MANAGEMENT OF TRANSPORT PROCESS IN INTERNATIONAL ENTERPRISES. THE LITERATURE REVIEW

Anna Brzozowska, Iwona Herbuś

Częstochowa University of Technology

Abstract: Globalization of the contemporary world, inseparably connected with expansion of international enterprises over new markets, generates development of new technologies and innovations as well as organizational changes in all the modes of transport. Proper management is of essential importance in international companies. This concerns both the whole organization and transport processes. This principle relates to all modes of transport which are necessary to realize the goals defined in the strategy of enterprise and covers planning, organization and control of technological process. These activities are characterized by high complexity due to formal and legal conditionings which occur in international legal trading. In assumptions for achievement of goals of international companies, transport services can be realized through the entities located in internal structure or specialized transport enterprises. Both cases require adoption of separate assumptions and activities in the process of transport management. Transport services or own tasks covering this scope of activities generate costs which must be considered within financial plans of the company.

Keywords: management, transport processes, international company.

In view of progressing globalization and development of world markets, it is necessary to ensure higher speed of activities and coordination of supply chains, which determines utilization of all the available mechanisms of managing international transport. ‘Management is a process of planning, organization, leadership and control of the work of the member of the organization and using any available resources of the organization’.[9] This planning is defined as setting of the goals of organization and pointing to possibly best methods to achieve these goals [4.]. Planning involves decision-making, which consists in selection of the mode of operating among the available opportunities. ‘Organizing means logical grouping of activities and resources’ [2.]. This element of management is of essential importance to proper functioning and coordination of different means of transport for achievement of a particular goal. Leadership means a process of managing activities of the group members or the member of the whole organization which is connected with performance of tasks and pressure on these tasks [9.]. ‘Controlling is focused on observation of the progress of the organization in achievement of the goals’ [2.].

Coordination of activities performed in transport processes, including international transport, requires implementation of control of timeliness, reliability and quality of the provided services which result from obligations defined by suitable contracts and orders. All the elements of definition of management are combined in the process of implementation of the strategies of sustainable development in international companies. One of the elements of proper functioning of this organization is transport, whose activity coordinated with company’s needs allows for expansion of the enterprise in the international market.
‘Transport is an activity which consists in providing services whose effect is moving people and/or cargo from the point of dispatch to the point of collection and providing auxiliary services, directly connected with these services’ [8.]. Mobile transport connected with international exchange represents one of the most important factors which impact on stimulation or inhibition of development of the market. In order for transport processes to be effectively performed, they should meet three fundamental functions:

1) Consumption: it consists in satisfying transport needs through transport services.
2) Production: satisfying production needs through transport services.
3) Integration: it allows for integration of the country and the society through transport services [8.].

All the listed functions of transport are covered within the provided transport services. Depending on the requirements imposed by transport services customers, transport process is realized through a variety of means of transport. Selection of modes of transport is affected by the conditions imposed by a contract or an order, in particular by time of transport, distance, passengers and goods safety, availability of the markets in terms of the existing communication routes. The most frequently used modes of transport include [8.]:

- Motor vehicle transport, which consists in moving people and/or goods by means of motor vehicles. It is characterized by flexibility and speed, which results from a dense network of transport roads. This allows for transport of passengers or goods directly to destinations. It is one of the most frequently used sectors of transport. Unfortunately, its disadvantage is an adverse impact on the environment. Popularity of this means of transport is determined by line infrastructure, i.e. network of the roads of different categories, which provide services for adjacent areas of different level and character of investment. Additional elements include stations, stops, reloading facilities, maintenance stations, petrol stations etc. This transport mode provides services to close and medium distances. The factors which affect popularity of vehicle transport include:
  • dense network of the roads of different categories, generating perfect availability to customers
  • high mobility of means of transport, which causes quick execution of provided services
  • spatial management with high saturation of a particular line infrastructure, representing proper communication services in local, regional and international markets
  • adaptation of the fleet to providing a variety of transport services (transporting goods of different type)
  • providing services without a necessity of reloading cargo.
This transport mode is successfully utilized by international companies during transporting products to neighbouring markets.

- Transport by rail, which consists in transporting people and/or goods by means of sets which are typically composed of a locomotive and a set carriages. This transport is characterized by large loading capacity of the means of transport. It also ensures speed of delivery, particularly in the case of transport between different countries. This transport is less harmful to the environment compared to road transport. It requires a line infrastructure, which is composed of rail lines, with additional elements including: railway stations, ramps, storage and reloading areas, side tracks etc. This transport mode is used due to the below presented features:
  • relatively low transport rates for short and medium distances, maintaining capability of mass deliveries
  • high reliability of transport by rail and regularity of services
• relatively extensive and well-organized network of connections with main supply and demand markets
• specialized rolling stock adapted to providing services of transport of different types of goods, including protection of special cargo.

