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EFFICIENCY OF FREIGHT FORWARDER'S PARTICIPATION IN THE PROCESS OF TRANSPORTATION

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Abstract. Freight forwarder's participation in the process of transporting goods allows his clients to refuse unnecessary services and get focussed on the main competencies of a company. At presence, there is no common definition of the term 'freight forwarder' or identical legal regulation of responsibility and functions; therefore, the problems of unifying the international process of goods movement are confronted. This reduces the efficiency of activity and causes additional problems in the field of international trade. In the future, freight forwarder's role in logistics supply chain will rise and the clients will demand the whole package of logistics services. Therefore, special notice should be given to stimulate investments into the new freight forwarder's services.

Keywords: freight forwarder, carrier, transport, warehouse, investments, logistics, supply chain management.

1. Introduction

Business globalisation, the rising prices of energetic materials, the growing costs of labour force and the flow of cheep goods from the Eastern countries stimulate paying closer attention to the management of the chain providing logistics services while reducing logistics expenses in the cost price of goods and services. The importance of reducing logistics expenses in the cost price of goods and services was also underlined by Baublys (2003) and Schreibfeder (Шрайбфедер 2005). Besides, full attention should be paid to developing the main competence of a company i.e. orientation towards manufacturing and services supply refusing additional functions that are not typical for a company (transportation, physical distribution of goods, storage etc).

In such a situation, the need to use the services of the third parties appears when the specialized services are supplied necessary to assure the presentation of a product of any service for the final consumer. This process is called outsourcing. The main fields of outsourcing are the traditional fields of logistics management. Specialized companies may manage industrial logistics in competent, reliable, clear and effective ways. Companies gain benefit because of saving amounts and capacity that is assigned to the solutions of their outsourcings. The principles and benefits of the third party logistics approach when managing the chain of logistics supply were analyzed by Vasilis Vasiliauskas and Jakubauskas (2007), Miao and Xi (2008).

One of the main parties that provide with outsourcing is freight forwarding companies. A freight forwarder is an agent providing with services related to consignment on his own or by client's name. A freight forwarder frequently has to face a negative attitude towards the work of freight forwarding companies. On the other hand, it may seem that freight forwarders are the agents earning money from imperfections in organizing work in transport companies. Such an attitude may be explained only as lack of information about the role of freight forwarding companies in the process of organizing transport services.

A freight forwarder is nobody else but a transport architect. Precisely the freight forwarder organizing a consignment of various goods takes the responsibility for their timely and qualitative delivery. In addition, a freight forwarder provides transport companies with a large amount of consignment flood getting rate discounts from the prime rate and insurance companies. As a result, detention and time of transport services without consignment shortens markedly as a freight forwarder solves not only the problems of loading but coordinates the questions concerning overload consignments from one type of transport to another as well.

During intermodal transportation without a freight forwarder as an agent, an owner of any consignment should deal with a number of carriers which makes the process of transportation quite confusing. It would be difficult to realize such demands as speed, economy and

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safety. Also, receiving payments in the frame of buying-selling agreement would become slower. Meanwhile, the stimulation of goods circulation and financial interests always remains the most important feature in trade. In addition, any disorder of transport flow circulation directly affects the common market of good transit through other countries. These problems were analyzed by Litvenko and Palšaitis (2006) and by Šakalys and Palšaitis (2006).

Thus, the participation of qualified freight forwarders in organizing goods transport do not only increase expenses for transport services (commissions of freight forwarders) but also reduce these costs definitely due to the optimal choice of transport route and commercial discounts for transport and insurance rates. Improvements in technologies to transport goods and the application of models managing the flow of goods were analyzed by Baublys (2003, 2004), Bazaras and Palšaitis (2003) and Jaržemskis (2003).

2. Historical background for appearance of freight forwarding services

The appearance of a freight forwarder as an agent for goods transport is determined by the market regularities and historical features of developing transport services. The beginning of freight forwarding services can be considered to be the 17th century, when active trade development started and markets started growing up and receding from the centers of goods production. The expansion of the area of operations did not allow businessmen to carry out all operations and meet the requirements of local authorities necessary for loading, discharging and storage of goods on their own as they previously had done. The problems were overcome using the local businessmen who were not the parties in any agreements of buying-selling goods and their transport. Their services appeared as the reaction towards the need of trade. However, trade without the services mentioned above would be impossible.

