Improving the organization of export transportation of raw materials through railway border crossings, taking into account the customs aspects of activities

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Abstract. In conditions of general liberalization of transport processes, maintaining the state’s regulatory role for coordinating transport sectors and links in the transport chain, international transport cooperation and developing international transport corridors, it is necessary to take into account that when organizing export transportation of raw materials one of the problems remains an objective assessment of their cost and based on it transportation charges with confirmation of permission to export goods from the customs territory of the Russian Federation, which authors try to resolve in the given research. Rail transport plays an extremely important role in the development of the economy of any state, since, by transporting goods in accordance with the needs of production, it ensures the normal functioning and development of all its industries, regions and enterprises. Rail transport is a vital branch of the economy that ensures economic security and the integrity of the state. The search for ways to increase the efficiency of transport and its component — international transport of raw materials — is an important area of a number of economic studies. This topic has become the subject of active study by Russian scientists. The article proposes an algorithm for improving the organization of transportation using the example of SWIFT RUS. The authors rightly note that the introduction of customs services at railway border crossings will allow transport companies to receive stamped electronic documents immediately after passing the state border container train.

1. Introduction

At present, Russia is an important participant in foreign economic activity, as it supplies many raw materials: oil, gas, metals, minerals, coal and timber. In addition to the implementation of export and import procedures, transit transportations are carried out in Russia, due to the convenient location of our country connecting Europe and Asia. The key importer of Russian raw materials is the People’s Republic of China, which annually increases the volume of export railway transportation [3-5].

Export railway deliveries from Russia to China began to develop actively in the early 2010s. China is actively purchasing Russian timber and wood materials, thereby raising the economic sector of the Russian Federation.

Currently, the development and implementation of accelerated container trains, capable of reaching the consignee in 15 days, when the transportation of goods by conventional checkpoints takes 25 days, is beginning.

The implementation of large-scale economic transformations involves building a qualitatively new format of cooperation between the state and business, based on transparency and openness of relations, a balance of public and commercial interests, the presence of clear strategic goals and guidelines, which, in
turn, leads to the modernization of transport infrastructure, rolling stock and the opening of new international transport corridors necessary for establishing new trade and economic ties [10-13, 27].

2. Study methodology
The purpose of the publication is to analyze the scientific literature, the regulatory framework and the results of scientific research on the organization of export transportation of raw materials with the aim of introducing a service at railway customs border crossings that allows transport companies to receive stamped electronic documents immediately after passing the state border container train. The following methods were used in the study: systematic approach, comparative analysis, analysis of official statistics; document analysis method.

The search for ways to increase the efficiency of transport and its component — international transport of raw materials — is an important area of a number of economic studies. This topic has become the subject of active study of Russian and foreign scientists. The problems of infrastructure support for the export of transport services in modern conditions discussed in detail in the works of Gasparik J., Katsuhiko H., Luptak V., Lyovin Toshinor NB. Ways to improve the efficiency of using transport infrastructure of international importance and its development given in the study by P. Kurenkov, S. Milošlavská. Questions to increase the economic efficiency of the formation of a support network of transshipment hubs on Russian railways developed by O. Pokrovskaya, Fedorenko R. s economic conditions are considered in Bubnova G., Efimova O. Thus, considering the fundamental features of Russian transport, it must be emphasized that, due to the scale and high extent of the territory, the transport infrastructure in Russia is not networked, as in countries of compact configuration (for example, Germany, France or the USA), but the main character, where the average transport the shoulder is much larger than the global average size [25-26]. Accordingly, this complicates the transport component in costs, especially in the delivery of export bulk goods far from the border, and at the same time increases the relative attractiveness for transport service operators.

3. Assessment and results
One of the ways to improve the organization of transportation is an objective assessment of its cost and on its basis the calculation of transportation fees. This based on the issue of paying 20% of the cost of international transportation of the container if the railway bill is not provided with confirmation of the permission to export the goods. This is a very serious problem, since such a situation leads to high costs [1, 6-9]. After all, if the container transported on a rented wagon, the company must also provide an agreement on international freight traffic (AIFT) with all stamps and the lessor, as they must also confirm a 0% VAT. If the railway bill of lading not provided, then all expenses are charged to the tenant.

In order to avoid such situations, it may be worthwhile to introduce fines for consignees who do not send documents confirming 0% VAT to Russia. Also, the invoice may simply be lost.

It is important for the company not only to complete AIFT upon completion of container transportation and delivery of the goods to the recipient, but also, in principle, to monitor the movement of goods throughout the journey. There are various programs for tracking the location of wagons and containers. For example, on the website www.railwagonlocation.com, you can track at what stage the wagon or container is located, whether and when there was a repair, the date, time and location of loading and unloading operations and border crossings [15, 24].

