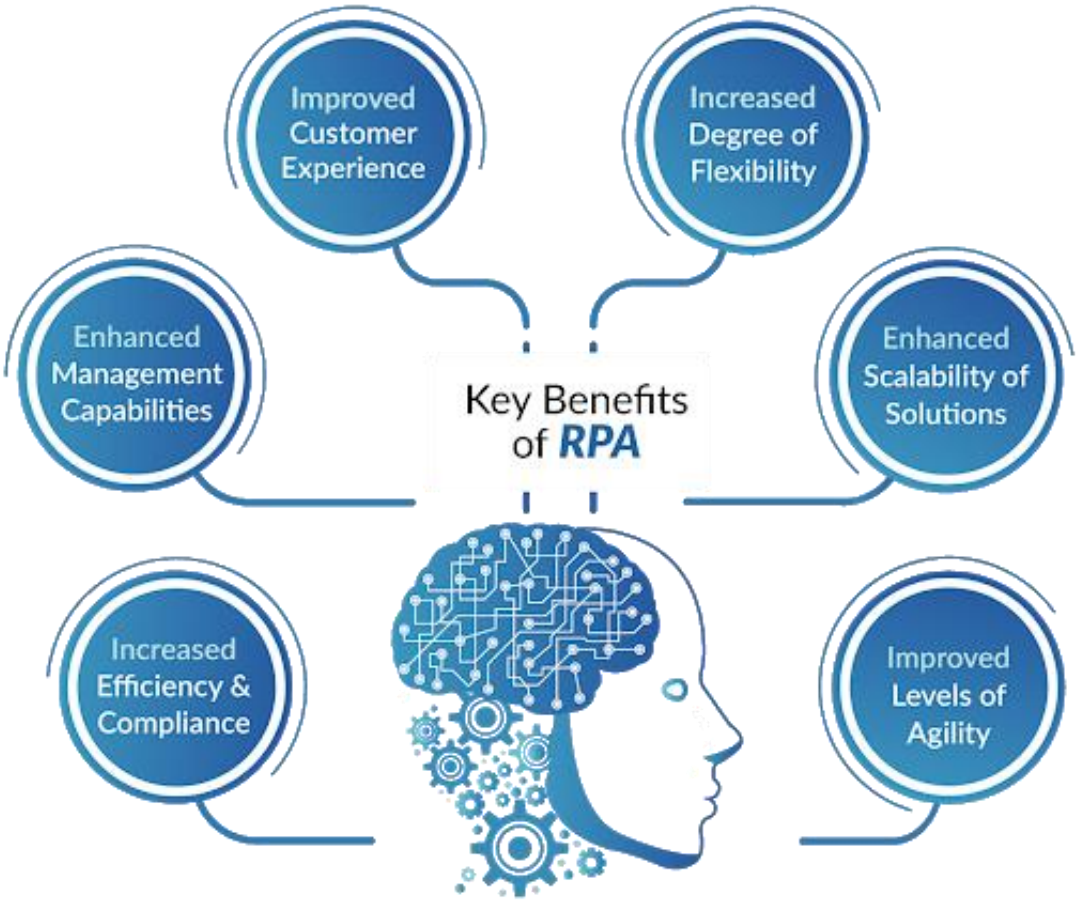

Figure 3.2 – Key benefits of RPA

Globalization and technological development blur the boundaries and set a new pace for business relationships. Tender platforms for the exchange of information on individual transportation, exchange portals appear. Implementing IT solutions saves communication time and reduces the distance between the sender and the recipient of information. Thanks to the automation of processes and rapidly developing technological tools, the logistics world lives in a “one time zone”. The priority of AsstrA in process automation is the safety and reliability of the transmitted information. Therefore, the group of companies is developing its own IT resources. In servicing corporate Clients, AsstrA introduces electronic data interchange – EDI (Electronic Data Interchange). Electronic data interchange allows you to be closer to a business Partner, integrate into its information environment and provide all the necessary information about its cargo transportation.

Track & Trace-solution is an online transportation tracking service that the group of companies is actively developing. Through integration with carriers' GPS providers,

AsstrA experts directly receive vehicle location information from the satellite. If the carrier does not have GPS trackers installed, the AsstrA group offers its own mobile tracking application.

AsstrA, an international transport and logistics group of companies, has selected Shippeo, the European leader in supply chain transparency, as a partner to provide customers with real-time data on the progress of transportation and the estimated time of the main stages of transport operations. Shippeo platform provides efficient loading, optimizes the use of loading and unloading capacities and allows you to predict and quickly respond to unforeseen situations during loading or unloading. [31]

Graphically, the process of cooperation between Asstra and Shippeo is shown below (fig. 3.3).