The businessmen together with agents used to establish various forms of agreed relationships. In continental European countries, they used to be called as authorized persons, brokers, in England – agents, brokers, factors etc. Before the railway transport appeared, intermediation had functioned in various forms.

At the intersection of two commercial fields of activities – transport and trade – a representative (agent) was required to supply the services of specific nature. He was involved in production activity (surveying goods before loading to a ship and discharging) and legal actions (making an agreement with a carrier). The representative had to have different knowledge concerning tax payment, rules of import and export etc. A further step was the appearance of an agent as a 'forwarding agent' in the practice of the contracts signed by England. In the beginning of the 19th century, this innovation was introduced by the USA overland carriers in international cotton trade where the agent was called a 'freight forwarder'. He appeared as an inseparable party in the contract of goods transport and used to take goods from a sender, issued direct consignment and participated in the practical realization of the contract for goods transport. The competitive ability of goods was mainly determined by their quality and price. One of the most important elements of cost price is logistic expenses including transport expenses. They are higher in case if the parties of the buying-selling contract establish conventional relations with every carrier and freight forwarder individually. It is very difficult to calculate transport expenses in such a way. The best economical effect in this case is reached through delivering goods 'from door to door' using one transport document, transport rate and the unified system of responsibility for transported goods.

In the ideal model, freight forwarders could control the delivery of goods up to the destination post completely or to perform all the actions necessary for carriers at the transitional posts of delivering goods (reloading). Nevertheless, in this case, carriers should assign a part of transport services for market freight forwarders. Therefore, in many countries, carriers strive to supple services that are beyond the limits of common transport activity (goods storage, financial remittances, freight forwarding).

3. Legal regulations of freight forwarders' activity

Freight forwarding activity in different countries is regulated differently because of different legal systems. The peculiarities of legal freight forwarding activity were analyzed and provided by Kokin and Levikov (Кокин и Левиков 2005). At the same, the notion of a freight forwarding contract is different too. For example, in France, the freight forwarding contract is considered as a commission contract, in the legal systems of Great Britain and the USA – as an agent contract and in Lithuania as well as in practice of many other countries it is accepted as a separate individual contract determined by the regulations of civil law.

This is because the relations between a freight forwarder and a client are determined by two main legal systems – civil and common law. Dealing with the new tasks of commercial activity, a freight forwarder of a common law country first of all inquires if there has been any legal precedent on this question. Confidence is given by the existence of such legal precedent. A judge of a civil law system refers to a law and concept of services (e. g. assignment, forwarding, transport, commission contracts). Difficulties arise in applying these concepts in the new business contracts. Risk can appear that a court will apply any law misunderstanding a new commercial situation.

Every legal system uses the notions applied for establishing rules that can be differently interpreted in various countries. What is elementary for a Lithuanian jurist and businessman, it may seem quite complicated for his foreign partner. A different attitude towards freight forwarding is one of the obstacles when signing international freight forwarding contracts or international conventions on goods transport.

4. Making the freight forwarding contract and the peculiarities of applying the CMR convention

The main duties of the freight forwarder in Lithuania are determined by the Civil Code of the Republic of Lithuania. Freight forwarding is realized as the organization of transporting goods including all related actions intended in the contract to transport goods. A freight forwarder is a businessman who has made the contract with a customer and has obliged to carry his goods on customer's (customer client's) expenses performing all other related actions. The contract to transport goods is considered to be made since the freight forwarder confirms about the received order.

When making the freight forwarding contract, it is very important to establish whether a freight forwarder shall act as an agent (in the name of a client) or as a carrier (in one's own name) in the frames of this contract. Subject to taken responsibilities, a freight forwarder takes different consequences against the owner of goods or his authorized person in the case of complete or partial damage or lost of goods. It is established by the Supreme Court of Lithuania, that a freight forwarder participating in the process of transporting goods obliges to be a carrier (obliges to transport goods to the post of destination, despite the fact that he does not transport goods by himself and only performs services of freight forwarding) by the contract; he is responsible against a consignor as a carrier irrespectively of the fact he shall transport goods himself or assign this to the third party. Also, a freight forwarder who receives payment for all concrete transport is a carrier in accordance to the CMR convention unless it is established by the contract that he only performs transport services.