This transport mode is successfully used in international transport companies for transporting mass cargo for shorter and medium distances.

− Transport by air is carried out using air means of transport. This transport is currently the fastest developed transport sector in the world, however, it requires huge capital expenses and highly qualified staff. It can be realized only between suitably prepared transport points. This transport mode infrastructure includes air routes, controlled regions of airports and airfields or landing strips. This transport mode is used for providing services for far distances and if lead time is essential. Selection of this means of transport by customers is determined by:
  • particularly beneficial time offer for transport services
  • ability to transport goods and products with specific requirements of temporal usability
  • high safety of transported cargo.

Transport by air is used by international companies, with particular focus on travels of managers or transporting special goods with special requirements of temporal usability, special economic or technical value. Popularity of this transport mode is still on the increase, despite high costs of services and insufficient availability of airports.

− Transport by sea means transporting passengers or cargo in ships, using waterways. A benefit of this transport is that it allows for transporting cargo with the widest range of transport susceptibility. This transport mode is used by international companies for transport of mass cargo or large-size goods to far or remote distances, frequently between continents. However, when using this means of transport, managers should bear in mind that it has some features which impede achievement of some goals in the strategy of the enterprise, e.g.:
  • excessive time of transport for goods which are susceptible to time and are not resistant to certain atmospheric conditions
  • low technical flexibility: insufficient number of specialized ships with majority of general-purpose units
  • long and complex customs and clearance procedures.

− Intermodal transport, which is numbered among complex transport processes, with cargo moved by means of transport from a variety of transport sectors. Transport of cargo occurs in the same transport unit or the same vehicle for the whole time from supplier to the customer. This transport is a particular type of multimodal transport. Moving transport units is realized through a variety of technologies: the most frequent combination is rail and road. This transport mode is used due to opportunities of combining benefits of both modes of transport, ensuring that the disadvantages are eliminated. The most essential elements of intermodal transport infrastructure is terminal. The network of the combined transport is composed of two links: terminals which allow cargo units for changing transport sectors and transport routes which connect terminals. In order for the combined transport to function properly, it is necessary to ensure proper organization of cooperation between participants and partners throughout the whole transport chain [8]. Intermodal transport is more and more often used by international companies due to its complex offer of transport of container cargo and deliveries.

− Multimodal transport, which consists in transporting cargo by means of at least two modes of transport, with transport changing cargo units.
Needs of enterprises emphasized in activities which consist in internal and external subcontracting of transport services represent demand and form supply, which is determined by individual means and modes of transport. The process of providing transport services is subject to market principles, similarly to each business activity.

‘Transport market covers a wholeness of mutual relationships which occur between the enterprises which represent customers and the entities which represent providers of transport services’ [8.]. Fundamental elements of transport market is demand, which expresses the intentions of customers (willingness to buy), supply, which reveals the intentions of vendors (willingness to sell) and price. ‘Transport services in the market offer different economic entities, with particular focus on: carriers, forwarders and logistics operators. Depending on the type of the entity, services are provided with different variants, however, all the involved are obliged to ensure professional services in terms of transporting passengers or cargo from the location of starting a travel to the delivery to the destination. ‘Price of a transport services is a cash-oriented expression of its value. It should take into consideration the cost of production and profit’ [1.]. Globalization today, enhanced opportunities for exchange of goods and more frequent moving persons causes continuous development of the market of transport services on local, regional and international scale. During realization of transport services, considerable role is played by market relationships. ‘Market relationships between the entities are formed by information about opportunities and conditions of sale of transport services and they depend of their economic strength. This strength, on the other hand, depends on the demand and supply of transport services and relies on the degree of freedom during making of particular decisions and taking activities.’ [8.]

