Influence of deviant behavior of transportation process participants on quality of transport service

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Abstract. The quality of service takes on great importance in modern conditions of competition in the market of transport services. It involves meeting the needs and expectations of the consumers. The problem of competitiveness management, including in the sphere of transport market services, requires a comprehensive study and significant scientific evidence. The study of competition development, increasing level of competitiveness has been conducted for many decades and is especially relevant in the modern economy. The article reviewed the Russian transport system and analyzes the quality of services provided road, railway, water and air transport. The technical reasons of service rendering quality deterioration in the sphere of transport are considered, subjective factors which have significant influence on qualitative indicators of transport service are established. It was established that such subjective factors can be called deviant behavior of participants in the transportation process. Also, these factors have a negative impact on the safety of transportation, an environmental situation, the consumer demand for transport service and the operational reliability of the transport system as a whole. Then, the ways of committing crimes on different modes of transport are highlighted and possible involved persons from among the participants of the transportation process are identified. Conclusions and proposals to reduce the number of crimes in the field of transport services are made.

1. Introduction
The quality of service takes on great importance in modern conditions of competition in the market of transport services. It involves meeting the demands of the consumers. Nowadays, between different modes of transport, customers are increasingly paying attention (under the same conditions of transportation) to the level of service [1].

The authors studied the research of various scientists in the sphere of transport services. Oleksii Khodakivskyi, Yevgenia Khodakivska, Oleksandr Kuzmenko, Maryna Shecherbyna, Olha Kolesnichenko [2] propose the improvement of the rail transport system by increasing the level of purposeful activity. It was noted that the railway should be active and flexible, which should consist in non-mass transportation (groups of cars; small shipments, container transportation, passenger transportation (in certain circumstances), where the level of competition with other modes of transport is high. Flexibility should be developed to the full establishment of carriage conditions that are at least
slightly higher than those offered by other modes of transport. This is a way to achieve and consolidate the position of "predator" in relation to other modes of transport.

Matthew PJ. Ashby, Kate J. Bowers in their research study the impact of metal theft on the railway. It is noted that the largest number of crimes are committed in England, the United States in places close to the railway and scrap-metal drive places. The article discusses the impact on railway infrastructure through metal products theft. The authors propose to regulate legislation in the field of scrap metal recycling [3].

David Patrman, Alena Splichalova, David Rehak, Vendula Onderkova in their work identify and describe various factors that negatively or positively affect the operation of the elements of land transport infrastructure. The authors point out that the impact of these negative factors can be minimized with the help of positive factors that determine the stability of transport infrastructure elements. These factors include reliability, recoverability and adaptability of various modes of transport [4].

Vladimma Stefancova, Eva Nedeliakova, Carlos Lopez-Escolano in their article offer a new approach in the development of training processes and services in accordance with the needs of the client. The authors propose to regulate the quality of services using a software solution, especially diagrams simulation. This method is a simple graphical method of simulation processes and transport constraints [5].

Jonas Matijosius, Aidas Vasilis Vasiliauskas, Krzysztof Knop, Róbert Berežný, Kaspan Eka Putra analyzed which criteria of quality of transport services predetermine their competitiveness and which factors mainly influence the key criteria of quality of service [6-9].

Having studied foreign and domestic experience, the authors concluded that the impact of deviant behavior of participants in the transportation process on the quality of transport service is poorly studied and this problem remains relevant.

2. Materials and Methods

The transport system of the Russian Federation includes rail, air, water, road transportation; transportation of passengers and cargo. The provision of quality transport services is impossible without the interaction of all components within the transport system.

The modern transport system of Russia is characterized by a developed transport network, one of the most extensive in the world and includes 87 000 km of Railways, more than 745 000 km of paved roads, more than 600 000 km of air lines, 115 000 km of navigable waterways and sea traffic. It employs over 3.2 million people, representing 4.6% of the working population.

