

# The impact of transport exchanges on the market of transport services in the process of realization of sustainable transport

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**Abstract** – The information age is characterized by the ability of individuals or businesses to freely exchange information and to have unhindered access to the market. Available online services allow fleet owners to offer available capacity and/or support goods for transport and the transport route that suits them. Also, such arranged services enable the owners of goods and/or providers of logistic services to submit a request for the transport of goods and/or to look for a transport vehicle and a transport route that suits them. This paper presents the forms and manner of functioning of services for the supply and the demand of transport services as well as their impact on the market of transport of goods in the Republic of Serbia.

**Keywords** – Transport exchanges, Transport market, Supply and Demand.

## I. INTRODUCTION

The law of supply and demand is an economic model for the formation of the market, ie the prices of goods and services. The information age, available services and transparency over the Internet enable individuals, entrepreneurs or companies to gather the desired supply and demand information, ie to access the market. For the need of the functioning of the transport services market, at the beginning of the twenty-first century, transport platforms were created and developed. Transport platforms represent supply and demand services of transport capacity and transport demand in one place. Such services are often called "Transport exchanges". They arose as a need of fleet owners to transport goods to reduce the distance traveled by empty vehicles. Reducing the transport distance of an empty vehicle reduces costs and increases revenue. At the very beginning, "Transport exchanges" provided the opportunity to

fill or replenish the available capacities on the transport route of an empty vehicle and participated in the total volume of collection of transport orders with a modest 5%. Today, a large number of users and providers of transport services rely on the supply and demand established on the "Transport exchanges". According to the latest research in the Republic of Serbia, transport orders collected through "Transport exchanges" participate in over 50% of the total volume of realized transport orders [2].

The aim of this paper is to present the functioning of the transport services market and the impact of transport platforms on the transport of goods by road in the Republic of Serbia, problems in working with platforms, challenges, risks and prevention. The paper presents the influence of transport platforms on the formation of supply, demand and prices of transport services and gives concluding remarks.

## II. TRANSPORT SERVICES MARKET

Achieving a sustainable transport process in the market of transport services is a goal that can be realized by the interaction of several factors, of which special stand out (Figure1) [1]:

- state, ie social community,
- educational, professional and scientific community and
- owners of fleets for transport of goods.

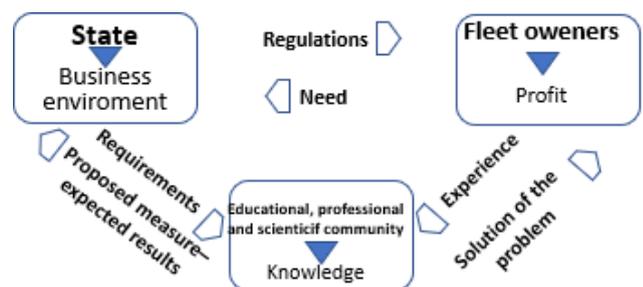


Figure 1. The process of realization of sustainable

The state as a socio-political community creates the most favorable solution for its citizens based on the current internal situation, and in interaction with the environment. The state develops the transport policy guidelines, time limits for its implementation, defines the restrictions, the degree of freedom, and the environment for the realization of sustainable transport. It creates an environment in which it will act as an educational,

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professional and scientific community, as well as fleet owners. The institutions of the system, in accordance with the goals of transport policy, shape the instruments of action through strategies, programs and plans, defining them as various legal acts and financial means for their implementation. [3] Adequately established environment directs transport towards sustainable development.

The educational, professional and scientific community has the task of pointing out the consequences of development in the coming period, which allows the state to adjust transport policy and make quality decisions. The challenge for transport policy is to use the results of various scientific and professional research in practice, as well as the analysis of the adoption and implementation of transport policy.

Fleet owners provide road transport services to commercial activities that meet market demand. The state does not determine which services will be provided, or where, or at what time. These are commercial decisions made by fleet owners in cooperation with their customers. The main goal of fleet owners is to increase benefits, ie increase profits. They adapt their actions to the defined environment, and through rationalization, look for a way to greater profit.

Fleet owners are faced with the daily challenge of offering quality and affordable prices on the transport services market, ie finding a new transport order in order to use the available capacities and reimburse external costs arising from the realization of transport services, which transport service users do not pay. Owners of freight fleets realize their participation in the market of transport services through public procurement and public calls for tenders, auctions or direct agreements with the owner of goods, subcontractors or providers of logistic services. In this way, fleet owners cede their available capacities to users of transport services [3]. A contract or agreement is concluded with the users and they contain the conditions of transport, the obligations of the subcontractor, the price of the transport service, the conditions of payment, etc. The transport service is contracted for: one-way transport route, return transport route, for a larger number of journeys and the same and/or different transport route, for the transport route and a certain period of time, by hiring vehicles on the motorway, etc. By contracting a transport service, a transport task or order is delivered to the vehicle owner. The order can be for a single vehicle or several vehicles and contains details about the place of loading, terms, type of goods, method of packing and securing the cargo, date and place of unloading of goods, additional notes, etc. After the successful completion of the transport task or the realization of the order, the vehicle is assigned a new transport task or an order with new details. Vehicles between transport tasks or orders must cross a certain route empty, without cargo. The length of the empty vehicle traveled depends on the organization and fleet management policy. Previously, the price of the transport service that the