When applying the CMR convention, regard should be paid that a freight forwarder acting as a carrier is responsible for other people only when his agents or employees have acted not in their own names but in the name of a carrier and goods have been supervised and controlled by a carrier or other people, who have provided a freight forwarder (carrier) with services, supplied services related to the help while transporting and maintaining goods, but the control and supervision of goods were in the power of the main freight forwarder acting as a carrier in all cases in legal sense.

In the freight forwarding contract, freight forwarder's obligations to organize goods transport by the route and means of transport chosen by a freight forwarder or a customer may be estimated; freight forwarder's responsibility is to make transportation and other contracts in one's own or customer's name, to assure goods shipment, loading or discharging and to perform other obligations related to goods transport. In addition, the contract may intend a freight forwarder to supply additional services: to receive documents necessary for goods export or import from appropriate institutions, perform customs and other formalities, control the amount and condition of goods, loads and discharge goods, pay charges, taxes and other fees that should be paid by a customer (customer's client), protect and store goods and provide with other services.

Unfortunately, the laws of many countries appeal to the recognition of the contract to transport goods as the main one; the freight forwarding contract is considered as an additional one intended to maintain the main contract. Freight forwarder's services should be directly related to transporting goods which is not included into the matter of the freight forwarding contract whereas transport cannot be one of the elements of the freight forwarding contract. Simultaneously, the notions 'to organize services related to goods transport defined by a freight forwarding contract' and 'goods transport by means of a transport company' are different. If a carrier performs the functions of a freight forwarder at the same time, not the contract of transporting goods but a mixed contract involving responsibilities for both goods transport and freight forwarding is considered. This contract involves a certain selection of conventional obligations. Therefore, the relations between the parties shall be controlled upon the regulations of these contracts having the elements of a mixed agreement.

A problem would disappear if the interaction of goods transport and freight forwarding contracts was regarded at the stage of determining the future freight forwarding contract. Furthermore, the context determining responsibilities for the parties indicated in the freight forwarding contract should be discussed.

5. Services supplied by modern freight forwarders

Modern big freight forwarding companies do not limit their activities only in broking operations and organizing goods transport. They are involved in the process of transport acquiring and maintaining transport equipment in both inland and international transport. At the same time, goods owner is offered not only the services of freight forwarding but also the services of goods transport. Such developing trends of freight forwarding companies can be found in research performed by Bischof (2002).

In order to keep a customer, he is provided with services unusual for the notion of traditional freight forwarding. Regarding his own employees from transport branches, a freight forwarder sends them to customer's company. These 'in-plant' freight forwarders become effective means for supporting freight forwarder's relations with goods consignors and thus reduce data cycle and improve management decisions.

The largest freight forwarders may provide a customer with a packet of logistics and freight forwarding services including transport by different vehicles or intermodal transport. But there are a lot of small companies usually having up to 10 employees and calling themselves freight forwarders but having perhaps a rental office, workplaces and a computer. They can be called freight forwarders only conditionally; nevertheless, such companies constitute quite a big part of freight forwarding companies in Lithuania. There are a number of freight forwarders being in between these two distributions which provide with services regarding their customer's specific needs.

Almost no one doubts that freight forwarding companies will consolidate into larger ones, merge with companies or carriers providing with logistics services in the

future. This is related to global tendencies providing a customer all necessary services to supply chain management. Small freight forwarding companies will not be able to resist the tendencies of market globalization, and therefore will have to choose from two ways – to look for partners or to leave the market of transport services.

The first way is promising but requires big investments and determination of clear guidelines for strategic development. While planning investment projects, one may face up a problem when looking for finance sources, choosing the most optimal way or realization of a project and assuring the necessary profitability of investments.

6. Validity of investments in developing freight forwarding services

All investment decisions should be taken by the principle of alternatives and doing appropriate calculations. The decisions that best assure investor's intended objectives are optimal. Reasoning investments in freight forwarding development and employed criteria are met in researches conducted by Schanova and Popova (Сханова и Попова 2005) and Išoraitė (2005a, 2005b). Investments in transport and freight forwarding companies can include investments in loading equipment and mechanisms, garages, warehouses and storage equipment etc.

During the process of preparation and implementation, every project of investment consists of three main stages: pre-investment, implementation and exploitation. The amount and deduction of expenses the efficiency of which must be evaluated is formed at every stage.