Therefore, the term transport system should be understood as a set of different modes of transport of the country, their complex development, interrelation and interaction. The term "united" allows to study transport system, firstly, as the united (complex) mechanism-a dialectical method, secondly, to study transport and transport public relations from the perspective of the theory of systems [1].

Statistics of cargo and passenger transportation in the Russian Federation [2] are presented in table 1.

| Mode of transport | Cargo turnover. | Passenger-distance. |
|-------------------|-----------------|----------------------|
|                   | bln. tkm. | bln. pkm. | bln. tkm. | bln. pkm. | bln. tkm. | bln. pkm. |
| Road              | 248       | 255       | 259       | 124.3     | 123.4     | 122.9     |
| Rail              | 2344      | 2493      | 2598      | 124.6     | 123.1     | 129.5     |
| Air               | 6.6       | 7.9       | 7.8       | 215.6     | 259.4     | 286.9     |
| Sea               | 43        | 50        | 45        | 0.09      | 0.08      | 0.06      |
| River             | 67        | 67        | 66        | 0.6       | 0.6       | 0.6       |

Table 1 shows that the leading place in the transportation of passengers is occupied by air transport, and in the carriage of goods – by rail. However, it is always possible to reorient customers from one
mode of transport to another. It happens due to a number of reasons related to safety, cost of transportation, speed of delivery, quality of service.

The participants of the transportation process affecting the quality of transport services are:
- transporters;
- cargo owners (cargo shippers, consignees);
- passengers;
- intermediaries (freight forwarders, agents, rolling stock operators, etc.).

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The process of providing services includes customer service processes and the execution of the service. According to [4] the main indicators assessing the quality of transport services are the following:
- traffic safety;
- delivery period;
- convey safety;
- totality of meeting the demand for transportation;
- the regularity of cargo delivery;
- comprehensiveness of transport services;
- eco-friendly transportation.

The problem of competitiveness management, including in the sphere of transport market services, requires a comprehensive study and significant scientific evidence. The study of competition development, increasing level of competitiveness has been conducted for many decades and is especially relevant in the modern economy.

According to the research conducted by the author [3], the main reasons for customer dissatisfaction with rail transport are delay in cargo delivery and delay in cars supply on the way of non-public use for cargo loading or unloading. Technical reasons that caused the delay in the above operations are: irregular supply of empty cars, the practice of forcing the conclusion of agreements on the extension of delivery time limits, low speed of both loaded and empty cars (due to repairs and gaps), shortage of switcher, shortage of car fleet. Air transport: insufficient level of equipment of regional airports, low renewability of fleet of aircrafts, shortage of logistic operators. Sea transport: sea fleet deterioration, non-compliance of the regime and procedures of checkpoints with world practice; parameters of the majority of Russian ports do not correspond to modern technological and logistic principles; unsettled land and lease relations in ports; lack of tax and customs preferences accepted in world practice, including creation of port special economic zones. River transport: worn-out vessels, heavy duties on foreign equipment, poorly developed infrastructure of waterways. Road transport: low technical level of production facility of corporates, high level of harmful impact on the environment, low quality of roads.

3. Results
Having reviewed the technical reasons for the services quality deterioration in the sphere of transport, it is necessary to establish subjective factors that have no less impact on the quality of transport services. Such subjective factors can be called deviant behavior of participants in the transport process. Also, these factors have a negative impact on the safety of transport, the environmental situation, the consumer demand for transport services and the reliability of the transport system as a whole. It is necessary to identify and prevent these factors in order to improve transport services. The authors propose to consider these factors on each of the modes of transport separately; in order to develop an algorithm for solving and eliminating problems.

The main carrier in rail transport is JSC Russian Railways. The state owns 100% of its shares. In this regard, this industry has a fairly high control over the company's activities, including the provision
of services. Improving the quality of services is one of the main development goals of JSC "RZD". The quality management system is aimed at ensuring and continuous improvement of all quality indicators of transport services. The Federal Agency for Rail Transport, which acts within the powers of the railway administration of the Russian Federation, exercises direct control over railway transport.