users of the service were ready to accept gave the possibility of transporting the cargo in one direction and returning the empty vehicle. Economic crisis, competition, supply-demand ratio of transport requirements, etc. they affected the price of the transport service [6]. Fleet owners, in the desire for the greater profit on the one hand and the desire to reduce the costs of the transport task on the other hand, demand greater efficiency of their vehicles from the direct executors, which refers to the utilization of cargo space capacity and reduction of the distance traveled empty.

### III. TRANSPORT EXCHANGES

In order to meet new challenges and increase the effectiveness of their vehicles, fleet owners, goods owners and/or logistic service providers in freight transport, more often than before, use the services provided by transport platforms on the Internet, the so-called "transport exchanges".

Transport exchanges are supply and demand services of transport capacity and transport demand in one place. In the broadest sense, they can be divided into two groups, open and closed transport exchanges.

Those where access to users is free are open. The user of the transport exchange becomes a registrar, fulfilling the basic prescribed conditions and submitting the necessary documentation, after which the user is assigned an identification number. Access to open transport exchanges is charged. The user is given the opportunity to search the database by filling out a query, then to find a suitable offer and direct contact of the partner and finally in direct communication to reach an agreement or to withdraw from the offer.

Closed transport exchanges have limited access. The founders of such exchanges are large operators, logistics companies, transport companies, producers of goods, etc. Their subcontractors or users have access to such platforms. Their role is to reduce the work and pressure to which operators (commercialist and/or dispatchers) are exposed. By searching, the user finds the transport order that suits him, accepts the obligations by sending the necessary data and starts the realization of the order without direct contact with the operators. Access to closed transport exchanges is free of charge. The transport service is realized between the owner of the platform and the user, more precisely, there is no possibility of exchange of goods between the users or partners [4].

While on freight exchange, exchanges one can generally find available requests for freight transport, open transport exchanges offer a wider range of services. The largest number is the offer of cargo, but you can also find a public call for bids (tender), as well as offers of free vehicles, warehouses, transshipment spaces, parking spaces, vehicle maintenance services, consulting services, etc. The number of active transport exchanges varies, at the beginning of 2018, over 170

transport platforms were registered in Europe [2]. TIP Trailer Services, one of the largest European logistics companies, on its website at the end of February 2018, published the eleven most used transport exchanges in Europe [2].

On the territory of the Republic of Serbia, three transport exchanges are the most represented, two of which are from the list of the most used by Timo-com and Loads Today, and the third is Cargoagent. Timo – com belongs to the group of open with paid access, Loads Today is closed with access for registered users and partners, while Cargoagent is an open transport exchange.

#### IV. BUSINESS OPPORTUNITY ANALYSIS, CHALLENGE, RISK AND PREVENTION

According to the assessment of companies for the transport of goods by road in the territory of the Republic of Serbia, in which the research was conducted, it was determined that transport exchanges represent a challenge that increases the efficiency of the fleet and the risk that can jeopardize business.

##### 4.1. Challenge

Filling the available capacities with the help of transport platforms affects the effectiveness of fleets, and the indicators are increasing the utilization of vehicle availability by load capacity and volume, reducing the share of unladen journeys and increasing the number of loads with cargo.

The characteristic of transport exchanges is flexible access to the market, ie, if necessary, for the currently available capacities. Revenue from orders provided through transport platforms is higher than the costs of order realization and the costs of access to transport exchanges together [3].

##### 4.2. Risk

Business opportunities on transport exchanges bring business risk. Increased transparency and competition influence fleet owners to see their survival in the market in reducing the prices of transport services, thus jeopardizing the business of transport service providers whose business is based on trust and sustainable business relationships with customers. The system of business through lending provides the possibility of forming a continuous chain and this leads to a reduction of responsibility [3].

The risk is also posed by clients who are not reliable, the characteristic is that they delay the payment of the fee for performing transport services outside the agreed deadlines or do not pay their obligations. Such users of transport exchanges use the opportunity to withdraw an already assigned order to their subcontractor before realization without explanation. Then the additional costs, if any, are borne by the fleet owners.

Such clients are difficult to exclude from the system because they can always find a new user or subcontractor.

##### 4.3. Preventive

Transport platforms are not stock exchanges and do not meet the requirements of stock exchange operations, ie stock exchange operations represent a defined set of rules of conduct for participants in the organized market, stock exchange operations take place under the control of stock exchange bodies and are supervised by the state and its bodies.