All this in case of emergency situations can help in some matters. If you enter an item on this website regarding shipping documents, it would be easier to track the documentation during the journey for both the sender and the consignee, and the carrier. AIFT rises and is viewed at border crossings. Also, the phytosanitary certificate, specification, terms of the acceptable stay of the container on the territory of the Russian Federation, etc. are also checked again. Customs inspection and inspection can also be carried out on the border territory. All information about these procedures is promptly entered into the database, from where everything is immediately sent to a site where you can track the location of cars and containers [23, 30].

Information on the site is always up to date. It would be useful if on this site, in the “documents” section, SMGS were scanned and placed with stamps of all passable authorities. This issue needs to be raise at the highest level, but its solution would facilitate the work of the export department in Moscow.

The disadvantages include the fact that such a procedure will require a lot of time to scan each sheet of each transportation agreement for each container. Also, the creation of such a server will require new costs and time, but this innovation also opens up the possibility of creating new jobs, which cannot but have a favorable effect on the economic and social sector of our country and the countries participating in
the transportation process. At first glance, it may seem that such an introduction is not able to boost the
economy and employment of the population. But we are talking about the implementation of this proposal
at all border posts, and this is the creation of more than one or two jobs [15, 28-29].

Of course, such a procedure requires considerable effort on the part of both the developers of the site,
and the customs authorities, and, of course, carriers and participants in the transportation process.

The result of the implementation of such a simple solution will be:
- simplification of the work of the head offices of carrier companies;
- the risk of loss of transportation documents will be minimal, and companies will already have a copy
  of SMGS with the stamp “export allowed”, which can and should be submitted to the tax authority in
  the future;
- creation of new jobs at border posts;
- the opportunity to provide places for practice to students of customs universities, as student
  practitioners will be able to at least get in touch with customs in practice [2, 17-20].

To confirm the positive effect of the implementation of this proposal, we turn to the following
calculations. At all border crossings there are technical devices: a computer, a scanner, an Internet
provider. For visualization, all parameters should be idealized, that is, imagine that there is no Internet,
free devices for scanning, and the computer itself on the p / p [14, 16, 21].

The basic option is to request SMGS upon arrival of the container at the destination.

The modernized version is to install at the border posts all the necessary device for entering data into
the information base on the Internet platform www.railwagonlocation.ru.

For clarity, we set the following parameters: the transport company sends 5 container trains per week,
which includes 42 wagons and 45 FEU containers from different regions - Krasnoyarsk, Irkutsk,
Novosibirsk. Accordingly, per day pass:

\[ 45 \times 5 = 225 \text{ct} \]

Trains pass through various railway posts of border control, the railway station Naushki is taken for
conditions. Also, in order not to waste time scanning additional AIFT sheets, the parameters will be taken
2 sides of one SMGS sheet, with the stamps “export allowed” and “goods exported”.

Table 1. Operating costs "SWIFT RUS".

| Indicator                                                                 | Unit of measurement | Symbol | Metric Value for Variant base |
|--------------------------------------------------------------------------|---------------------|--------|-----------------------------|
| Costs of research, site development, the ability to access from all devices | th. rub Cr           | 50     |
| The cost of one PC (monitor + system unit + necessary accessories)        | rub. Ppc            | 8,000+13,000 +3,500 = 24,500 |
| The cost of one scanning device                                         | rub.                | 6,000  |
| Cost and installation of one Internet provider                           | rub./ month Pint    | 1,900  |
| Hourly energy consumption for electronic devices                         | kwh Cel             | 220+100 = 320 |
| Cost of electricity                                                      | rub./kWh Pel        | 6,2    |
| The cost of using the electronic documentation reading service at any time after the invoice is entered in the database | rub./ page Pdoc 49 150 (both sides) |
| Service life of technical equipment                                      | years Tech          | 12     |
| The time required to scan and enter the full package of documents into an electronic database | minutes in full AIFT package (14 sheets) | 3,5 |
| Processing time for one AIFT sheet (consignment note + reverse side)     | hours for 1 sheet TI/h | 0,025  |
| Time allocated for the scanning procedure for 1 container train          | hour Tsc/h          | 1,1    |
| The number of scanned (requested) railway invoices per week              | waybills Qdoc/w     | 225    |
| Discount rate                                                           | -- E                | 0,5    |
Savings in operating costs for the subscriber and costs of the company "SWIFT RUS" for changing articles:
- electricity;
- Internet;
- the cost of the request for the service.

A. Save energy costs:

\[ \text{C}_\text{el} = H \text{pc} \times \text{T train/h} \times \text{Pel} \]

- \( \text{C}_\text{el} \) - electricity costs, in rubles;
- \( H \text{pc} \) - hourly power consumption, W * h;
- \( \text{T train/h} \) - the time required to scan the complete AIFT package for the entire train and enter it into the electronic database, hour;
- \( \text{Pel} \) – electricity price, W * h

There will be no calculation according to the basic version, since according to the condition of the task there are no free computers and sub-items:

\[ \text{I}_{\text{base/el}} = 0 \text{rub.} \]

According to the upgrade option:

\[ \text{I}_{\text{mod/el}} = \text{C}_{\text{mod/el}} \times \text{Tsc/h} \times \text{Pel} = 320 \times 1.1 \times 6.2 = 2182.4 \text{rub.} \]

For the time required for entering documents in the database, i.e. for active use of equipment.