On the basis of the analysis of criminal cases the following ways of Commission of crimes on railway transport are identified:
1. Theft of diesel fuel with its subsequent implementation.
2. Intentional understatement of the cargo tariff class, in order to reduce the fee for transportation.
3. Receiving and giving bribes for the supply and cleaning of cars on the way of non-public use out of schedule.
4. Commercial bribery.
5. Opening of container and packing of cargo unit, seizure of the part of contents followed by subsequent masking of penetration traces to the cargo.
6. Intentional underloading of the delivered goods followed by masking them as damage or theft en route or without it.
7. Intentional overloading of delivered goods (actual shipment of goods exceeding the amount specified in the shipping documents) in order to create a surplus of accomplices from among the financially responsible persons of the consignee for their subsequent sale or manufacture of unaccounted products.
8. False weight, cheating in accounts, incorrect determination of the quantity (places, weight, volume) accepted from the consignor for shipping. Surpluses created in this way are stolen.
9. Seizure of the investment part in the package or individual places, using the imperfection of locking features to get to the container (creating a splay and opening the container without breaking off the stamp and twirling), or penetrating the cargo for this purpose by breaking off the stamp and then fixing it again ("preservation" its commercial serviceability for visual check.
10. Preparation of fancy acts on virtually non-existent shortage of goods had been found in cars, arrived with serviceable stamps, and commercial rejects; underestimation of the actual amount of surplus cargo identified during the rail car sortation. Surpluses created in this way are stolen.
11. Intentional underloading of goods by masking them as theft en route or without it.
12. Filling fancy marks on the shortage of goods within the norms of natural loss or permissible discrepancy in the railway bill balance reading.
13. Theft of goods from containers and rail cars by opening.

Information carriers about thefts, as well as accessories to theft can be:
- locomotive crew (switchers crew);
- warehouse workers;
- shunting operators;
- gagers;
- loaders (multiple mechanized brigade);
- other railway workers;
- unauthorized person.

The following companies hold leading positions in the sphere of air transport: Aeroflot, S7 Airlines, Rossiya, Ural airlines, UTair.

The Russian Federation represented by the Federal Agency for State Property Management (Rosimushchestvo) is the shareholder of PJSC «Aeroflot». It owns 51.2% of the total number of shares of the company. Direct control over its activity is carried out by the Federal Air Transport Agency (Rosaviatsia).

Types of criminal acts detected by police officers on air transport:
1. Theft of cargo and baggage by civil aviation employees.
2. Theft of aviation fuel.
3. Causing property damage by deception or abuse of trust (Article 165 of the Criminal Code).
The first type of cargo theft and luggage by civil aviation employees is most common and committed:
- by removing appropriating the valuables from the shipment;
- in case of accidental or intentional damage to the package, when the responsibility may be offloaded onto other persons (due to negligence in work, infringement of rules, etc.);
- as a result of opening of boxes and packing with cargo without leaving visible traces (with preservation of edging, seals, stamps).

The subject of criminal infringement on the objects of aviation transport often becomes aviation fuel. Aviation fuel is considered a specialized type of fuel with high quality. It is almost impossible to commit the theft of fuel on one’s own, so the analysis of the criminal actions shows that representatives of various aviation services (shift chiefs, drivers, loaders, aircraft technicians, depot officer, etc.) take part in theft.

Detection of causing property damage by deception or abuse of trust, unlike other modes of transport, on this transport is a rare instance. There is a certain tarification of payment for transportation of goods (each product has its own shipping price, it depends from many factors). In order to save money, fright forwarders in the shipping documents indicate a different type of cargo that way they cause damage to the airline. This type of criminal action in most cases is committed with a representative of the airline (gages, loader, depot officer).

Possible persons involved:
- workers of the cargo terminal;
- aviation security service officers carrying out cargo screening;
- loaders-packers;
- the personnel of the air enterprise carrying out auxiliary technological operations on cargo handling;
- drivers of the airport apron bus;
- airline flight attendant responsible for revenue load on a particular flight;
- personnel not directly involved in the processing who are able to have information about the circumstances of the aircraft loading.