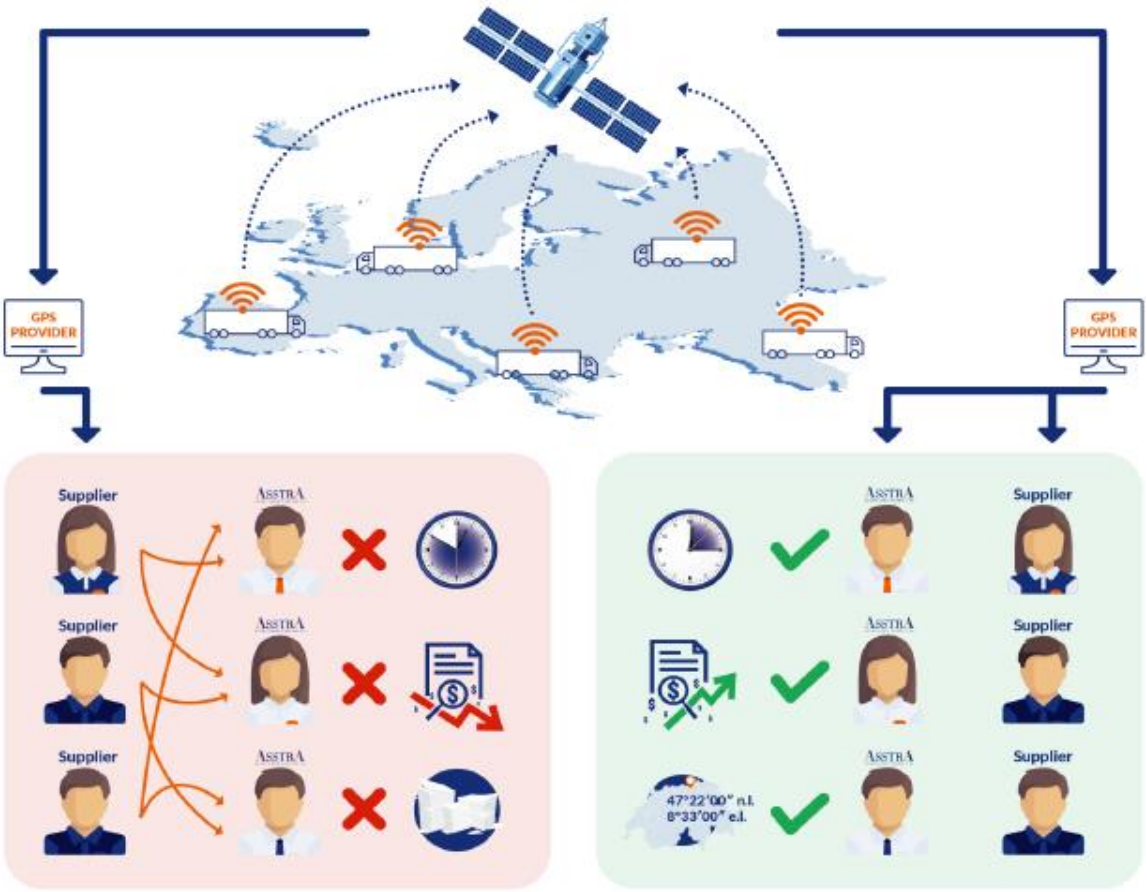

Figure 3.3 – Process of integration company AsstrA with Shippeo

Supplier cabinet is a web solution for working with transport partners of AsstrA. Here, the carrier can track new delivery offers from AsstrA, as well as work with its

orders. The system has an interesting round trip function: based on the current orders of the supplier and information about its transport, the system itself selects and offers the carrier new orders in the opposite direction to reduce downtime. AsstrA Group is actively developing this solution. In the near future, the carrier will be able to check the payment status of the contract and print a document with the transfer order.

The company's own development, the Supplier’s Cabinet, is a site on which carriers have their own profile, the information in which is combined with the company's database.

The Supplier’s cabinet consists of several blocks – Home, Offers, Orders and Transport.

In the "Offers" section, the carrier can see confirmation requests sent by the forwarder (figure 3.4).

Information about the Offer contains:

1. Offer number and data on the forwarder (when clicking on the forwarder, an additional window will open with contact details, phone numbers, email)

2. Term of response to the offer and rate (if the data was indicated in the OTM system).

3. Supplier – supplier to whom the offer is referred (if the data was indicated in the OTM system)

4. Type of transport

5. Load Information

6. Information about the dates of transportation, points of loading, unloading, stops

7. Available transport – a map with a loading point and a suitable transport, if any, is displayed.

In this section, the carrier can see all the necessary information and the contact with AsstrA in charge of this transportation. But since these are offers, not orders, due to the confidentiality of information, location information is submitted in the form of departure and destination cities, to orient carriers for bidding.

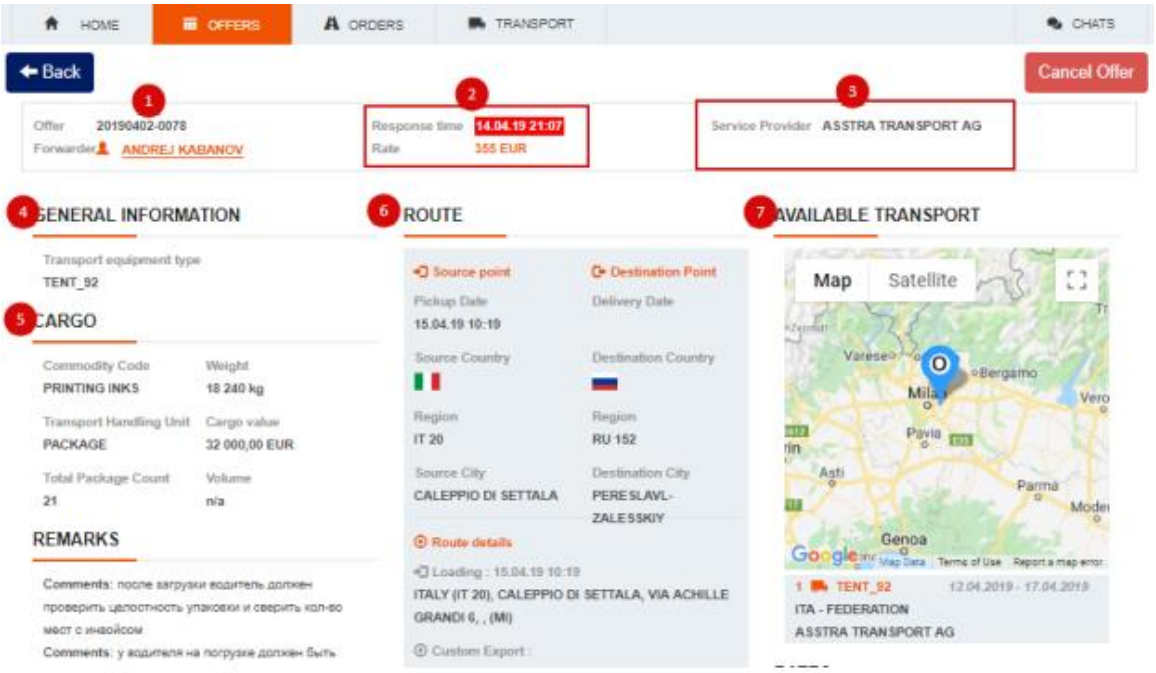

Figure 3.4 – Supplier Cabinet, sheet «Offers»

Section “Orders” contains information about confirmed Order Release and current carriages (fig. 3.5).