**Electricity costs per week are:**

\[ \text{C}_{\text{el/week}} = 2182.4 \text{rub.} \times 5 = 10912 \text{rub.} \]

**Electricity expenses per month are:**

\[ \text{C}_{\text{el/year}} = 43648 \text{rub.} \times 12 = 523776 \text{rub.} \]

In a particular case, you can see that the basic version is more economical than the modernized one, if we consider the costs from the customs authorities.

B. Saving the cost of installing and using the Internet

\[ \text{C}_{\text{int}} = \text{Tint} \times \text{P int/el} \]

- \( \text{C}_{\text{int}} \) - electricity costs, in rubles;
- \( \text{Tint} \) - Internet usage time, months.
- \( \text{P int/el} \) - electricity price, in rubles/

\( \text{Tint} \) – the costs of the basic option are again zero, since the employees do not use the wireless network according to the parameters set for the task to send scans of railway bills.

\[ \text{C}_{\text{base/int}} = 0 \text{rub.} \]

In turn, the costs of the proposed proposal are:

\[ \text{I}_{\text{mode/int}} = 1 \text{month} \times 1900 \text{rub.} = 1900 \text{rub.} \]

The annual cost of paying for the worldwide information network is:

\[ \text{I}_{\text{mode/int}} = 1900 \times 12 \text{month} = 22800 \text{rub.} \]

**Cost savings for the introduction of the Internet is:**

\[ \text{C}_{\text{int}} = \text{C}_{\text{base}} - \text{I}_{\text{mode/int}} = 0 - 22800 = - 22800 \text{in year} \]

This difference \( \frac{p}{p} \) will have to pay off for using the Internet.

C. Cost savings for transport companies requesting transport documentation, using the example of regular shipments of container trains of LLC “SWIFT RUS”:

\[ \text{C}_{\text{doc}} = \text{Pdoc.} \times \text{N sheet} \times \text{Q con.} \]

- \( \text{Pdoc.} \) – price of service, rub. / sheet;
- \( \text{N sheet} \) – the number of sheets required for scanning, pcs.;
Q con – the number of containers for which SMGS is required, pcs.

The basic option for providing this service:

\[ \text{Cbase/doc} = (49 \text{ rub. x 2 sides}) \times 225 = 22050 \text{ rub. per week for 5 trains.} \]

\[ \text{Cbase doc/year} = 22050 \text{ rub. X 52 weeks} = 1146600 \text{ rub.} \]

According to the implemented option:

\[ \text{Cmode/doc} = 150 \text{ rub. x 225} = 33750 \text{ rub. per week for the provision of transport documentation} \]

\[ \text{Cmode. doc. /year} = 33750 \text{ rub. x 52 weeks} = 1755000 \text{ rub.} \]

Annual savings on request for bill of lading:

\[ \text{Cdoc} = \text{Cbase doc} - \text{Cmode. doc.} = 1146000 - 1755000 = 608400 \text{ rub.} \]

The amount that the payment order will receive if they abandon the usual mechanism for providing railway transport to transport companies and move on to the modernized version. Also, this is the amount that the company will have to pay if it wants to have the necessary documents in a timely manner at any time.

\[ \text{C} = \text{Cel.} + \text{Cint} = 523776 + 22800 = 546576 \text{ rub.} \]

will be required for the implementation of scanning tools and publication in an electronic database. However, these costs are borne by the railway border crossings and the state.

4. Conclusion

Based on the foregoing and calculated, we can conclude that it is necessary to introduce customs services at the railway border crossings, allowing transport companies to receive stamped electronic documents immediately after passing the state border container train. If you implement this function in life, then the costs will pay off in 2024. However, it is worth noting that the introduction of this service on the transport market and its use should be voluntary, i.e. when sending KP, the documents should state whether the company agrees to receive this option. In the case of a positive answer, payment should be made immediately as soon as all transport documents are submitted for verification.

The ability to sell container trains for export depends on assistance from states. Russia is investing money in the modernization of existing communications, as well as in the development of new accelerated routes for the delivery of goods. On the Chinese side, support is expressed in the provision of subsidies for the export of timber from Russia. Subsidies allow you to return part of the money spent on transportation. Russia has begun to adopt this experience and plans to allocate money and repay up to 80% of the costs of transport companies that won the tender to provide support to the Russian export center in 2019 [22].

So, in the context of globalization, without the inclusion of the transport complex of Russia in the international transport system, it faces the weakening of foreign economic relations, economic lag and political isolation. In this regard, the internationalization of transport infrastructure is a priority for the state and business, it should provide favorable conditions for the integration of Russia into the international production, information, transport and trade community.

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