Economical and financial benefit from investment in transport forwarding services is gained because of:

- reduction of loaders, freight forwarders and other employees;
- exploitation of better loading equipment and mechanisms and vehicles;
- vacation of circulating asset improving goods delivery;
- empting storage area;
- organization of immediate overload works;
- reducing detention of carloads and other vehicles while waiting for loading or discharging;
- reducing transport expenses;
- increasing the safety of transported goods and improving services to clients.

Having introduced new transport and freight forwarding services, economic effect is evaluated according to the formula:

$$E = P_a - I_s,$$

where: P_a – income received after new services during appropriate estimated period have been realized; I_s – expenses used for introducing new services during appropriate estimated period.

Statistical (short-term in regard to projects) and dynamic methods can be used to evaluate the efficiency of investments. On the ground of statistical methods, such indicators as average annual profit, profitability, payment point, period for investment payment can be used. When applying the dynamic methods of evaluation, such main indicators as net money flow and net discounted (present) value can be used. The use of discount allows comparing expenses and income of a different period.

Various elements of transport economic efficiency and freight forwarding services can be applied and their structure depends on the type of individually provided services. Their importance can be valued according to the final results such as improvements to goods delivery, the postponement of investments into building a new warehouse, modernization etc.

Time for goods delivery is one of the main indicators characterizing any transport system. Including price, it characterizes the chosen system of goods delivery and is an important feature of competitive ability for both the users of transport forwarding services and participators in these services.

Time for goods delivery can be reduced partly using the version of immediate overload, reducing the time of goods storage in warehouses and the number of the transitional posts of overload from one vehicle to another.

Onetime effect of improving goods delivery expressed by the vacation of circulating asset can be calculated according to the following formula:

$$E = \frac{\sum Q_{an} K_a \left(T' - T''\right) a}{365},$$

where: $\sum Q_{an}$ – all goods sent and received per a period of one year; K_a – the value of 1 ton of goods; $(T' - T'')$ – the periods of goods in warehouses at different time; a – coefficient evaluating goods weight influenced by time reduction for goods delivery (average value is 0.75).

The evaluation of economic efficiency in time reduction for goods delivery at regional and/or national levels is done using more complicated and time demanding methods. In this case, the weight of all goods in transit – the amount of sent goods and the amount of goods in transit carried by all vehicles – is valuated. General weight in tons of goods in transit carried by vehicles is calculated according to the following formula:

$$Q = Q_{day} T,$$

where: Q_{day} – the amount of goods sent per day in tons; T – the average time for goods delivery in days.

After estimating the value of 1 ton of goods in transit and multiplying it by the weight of goods in transit, the value of goods in transit in terms of money can be calculated. It is necessary to know that the average value of 1 ton of goods in transit without the price of goods being re-transported and the amount of discharge and delivery time depend on various factors characterizing immediate transit.

Organizing the system of transport forwarding services effectively, the postponement of investments can be assured more effectively using the present technical means. The efficiency of the postponement of investments into building additional storage premises as well as the efficiency of the improved goods delivery system can be estimated according to the following formula:

$$E_f = \sum I_{st}\left(1 - K_{postp}\right),$$

where: E_f – efficiency after the postponement of investments; $\sum I_{st}$ – general investments into building storage premises; K_{postp} – coefficient of postponement, $K \le 1$, evaluating secondary expenses in time opinion:

$$K_{at} = \frac{1}{\left(1+\Delta\right)^t},$$

where: t – time for which investments are postponed in the analyzed variant; Δ – annual interest of value increase; $\Delta = \frac{1}{t_{at}} = E$ (discount rate equal to the rate of desired profit from capital); t_{at} – the normative period of project payment.

Talking about the consolidation of goods transport (e.g. transporting goods in packets), the main results involve:

1. Benefit received from using recent and cheaper containers:

   $E_2 = I_{t1} - I_{t2}$,

   where: I_{t1} – expenses for containers before introducing the transport of consolidated consignments; I_{t2} – expenses for containers after introducing the transport of consolidated consignments.
2. Benefit gained after discharging employees from goods operations with unit orders demanding a lot of work and introducing the delivery of production in packets:

   $E_3 = NM_u$,

   where: N – the number of discharged employees per year n; M_u – annual payment for one discharged employee.
3. Benefit gained after reducing the loss of production, especially powdery products:

   $E_4 = P_k \Delta Q$,

   where: P_k – the value of a product unit per year in Lt/t; ΔQ – the loss of production established on the basis of statistical data for the previous year i.e. before consignment in packets assuring the delivery and implementation of the product almost 100% according to practice t.
4. Benefit gained after increasing the bearing capacity of thrust in permissible limits. Being aware of the fact that while introducing consignments in packet, some carloads may reduce and the effect may have a negative meaning i.e. may have loss that has to be evaluated using calculations:

   $$E_7 = \left(\frac{Q_{an}}{U_{load}} - \frac{Q_{an}}{U'_{load}}\right) K_{load},$$

   where: Q_{an} – the annual amount of production, t; U_{load} – carload before introducing consignment in packets; U'_{load} – carload after introducing consignment in packets; K_{load} – the price of the transport of the consignment loaded into one carload carrying it normal distance according to the data of a producer (consignor).
5. Benefit that preserves product appearance after introducing consignment in packets:

   $E_8 = \left(P_{kp1} - P_{kp2}\right) Q_8$,

   where: P_{kp1} – the price of the production unit having the required product appearance, Lt/t; P_{kp2} – the price of the production unit that slightly lost the required product appearance while transporting it, Lt/t; Q_8 – the amount of production that lost the required product appearance established according to the average statistical data, t.
9. Effect due to the increase of the load storage area (1 sq. m) in the same volume of production influenced by the increase of the height of the stowage of consignments in packets and the possibility of using the loading mechanisms for safer and mechanized works of loading to perform:

   $E_9 = \left(S_1 - S_2\right) I_{comp}$,

   where: S_1 – the area of storage used for non-packet consignments for the volume of production Q; S_2 – the area of storage used for consignment in packets for the same volume of production Q; I_{comp} – the average comparative expenses (for heating, electricity etc) to maintain 1 sq. m of the area of storage.

It is not the final list of possible benefits after introducing the new and modern services of transport forwarding as in every individual case a thorough analysis of the project is necessary to present the evaluation indicators and benefit of the project.

7. Conclusions

1. A freight forwarder organizes the transportation of various goods, takes responsibility for timely and qualitative consignment and supplies transport companies with large flows of goods. As a result, detention and time of transport services without consignment is markedly shortened. In such a way, the participation of skilled freight forwarders in the process of organizing the transportation of goods do not increase expenses for transport service and reduces costs due to the choice of the optimal transport route and commercial discounts for transport and insurance rates.
2. The ability of goods to compete at international markets mainly depends on their quality and price. One of the most important elements of cost price is logistics expenses including transport expenses. In this case, the best economic effect is reached through delivering goods 'from door to door' using one transport document, transport rate and unified system of responsibility for transported goods. The optimization of this process is possible while attracting freight forwarders.

3. Freight forwarding activity in many countries is regulated differently because of different legal systems. This does not allow unifying the notion of the freight forwarding contract and applying the same categories of responsibilities and functions.
4. The legal basis of many countries appeals to the recognition of the contract to transport goods as the main one whereas the freight forwarding contract is considered as an additional document and intended to serve the main contract. Nevertheless, freight forwarder's services should be directly related to transporting goods as the latter process very often cannot be the subject of the freight forwarding contract and transport which is the element of the freight forwarding contract in legal acts.
5. Modern large freight forwarding companies do not limit their activities only in broking operations and transporting goods. They are involved in the process of delivering, acquiring and maintaining transport equipment in both fields inland and international transport. At the same time, the owner of goods is offered the services of freight forwarding as well as transporting goods.
6. In the future, freight forwarding companies will consolidate into the larger ones trying to supply a complete packet of logistics services. It is related to global tendencies providing a client with all necessary services of supply chain management. Small freight forwarding companies will not be able to resist the tendencies of market globalization, and therefore will be forced to choose between two ways – looking for partners or leaving the market of transport services.
7. Freight forwarding companies offering new services must evaluate the benefit gained from investments in the aspect of time and efficiency. All investment decisions must be taken considering the principle of alternatives and having performed appropriate calculations. The optimal decisions are those fulfilling investor's objectives in the most appropriate way.
8. The benefit of economical and financial investments to transport freight forwarding operations is achieved mainly due to better loading equipment and mechanisms, vehicle exploitation, vacation of circulating asset, improvement of delivering goods, emptying storage areas, ensuring the safety of transporting goods, guaranteeing outstanding service for clients etc. The before mentioned situation should be evaluated by appropriate indicators.

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