In the sphere of **water transport** there are many commercial and state carriers. Examples of such companies are the Far Eastern Shipping Company (FESCO), Murmansk, Northern and North-Western shipping companies, PJSC "Sovfracht". PJSC "Sovfracht" carries out carriage by sea and river, charter a ship, performs brokerage and intermediation transactions using its own and leased fleet; provides services in ship agency, cargo insurance, transports oversized and heavy cargoes.

The Federal Agency for Maritime and River Transport (Rosmorrechflot) exercises control over the activities of carriers on water transport.

Analyzing previously committed crimes on sea and river transport, we can divide them into two groups:
1. Committed in the route of cargo.
2. Committed at the stage of shipments formation.

1. The first group includes theft from containers by opening doors, theft of cargo by the crew of the ship under the pretense of unforeseen circumstances (emergency situation en route).
2. The second group includes theft in places of storage and processing of cargo on the territory of ports, stations, berths, regardless of departmental affiliation and form of ownership.

Methods of commission of crimes on objects of water transport:
1. Theft with forged documents, for example, registration of documents for cargo transportation removal.
2. Theft with misleading persons who are responsible for loading and unloading, for example, the cargo is loaded into another vehicle and stolen during cargo issuing to the responsible person.
3. Theft during the acceptance of cargo for transportation, as well as misleading persons who are responsible for loading and unloading.
4. Theft of bulk cargo by materially responsible persons.
5. Theft in storage areas by opening containers, damaging of locking devices.
6. Committing fraud against commercial organizations that are not directly related to the theft of cargo. Thus, a group of people acting by previous concert in case of handing over scrap ferrous metal to the warehouse of LLC "Primorsky Vtorchermet", located on the sea port territory, placed in the body of the car a container (volume 980 l) filled with water. After weighing the car with a scrap of ferrous metal and a container with water inside, when unloading scrap metal, water was drained. Then the car was weighed again. Thus, by deception, they overestimated the weight of the scrap metal and stole the money paid to them for the total weight of the scrap metal and water.

Causing property damage by deception or abuse of trust.

The conducted analyses of the criminal cases and scientific researches allowed to allocate the persons committing theft of cargoes of sea and river transport in the following subgroups:
1. Dockers-mechanics of sea and river ports.
2. Drivers of vehicles engaged in the delivery and pickup of goods from the territory of sea and river ports.
3. Crewmembers.
4. Persons providing cargo protection (security companies, enforcement agencies).
5. Unauthorized personnel who do not work in ports or other water transport facilities (former port employees who are aware of the port technological process).
6. Financially responsible persons (forwarders, gagers, stores foremen, crewmembers, representatives of firms, etc.).
7. Persons carrying out criminal acts without the theft purpose (Article 165 of the Criminal Code) — a separate group, which included:
   o Representatives of transport companies.
   o Customs officers of the Russian Federation.
   o Representatives of commercial facilities whose business directly depends on the transportation of large quantities of goods.

In the sphere of the road transport, a large number of commercial and municipal carriers are engaged in the transportation of goods and passengers. By providing services, road transport can be divided into passenger and cargo transportation. Control over this sector of transport is carried out by the Federal Road Agency.

The most common crimes that are committed in the sphere of this type of transport:
- poor quality of services that meet the requirements of life safety or health of passengers
- theft of goods;
- theft of vehicles;
- fraud at the buying and selling of vehicles;
- forgery or destruction of the vehicle identification number.

Let’s consider one of the most dangerous subjective factors that have a negative impact on the implementation of regular transportation of passengers and cargo, which is the use of vehicles with signs of forgery or destruction of the identification number of the body, car frame or engine. Criminal liability under article 326 of the Criminal Code of the Russian Federation is provided for the Commission of these acts. In identifying vehicles with altered identification numbers of the units can be also identified the documents for the vehicle with signs of forgery (motor vehicle certificate of title, Vehicle Registration Certificate) criminal liability for the criminal act provided by article 327 of the Criminal Code.