Activities in terms of transport services are subject to more rigorous standards stipulated by international legislation, and more defined customer requirements. Development of global markets, expansion of new companies, dynamically changing financial situation of international companies requires coordination of activities from both managers in these organizations and from companies which provide transport services. Formal and legal requirements and the requirements resulting from the contracts cause a necessity to implement activities of extended logistic scope, constituting transport process management. Transport process is defined as a range of complex organizational, executive and commercial activities in order to transport cargos and people from one or several initial points, referred to as the point of collection by means of suitable means of transport [8.]. Organizational activities include e.g. preparation of transport documentation. Organization of transport tasks is a very important process for activity of transport, shipment, production and distribution companies. Their main goal is to deliver goods from the point of dispatch to the destination. Executive activities concern realization of transport processes. They are composed of the activities which involve vehicles, e.g. loading cargo. Commercial activities include issues connected with paying for transport of people and goods, e.g. purchase of air ticket. An important role in transport process is played by means of transport used for transporting cargo from the location of dispatch to the location of collection. Realization of international transport from the dispatch point located in one country to the collection point located in the other country frequently involves moving cargo through the area of the third country. This involves transit transport. Transit means sending the cargo by the country located between the country of dispatch and destination country. Apart from fundamental elements of transport process, one can distinguish between preparatory activities, i.e.

- formal and legal activities (concluding contracts, orders, completion of transport formalities, insurance of goods and persons)
- packaging and marking of products for transport,
- temporary storage in the designated places,
- completion of the cargo in terms of the most logistically beneficial method.
Figure 1. presents a structure of typical transport process.

![Figure 1. Structure of transport process [8.]](image)

Transport process can be divided into three basic activities. Two of them, organizational and commercial activities, are realized based on civil and legal agreements concerning the specific nature of the services. Third of them, defined as executive activities, constitutes the basis for transport activity itself, shown as a next step in the figure above. Transport covers fundamental activities, which determine transport services in a complex way, starting from reaching a location of loading. Next activity is loading and securing the cargo. Then a transport to destination, unloading and return of the vehicle to the base or a new location of loading takes place. All these activities must be coordinated and occur according to the schedule of transport services, stipulated in an order or a contract. Transport process is an essential area of functioning of companies, with particular focus on international companies. Functionality of this process and its coordination with the needs of organizations operating within global markets considerably determines credibility and standing of international companies.

Contemporary world has seen a widespread globalization of the economy, which is characterized by constantly adapted factors of production, goods and services. This economic process is accompanied by technological revolution, based on quick dissemination of innovations. This stage of economic development is characterized by expansion of international companies. International companies are organizations with headquarters in parent country, whose organizational structures are located in other countries, generating an essential part of revenues. These international structures are composed of a central headquarters located in the country of origin and branches or departments in the other countries. The central entity decides on the strategy of the whole company, defining directions of development, marketing activities and pointing to directions of expansion to other markets. It also has a decision-making powers in terms of corporate finance and controls activities of its branches and departments. In many cases the effect is from personal make-up in boards of directors and supervisory boards in dependent units, which are the commercial code companies. Strategic decisions made in international company are aimed at locating their company in another country and are preceded by a large-scale marketing and recognition activities in order to identify possible threats and benefits from existence in the new market. They include in particular:
− political stability,
− legal regulations, including fiscal conditionings,
− environmental standards,
− market saturation with the offered goods and services,
− expected demand for offered goods and services.

Global companies realize production or services on an international scale, using a homogeneous marketing concept, which, however, can be subject to modification and changes, depending on the needs in local markets. A fundamental principle for these companies is striving for their trademark to be recognized in international trading. However, global range is accompanied by local decisions and slight modification of products, depending on preferences of the customers. There are several methods for appearance in the international market. First and the foremost, export of products and services. It is also possible to enter into cooperation with local representatives, sales of patents and technologies, opening of branches and departments in another country and mergers. A number of causes of emergence of international companies can be found. They include in particular: increased effectiveness of company’s activities through establishing of international corporations, achievement of goals defined in a multi-year strategy of company, improvement in position in local, regional and international market, ensuring access to raw materials, access to new technologies and innovation solutions, avoiding restrictive legal regulations, particularly in terms of fiscal obligations which were used in previous localization of the company and its divisions.

International companies can be divided according to:

− Scope of activities:
  • local and neighbouring (covers a parent country and neighbouring country)
  • regional (operating in the given region e.g. within the EU),
  • global (operating almost all over the world),

− Organizational structure and models of management:
  • enterprises with dominant role of a parent company,
  • enterprises where essential role and autonomy remains in company’s branches (international holding),
  • integrated international companies.

International companies have effect on the structure, dimensions and directions of world import and export, generating development of global transport. These companies extend the area of their territorial effect and tighten the relationships between each other. This situation causes evolution of the system of communication and moving people and goods towards shortening time of transport and improvement in its conditions. Transport companies organized their activities based on these needs.