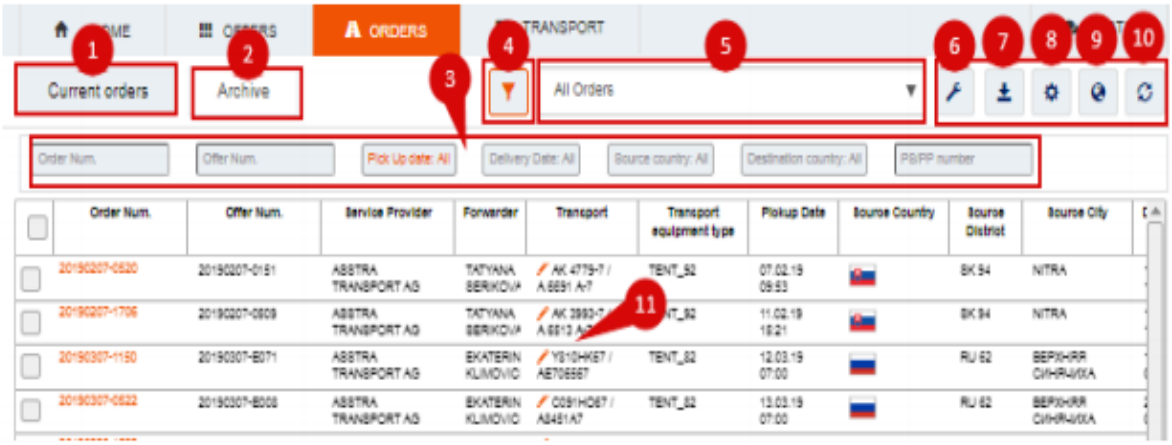

Figure 3.5 – Supplier Cabinet, sheet «Orders»

1. Current orders – active carriers.
2. Archive – the completed carriage within last 6 months.
3. Filter menu.
4. Button hides or shows the filter menu.
5. List of saved filters.

6. Managing filters

7. Button of saving the current filter.

8. Button for setting up a table view.

9. The display of current location of the vehicles for all orders on the map.

10. Update data button.

11. List of orders.

Through the portal user may apply events (arrival at the loading, competing of the uploading, arrival at the customs, unloading, etc.).

When viewing the details of the order, the current location and the last uttered event are displayed as default, while the map and the complete list of added events you may find in the section “Events” (fig. 3.6).

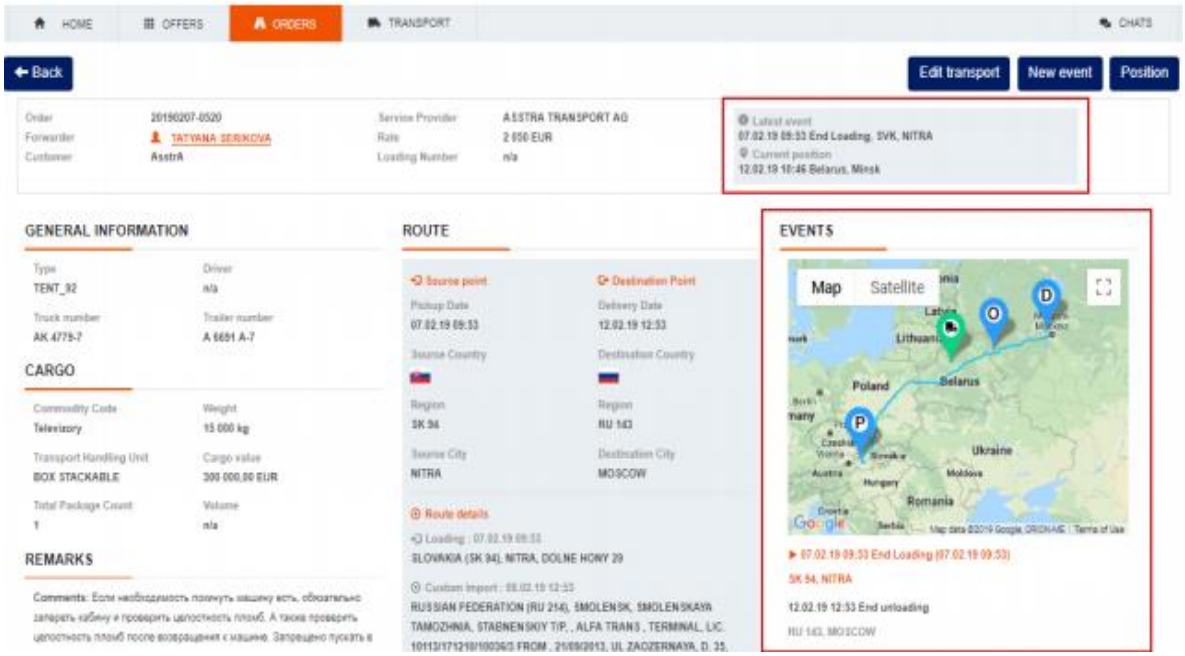

Figure 3.6 – Supplier Cabinet, sheet «Orders», Events

This tab displays detailed information about the transport – the number, type, availability period, the desired destinations. In addition, the embedded map displays the current location of the transport, as well as the optimal area for searching for proposals in a given radius (fig. 3.7).