There are transport platforms that are safer, more secure and more reliable, ie platforms that have established business conditions, controlled access and procedure when accepting new users, they also have legal services, control of participants' business, processing and sanctioning users who do not respect the meeting rules of conduct in the transport market.

In order to contract for the realization of transport services, it is necessary to define and use precise transport tasks, orders and contracts. It is necessary to anticipate these documents: possible risks of uncertainty and loss, extraordinary costs, insurance of vehicles and goods, etc [3]. Also, telecommunications services should not be provided to partners without previously defined restrictions. If the conditions allow, it is necessary to control the access to information by the staff and drivers, ie to entrust the business with important clients to verified commercialists and driving staff [5]. Report irregularities in business or criminal activities to transport platform operators and competent authorities.

#### V. INFLUENCE OF TRANSPORT PLATFORMS ON THE MARKET OF TRANSPORT SERVICES IN THE REPUBLIC OF SERBIA

In accordance with the defined subject, goal and basic theoretical assumptions presented in the previous chapters, this part presents the research of the impact of transport platforms on the market of transport services in the Republic of Serbia. In the period of August and September this year, a dependent research was conducted - a survey on a sample of 22 companies engaged in the transport of goods by road. On that occasion, a conversation was held with the managers and owners of the vehicle fleets, and significant information was gained. Transport platforms are used by 20 companies. Two companies do not use them. Companies that use transport platforms use the same operators. Timocom, Cargoagent and Loads Today use nine of them, Timocom and Cargoagent use seven of them, and four companies use only Cargoagent and they are companies engaged in the transport of goods by road in the Republic of Serbia, Macedonia and Bosnia and Herzegovina [6].

The data collected indicate that the percentage of orders provided by users through transport platforms varies and varies between 7% and 52% [3]. The largest number of orders is provided for fleets that have a set of vehicles in their composition (tractor with a semi-trailer), and semi-trailers are with a tarpaulin (body shape: flexible sides - tarpaulin). The reason for this is the fact that for this shape of the body and the length of the cargo space of 13.6 meters, the offer of orders is the largest. While the smallest number of orders via transport platforms is provided for fleets that have semi-trailers with a special superstructure (body shape: refrigerator, silo, tank, etc). The number of orders that dispatchers and salespeople provide using transport platforms depends on the transport route where the vehicles are engaged. Namely, in some countries global transport platforms are used, while in other countries they are not developed or only local ones are used, which are represented in certain countries or regions is a more extensive offer of requests for transport service on the mentioned platforms. Transport organizers try to use the vehicle available for work on the territory of the EU with transport orders as much as the administrative conditions allow (international agreements and/or CEMT conventions), ie as much as the available time allows until the appropriate return journey to the destination. Also, the organizers of the work of the vehicle use more transport platforms for return rides and to reduce the distance traveled by an empty vehicle in relation to the outgoing rides from the departure destination [6].

In a conversation with the owners of smaller fleets, who base their market share on transport platforms, it was found that they made contact and cooperation with most of their users through the platforms. According to records and available documentation, in these companies, the percentage of orders provided on the stock exchange is between 40% and 50%, but this number is higher than shown because they reached their customers through transport platforms, made direct contact with them and employ capacity beyond transport platforms [1]. Based on the presented results, it is concluded that the number of users of transport platforms is growing and that there is a positive trend of increasing the number of orders that are provided through transport platforms in the total number of realized transport orders.

The second part of the research was focused on the prices of transport services. Specifically, the research showed that the prices of transport services for the same distance traveled in the period from 2012 to 2018 decreased by 4% to 5% per year. Inspecting the documentation, it was determined that the price of the transport service for the mentioned period is lower by more than 20%. Such a drop in prices was contributed by greater transparency and competition, the economic crisis and recession, but also electronic business and transport platforms, whose influence on the market of transport services is becoming dominant [2].

## VI. CONCLUSION

Advantages and temptations on the one hand and disadvantages and risks on the other hand represent the limitations that transport exchanges resist in the market of transport services. Companies for the transport of goods in road transport are increasingly using transport exchanges and benefit from them.

The degree of development of the transport market is reflected in the development of business through transport platforms, which is the case in the EU. Good functioning of the transport market is a condition for successful economic development in a country and an indicator of economic trends [7].

On the territory of the Republic of Serbia, closed transport platforms whose organizers and owners are providers of logistic services that operate within world brands in the field of logistic services are taking an increasing part. Along with large logistic operators, domestic logistic service providers are also developing, which see sustainability in the market in the formation of transport platforms.

Stock exchange operations are a basic indicator of the functioning of the capital market in a country. Are transport platforms an indicator of the functioning of the transport market? Are the transport platforms up to the task assigned to them? The answers to these questions will be provided by time and analyzes that will be the subject of further research. Transport platforms that provide services and work in controlled conditions are necessary for the transport process and are inevitable.

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