While studying the above criminal cases, it was found that the car frame, carriage frames were subject to change. The frame serial number printed at the manufacturer is destroyed. It followed by the marking of the number on the other side of the frame in a font and in a manner different from the font used at the manufacturer, for application on buses of this brand. In order to establish the serial number of the frame, it is necessary to send a request to the manufacturer of the bus on the parameters of the marking of buses of this brand.
In the structural part (car frame) of the bus were applied identification changes, which in itself is a ban for the operation of the vehicle carrying passengers and luggage. As a result, transport companies, which were found buses with changed identification numbers of car frame, body, provided services for the transportation of passengers who do not meet the requirements of life and health safety.

In connection with the above, police officers need to identify crimes related to changes in identification numbers of vehicles, pay special attention to commercial organizations engaged in technical inspection of vehicles, providing services for the transportation of passengers and luggage.

According to the authors, it is necessary in case of initiating a criminal case on the fact of changing the identification number of the bus body, to provide regular transportation of passengers and luggage and to consider the initiation of a criminal case under article 238 of the Criminal Code, on the fact of providing services that do not meet the requirements of life or health safety of passengers associated with transportation by road. Since passenger transportation services are provided by a vehicle having constructive technical violations.

The analysis of the current legislation, investigative and judicial practice showed that the application of measures of responsibility for the facts of the provision of services by regular transport is characterized by a lack of clear uniformity. In this regard, there are questions about the correct application of the provisions of article 238 of the Criminal Code in the provision of services related to the transportation of passengers by road. In criminal cases covered by article 238 of the Criminal Code of the Russian Federation, a forensic examination is required to establish the fact that there is a danger in the actions of criminals to the life and health of consumers, in this case to the passengers.

Identification of the crime is complicated by a number of factors:
- absence of information of operational divisions about commercial carriers, or about the municipal unitary enterprises which are engaged in rendering services in transportation of the people using in the fleet, buses with the changed identification numbers of units, and also technically faulty vehicles operation which is forbidden according to the current legislation.
- possibility of carrying out examinations connected with establishment of the qualifying sign in Article 238 of the Criminal Code of the Russian Federation "danger" that is necessary in the course of guilt prove of the person performing transportation of passengers, and also the person who has let out on a route of the vehicle without proper technical inspection.
- As a rule, a criminal case covered by article 238 of the Criminal Code is initiated against persons providing services for the transportation of passengers and luggage, according to the following facts:
  - committing a car accident that caused the death of a passenger or causing harm to a passenger’s health; facts of violation of regulatory legal acts regulating legal relations in the provision of services for the transportation of passengers and the operation of a vehicle are established.
  - carrying out preventive and raiding actions by police officers, for identification of technical malfunctions of vehicles engaged in transportation of passengers.

At identification of the persons (corporate body, or individual entrepreneurs) using vehicles rendering services in transportation of passengers, with signs of change of identification number of units (car frame, a body), it is necessary to consider their actions on essential element of offence provided by article 238 of the Criminal Code of the Russian Federation.

4. Discussion
In the article, the authors reflected the most common types of deviant behavior of participants in the transportation process, expressed in the commission of criminal acts on individual modes of transport and in the transport system as a whole.

According to the results of the research, conclusions can be the following:
- it is necessary to consider the technical possibility of online control over the movement of transport objects in the transport industry, to ensure safety and proper performance of contractual obligations of the transport process participants;
- consistent joint actions of all participants in the transportation process, specific systemic measures to address the problems of greatest concern to consumers of transport services are necessary.
- to regulate unscheduled technical inspections of vehicles engaged in transportation by different modes of transport, with the establishment of the algorithm of inspection by state bodies;
- to publish results of checks of carriers activity in mass media; it is necessary to use the Internet resources;
- to develop algorithms of actions of law enforcement officers aimed at identifying deviant behavior of participants in the transportation process and preventing negative consequences from poor quality services;
- law enforcement officers should use the results of the control of Federal government agencies to conduct procedural checks.

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