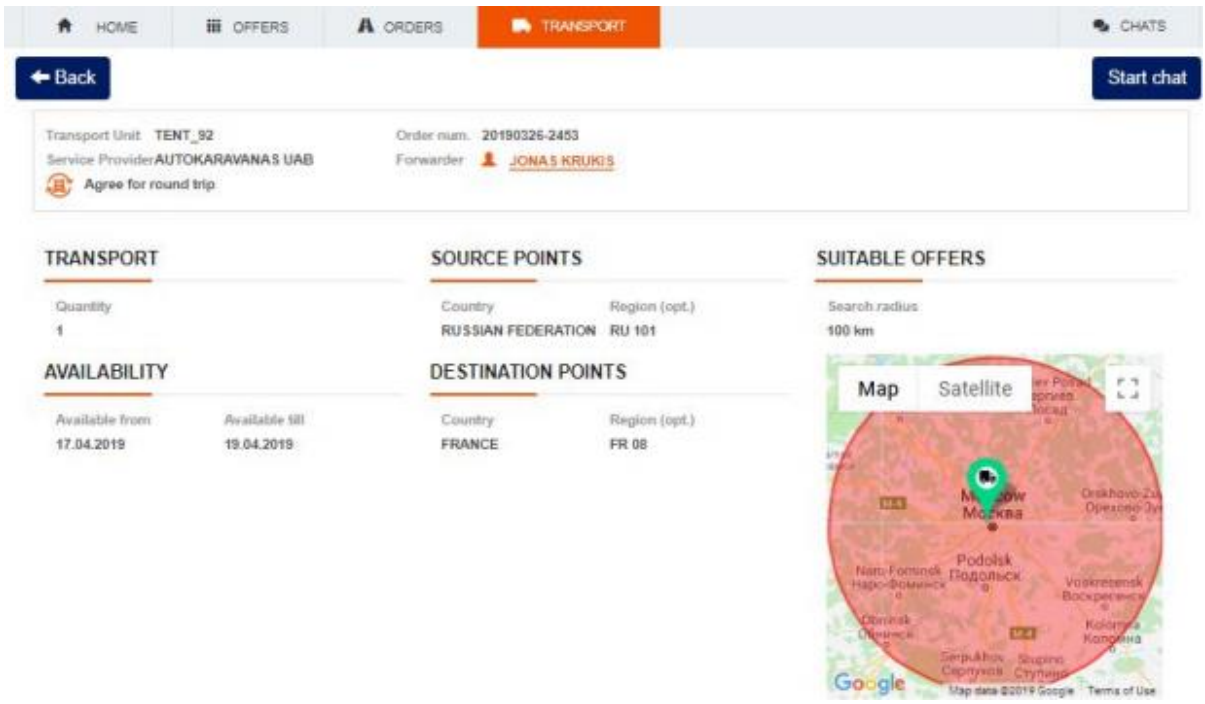

Figure 3.7 – Supplier Cabinet, sheet «Transport»

Also, in order to protect the confidentiality of information, and reduce the use of other messengers, it was decided to create its own platform for communication with the supplier (fig. 3.8).

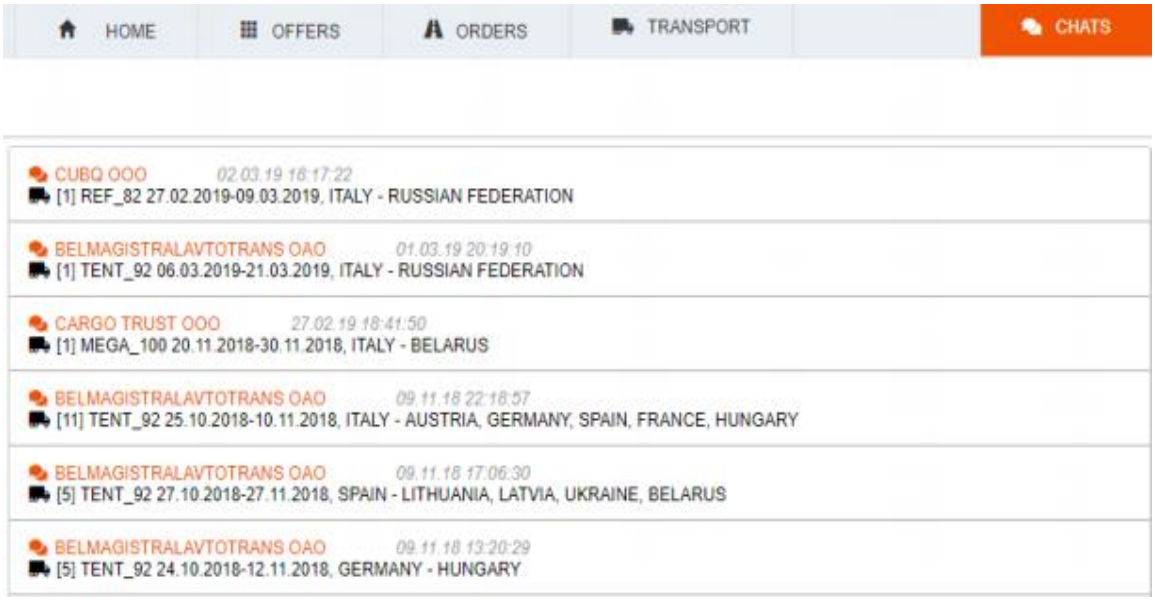

Figure 3.8 – Supplier Cabinet, sheet «Chat»

Also, when automatically marking geolocations in the system, a notification is sent to the forwarder – «loading completed», «unloading completed», etc. The system creates a number of possible ways of moving the vehicle, and for any deviation from possible routes, a letter is sent to the forwarder for immediate response.

Thanks to this idea, the company plans to reduce the amount of insurance payments, strengthen its name among customers, and facilitate the work of the company's employees, as this will quickly and regardless of circumstances understand the necessary information without involving third parties. Also, the function of adding the supplier of transportation documents and payment invoices will also be added (to reduce the time and cost of submitting documents by parcels to the office).

Now in development is the Client Cabinet, which will integrate data from the carrier and all the necessary information, a chat with a forwarder will be added, and a database with transportation files will be added (export declarations, invoices, certificates, etc.)

GetRate is a mobile online calculator that allows you to calculate in real time the cost of delivery from China to the CIS / Europe with expedited container shipping. In addition, AsstrA is constantly automating and improving its processes.

The main locomotive is the OTM (Oracle Transportation Management) transport order management system. Actively developing CRM and ECM solutions. In addition, managerial decision-making and work analysis are carried out through the configured Business intelligence-system, abbreviated as BI, in which all information is consolidated [28].

The introduction of new technologies accelerates processes by optimizing resources: human, temporary, financial. Routine work is automated, while employees continue to perform expert and supervisory functions. Reducing the time for each of these steps saves the client time.

3.3 Calculation of the economic effect of project proposals

There is fierce competition in the logistics services market, and a customer-oriented development strategy helps to win the competition. Process automation helps to fully implement this strategy.

Thanks to the automation of business processes in the company AsstrA, work is being established not only within the company, but also with partners – customers and suppliers of the company.

The supply chain has become more streamlined and optimized, all processes have been reduced to clarity and transparency of actions.

The result of the introduction of technology in the company was an increase in orders, an increase in the customer base, and the efficiency of the transportation participants. Ultimately, the company's profit also increased as a result of an increase in the volume of work in the same time frame.

Using the above systems, the company may experience the following changes:

– reduction of time in repetitive processes;

– compliance with the process of controlling of suppliers;

– independent from suppliers work of company employees;

– acceleration of the process of supplying the necessary information to the client;

– blocking customers with receivables;

– tracking the vehicle from the beginning of arrival at the place of loading until the unloading of the vehicle;

– confidentiality of communication with suppliers and customers;

– Improving the security of company data.

Below is a table with a brief description of the functionality of the programs used (table 3.1).

Table 3.1 – Comparative analysis of systems

№	Name of the system	Description	Result
1	2	3	4
1	Electronic Data Interchange	Software for document exchange in and out of the company	Thanks to the implementation of this program, the company saves a huge amount of paper, saves time on signing documents and also sending them to the appropriate person
2	Shippeo	A company that broadcasts actual truck locations	Cooperation with this company allows you to be more independent from carriers, to quickly and accurately receive the necessary information without the cooperation of third parties.
3	Supplier Cabinet	The site on which the actual downloads are posted, all the necessary information about the transportation curator, the location of the vehicle is updated, communication with the supplier takes place.	Working with this software allows you to secure the company in working with suppliers, reduce all unnecessary expenses. The document sharing feature will be available soon
4	Client Cabinet	The site, which publishes current downloads, updates all the necessary information about the transportation curator, updates the location of the car, and communicates with the client	Working with this software allows you to secure the company in working with suppliers, reduce all unnecessary expenses. The document sharing feature will be available soon
5	GetRate	The program for calculating the current rates	Allows to reduce the time of conversations with suppliers, find out the true rate

The end of the table 3.1

1	2	3	
6	Customer Relationship Management	Software for organizations designed to automate customer interaction strategies	Increasing sales, optimizing marketing and improving customer service by storing customer information and the history of relationships, establishing and improving business processes and subsequent analysis of the results
7	Enterprise Content Management	Software that allows you to manage digital documents and other types of content, as well as store, process and move within the organization	It allows you to optimize work within the company, reduce the time it takes to complete business processes for more actions
8	Oracle Transportation Management	Software for logistics companies, allows you to manage all aspects of transportation in the global supply chain	The product helps to reduce freight costs, optimize service levels and automate processes so that the company can more efficiently carry out logistics operations

With the introduction of these programs, a potential increase in indicators was expected, while, setting the indicators for the 1st quarter of 2019 and 2020, we see a clear increase in the company's activity (table 3.2).

According to the results, the company has an increase in number of active customers in 235 (+17%) of clients, number of orders – 1677 (+12%), number of active suppliers – 58 (+38%), number of employees – 8 (+14%).

This suggests that due to an increase in the customer base, the demand for suppliers in the company has also increased, therefore, work in the Supplier’s Cabinet has gained momentum, since the company’s own exchange was created there. Also, with an increase in the amount of work, the number of employees was added, respectively.

Table 3.2 – Company's performance

№	Indicators	2019	2020	Difference, %
1	2	3	4	5
1	Number of active customers in the 1st quarter	1351	1586	0.17
2	Number of orders for the 1st quarter	14337	16014	0.12
3	Number of active suppliers in 1st quarter	154	212	0.38
4	Number of employees	59	67	0.14

Visually, the difference between the results obtained is seen below (figure 3.).

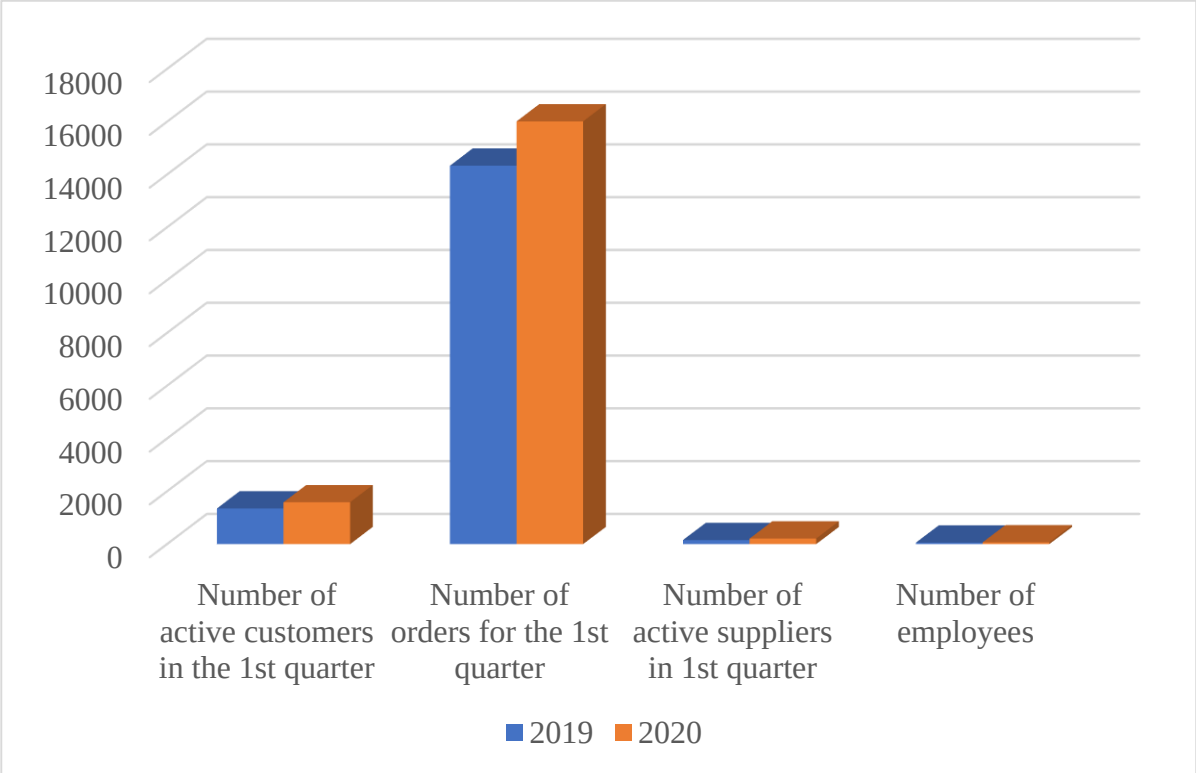

Figure 3.9 – Company's performance

Also, the introduction of new systems in the company improves its reputation among companies, thereby advertising among potential customers (fig 3.10).

Figure 3.10 – New clients of the company per periods

Thanks to the current policy of improving transportation safety, the company AsstrA will get more and more regular customers, as well as more reliable carriers in their ranks due to their careful verification with the help of well-coordinated work within the company.

We will try to calculate the economic effect of the software implementation by saving man-hours. Obviously, the use of systems will help reduce the duration of most business processes of AsstrA Ukraine. In the table. 3.3 shows the calculation of the effect of the implementation of systems depending on the amount of time saved by the company's employees during the day.

From the data of the given table we see that the calculated economic effect has a negative value at economy of 5 minutes a day, namely – 265930 UAH. If the time savings will be 50 minutes a day, we will have savings of +1391930 UAH. for a year.

After the implementation of systems in the work of AsstrA, we can see a reduction in working hours of employees. With a reduction of 15 minutes, the company begins to profit from the capital invested in the firm's system software.

Table 3.3 – Calculation of the effect of the use of systems

№	Indicators	Save employees time per day, min.									
		5	10	15	20	25	30	35	40	45	50
1	2	3	4	5	6	7	8	9	10	11	12
1	Overall time savings for company employees	30.4	60.8	91.3	121.7	152.1	182.5	212.9	243.3	273.8	304.2
2	The cost of 1 hour of work of 1 logistics manager, UAH	120	120	120	120	120	120	120	120	120	120
3	The total number of logistics managers, individuals	40	40	40	40	40	40	40	40	40	40
4	Cost of 1 hour of work of 1 service worker, UAH	90	90	90	90	90	90	90	90	90	90
5	The total number of service workers, persons	2	2	2	2	2	2	2	2	2	2
6	The cost of 1 hour of work of 1 accountant, UAH	105	105	105	105	105	105	105	105	105	105
7	The total number of accountants, persons	5	5	5	5	5	5	5	5	5	5
8	The cost of 1 hour of work of 1 marketer, UAH	110	110	110	110	110	110	110	110	110	110
9	The total number of marketers, individuals	5	5	5	5	5	5	5	5	5	5
10	Total savings per year, thousand UAH	184.07	368.14	552.82	736.89	920.97	1105.04	1289.11	1473.18	1657.86	1841.93
11	Annual costs of maintaining the systems, thousand UAH	450.00	450.00	450.00	450.00	450.00	450.00	450.00	450.00	450.00	450.00
12	Annual economic effect, thousand UAH	-265.93	-81.86	102.82	286.89	470.97	655.04	839.11	1023.18	1207.86	1391.93

Based on the table. 3.3 construct a break-even point graph (see fig. 3.11).

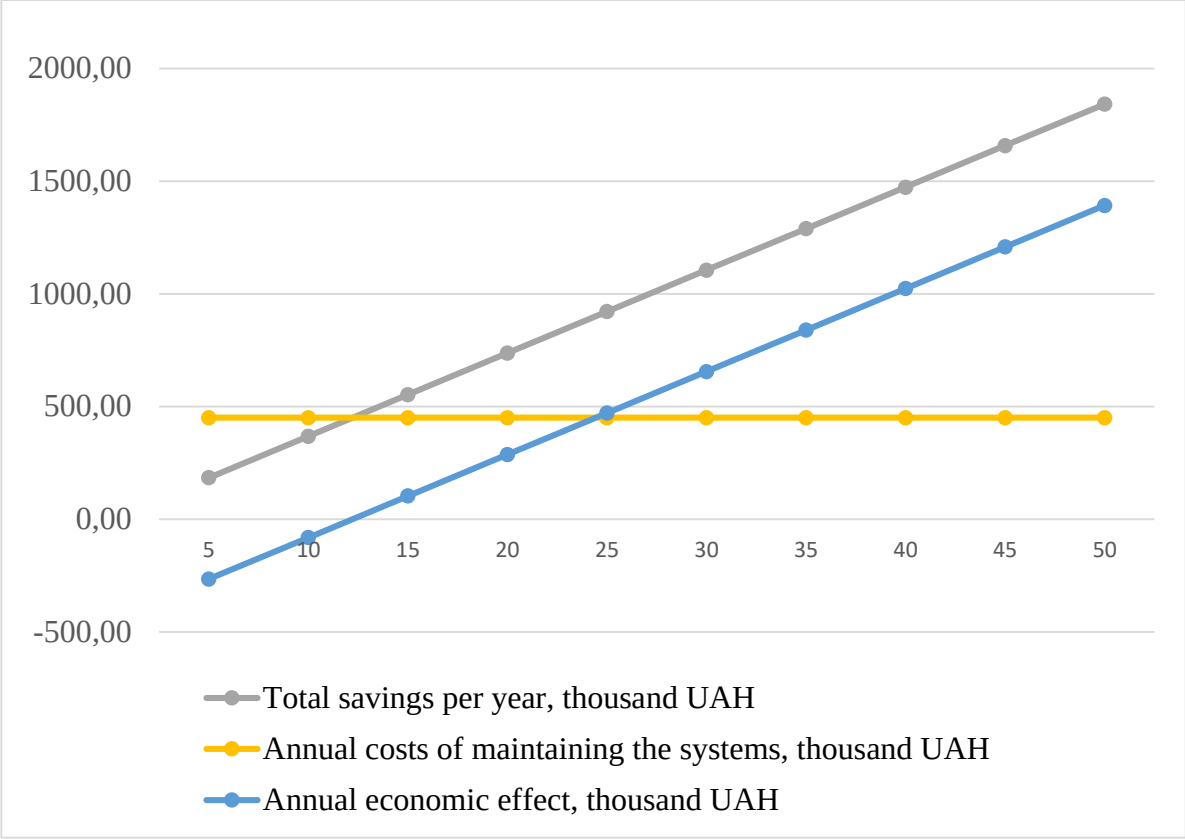

Figure 3.11 – Finding a break-even point for the use of systems in annual investments

Since insurance indemnities account for a large part of the company's profit loss, attention should be focused on the following improvements in the indicators obtained.

In 2019, the company lost a large amount of potential profit on insurance payments to injured companies. Because of this, the insurance company partner of AsstrA annually increases the amount of payments for the services provided. In order to reduce these costs, it was decided to integrate their work with Shippeo and, thus, to protect the goods from intruders.

Thus, for seeing the difference for the 1st quarter of 2019 and 2020, the number of thefts decreased from 90 to 47, which is a decrease of 48% (table 3.4, table 3.5).

Table 3.4 – Threat Matrix at Control Points per 1st quarter 2019

№	Threat indicators	Threat Matrix at Control Points per 1st quarter 2019				
		Near the unloading place	Guarded parking	Unguarded parking	On the way	Near loading place
1	2	3	4	5	6	7
1	Fraud	6	1	2	1	4
2	Deception, fake accident	2	1	4	6	1
3	Cargo theft	3	5	15	7	3
4	Robbery	6	1	4	5	2
5	Hijacking	3	1	4	1	2

Table 3.5 – Threat Matrix at Control Points per 1st quarter 2020

№	Threat indicators	Threat Matrix at Control Points per 1st quarter 2019				
		Near the unloading place	Guarded parking	Unguarded parking	On the way	Near loading place
1	2	3	4	5	6	7
1	Fraud	2	3	4	5	6
2	Deception, fake accident	3	0	1	1	2
3	Cargo theft	0	0	3	2	0
4	Robbery	2	0	9	5	2
5	Hijacking	4	0	3	3	1

From the corresponding tables 3.4 and 3.5 of the graph (figure 3.12), you can observe the difference in the numbers obtained. Thanks to the current cooperation with Shippeo, AsstrA managed to reduce cargo losses, especially among thefts on the road, at the unloading place and in unguarded parking lots, since now, the forwarder has the ability to control the process of rest of drivers (their location). Tracking is carried out all the time from the beginning to the end of the transportation (the system displays the

correct addresses of departure and destination), after which tracking is stopped, while maintaining the confidentiality of the carrier. In case of any deviation of the monitored truck, a notification is sent to the forwarder. Also, only those trucks to which the carrier company has given a telematics tracking are now allowed to transport liquid goods.

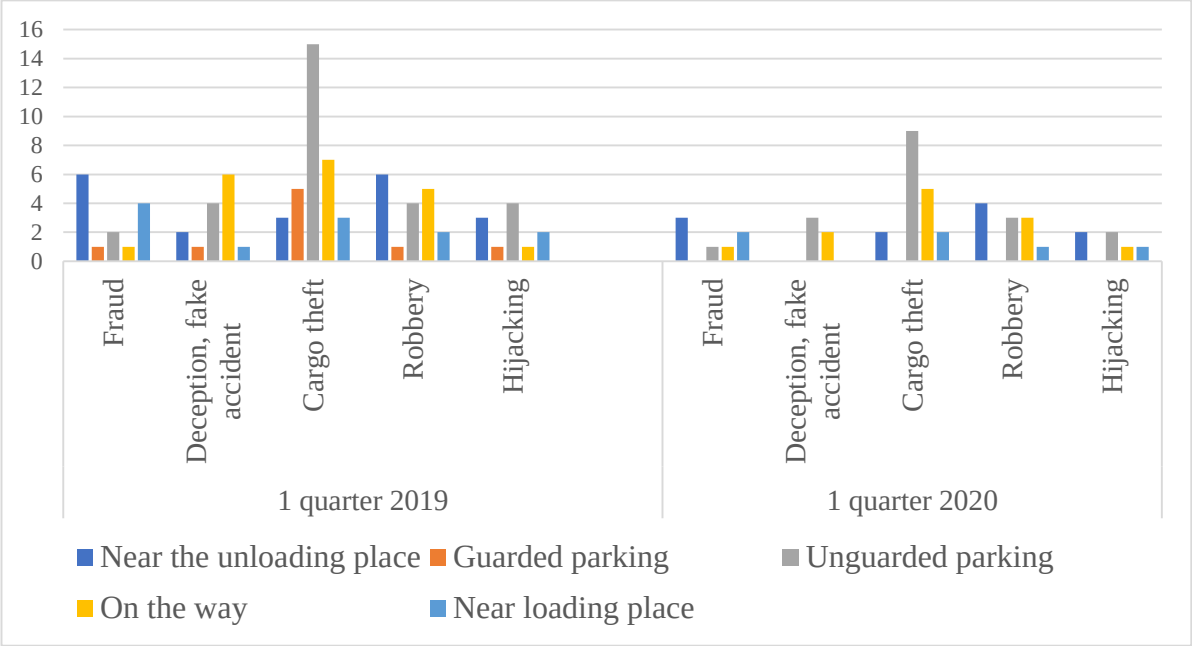

Figure 3.12 – Matrix comparison of thefts of the 1st quarter of 2019 and 2020

Following the results obtained, we can conclude that the company AsstrA has chosen the right direction in improving service and minimizing losses. Thanks to this, it is gaining more and more customers in the market, thereby increasing its profit.

3.4 Chapter summary

At the current level of development, process automation is one of the approaches to process management based on the use of information technology. This approach allows you to manage operations, data, information and resources through the use of computers and software.

Therefore, to improve the company's business processes, they must be automated. AsstrA is improving its technical support more and more every year, thereby simplifying the work for both employees and all business partners of the company.

The introduction of new technologies accelerates processes by optimizing resources: human, temporary, financial.

The result of the introduction of technology in the company was an increase in orders, an increase in the customer base and the effectiveness of transportation participants.

Thanks to the current policy of improving transportation safety, AsstrA will receive more and more regular customers, as well as more reliable carriers in their ranks, thanks to their thorough verification through coordinated work within the company.

CONCLUSION AND RECOMMENDATIONS

Transport is a very important part of the activities of enterprises, since it participates in many processes, fulfilling the tasks of the logistics system, in which coordination between participants in the transport process is necessary.

The result of the interaction and use of the transport logistics system is a high probability of meeting all the necessary customer requirements, which includes the delivery of the necessary cargo that will be loaded and delivered to the desired destination in the required quantity and quality at the most affordable price.

Technical communication in the transport complex means the coordination of vehicle parameters both within individual species and in an interspecific context.

Modes of transport include air, rail, road, water, and pipeline. The area can be divided into infrastructure, vehicles and operations.

In turn, each type of transport has its advantages and disadvantages, the main criteria of which are speed and cost, as well as accessibility and flexibility.

Automation of business processes is carried out using a project to implement an information system that automates not only accounting functions, but also business logic. Automation of business processes must necessarily address issues of interaction.

In the field of logistics, business process automation is more relevant than ever, because due to the inefficient construction of internal logistics processes in the world, automation of business networks has become an acute problem against the backdrop of general globalization.

Automation processes can reduce the time at all steps of the supply chain (from planning to delivery), it is also used in the entire field of logistics (procurement, storage, transport, customs, etc.), thereby making activities easier and more efficient, reducing the likelihood of making an error to a minimum.

For a long time, AsstrA has been a reliable partner in the market of logistics and transport services. The company offers comprehensive services, including the organization of international transport by various means of transport, import and export

support, customs services, warehousing services, cargo insurance, project logistics, as well as trading services.

The financial condition of the enterprise depends on the results of its production, commercial and financial activities.

Analysis of the financial condition of enterprises is carried out in order to improve the organization of finance and increase the efficiency of their use.

Effective financial and economic activity of an enterprise is an obligation to rely on a system of the most important financial and economic indicators. Their right choice depends on management decisions, structure and value of assets, capital of the enterprise and their profit. Thus, the financial situation is the most important characteristic of the economic activity of the enterprise in the external environment.

According to the results of economic activity, we can say that the logistics company AsstrA Ukraine has all the incentives for active development with a stable annual growth of all indicators.

AsstrA has already implemented a number of automated processes that already help employees save time on routine activities, and thereby provide more time for maintaining customer relationships. At the moment, the company has implemented automatic verification of suppliers' insurance policies, a unified database of documents, integration of truck telematics with the internal system, automatic distribution upon receipt of original transportation documents, notifications of readiness of bills for customs / client.

Despite an internal check of the company's suppliers, fraudsters sometimes manage to fake information about themselves. This was made possible thanks to forgery of insurance policies of another company, and they can also register companies with the same name as a real logistics company. If the logistics partner of AsstrA Ukraine has all the correct registration documents, a verified and paid insurance policy, experience gained over years of working with the company, there are still risks of loss, theft of goods, smuggling due to dishonest employees of the company's transport.

At the current level of development, process automation is one of the approaches to process management based on the use of information technology. This approach

allows you to manage operations, data, information and resources using computers and software.

Therefore, to improve the company's business processes, they must be automated. AsstrA improves its technical support more and more every year, thereby simplifying the work for both employees and all business partners of the company.

The introduction of new technologies accelerates processes by optimizing resources: human, temporary, financial.

The result of the introduction of technologies in the company was an increase in orders, an increase in the customer base and the efficiency of transportation of participants. Also, reducing the time for repetitive actions, improving the quality of work, increasing satisfaction, both among customers and employees of the company.

According to the results of the study, after the introduction of a number of automated processes, the company retains a fairly large amount of capital. The savings are due to the reduction of cash costs to the insurance company, on the payment of fines to customers for violation of the terms of the agreement (load failure, lateness), as well as the savings due to the reduction of expenses for repetitive staff actions.

Also, the introduction of software for process automation is a very big advantage among competitors, and is a key indicator when choosing a shipping company, as it gives more guarantees about the safe delivery of goods in integrity and in accordance with all necessary requirements.

Due to this, securing the trust of the client, the company does not just receive an order, thereby earning its earnings, but receives in its ranks a new regular customer who will regularly use the services of this particular logistics company.

Thanks to the current policy of improving transportation safety, AsstrA will accept more and more regular customers, as well as more reliable carriers in its ranks thanks to a thorough check due to well-coordinated work within the company.

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APPENDIX

Appendix A

Automation business process in AsstrA Ukraine