Transport company means any organized form of supply-based market: it has the name which can be identified with a specific product of transport services. Management of transport companies is a multilayer and multi-aspect economic process, which can be defined as a system of actions which regulate functioning of organization according to previously defined goals. Strategic management is the holistic concept of management, which is aimed at preventing negative external trends and finding efficient competitive edge which ensures survival and achievement of the set company goals [6]. The most important feature of this process is concentration of the interested group of managers in company environment, investigation of changes in law, technology, macroeconomic processes, behaviour of customers, competitors and suppliers.
In consideration of current obligatory regulations in terms of conditions of transport services, this activity can be realized in the listed entities which exist within legal trading:

− transport entrepreneurs (economic activity in return for money in term of transport services), who run business activities professionally, on behalf of themselves, in an organized and continuous manner based on the Act as of 19 November 1999 on business activity in Poland:

− transport civil companies, operating based on the Civil Code of 23 April 1964,

− transport unlimited companies, operating based on the Commercial Companies Code of 26 July 2000,

− transport limited partnership companies, operating based on the Commercial Companies Code of 26 July 2000,

− transport limited liability companies, operating based on the Commercial Companies Code of 26 July 2000,

− transport joint-stock companies operating based on the Commercial Companies Code of 26 July 2000,

− transport associations, operating based on the Act on association of 7 April 1989,

− public transport companies, operating based on the Act of 25 September 1981 on public companies [7].

Moreover, in the companies of different profiles of production and activities, organizational units can be established in order to provide external and internal transport services. Managing transport companies is oriented towards recognition and utilization of the methods of impact on organizational structure, being an essence of the given economic entity. The area of interest of this discipline includes in particular:

− identification and definition of the goals of company’s operation,

− formation of the functions of the goals of operation in strategic, operational, tactical and operative aspect,

− development and practical use of procedures of making managerial decisions, based on legal regulations which oblige a particular company.

Management of transport company is mainly of normative character and covers.

− planning of transport production,

− organization of execution of transport processes,

− motivating employees in terms of preparation and execution of transport services,

− controlling the wholeness of production tasks [7].

Management of transport processes in international companies must additionally take into consideration political and legal reality in terms of realization of particular goals and the defined short and long-term strategies, whether the services are provided by organizational units localized inside the company or they is subcontracted to other companies which are included in legal turnover. Managerial processes connected with managing transport in international company cover the principles and methods of management: operational, marketing, financial and strategic ones. Similarly to any other activities, transport services must be taken into consideration in financial plans of the company due to the costs it generates.

‘Carrier’s costs are a total of expenditures on human work and machine works due to the realized transport services, expressed in monetary values. Therefore, they include, apart from expenditures on consumption of basic and auxiliary materials, fuels, energy and tools, expenditures on salaries, including social insurance for the employees’ [1]. They are also referred to as a costs of transport services’ producer. Total costs of transport are of variable
character, they depend on transport sectors, value of production, country and period when the transport is performed. The following criteria for division of these costs can be distinguished:

- the entity they concern,
- unit of reference,
- type of costs,
- period they concern,
- relationships with production processes,
- opportunity of effect on the level of costs,
- opportunity of cost division [5.].

Due to their relationship with the processes of production, costs are divided into direct and indirect. Indirect costs include expenditures connected with individual types of transports services. They are divided into departmental and overhead costs. Departmental costs are connected with particular type of services, e.g. social insurance and salaries of the non-production employees who perform activities in favour of the services. Overhead costs are connected with organization, company’s management and are not connected with a particular type of the activities. Direct costs are incurred for providing transport services. They include costs of fuel, depreciation of means of transport etc. In relation to the costs connected with production process, one can divide the costs into fixed and variable. Fixed costs do not depend, to some extent, on the scope of activities e.g. vehicle insurance, licences, facility costs. Variable costs can be categorized into:

- costs which depend on the distance,
- costs which depend on the mass of transported cargo,
- costs which depend on the mass and the distance [1.].

Internal costs of transport can be divided into physical and non-physical costs. Physical costs can be connected with using objects of work and resources such as: repair services, electricity, fuel. Non-physical costs involve consumption of human work, non-physical services e.g.: remuneration for work, costs of business trips, taxes on real estate.

A final cost of transport services should also be emphasized. It is a necessary cost incurred on production of an additional, final transport services. It is an increment of total cost caused by the increment in production of transport services [1.].

All the activities connected with the executed transport services, must be presented, within the content-related and financial scope, in suitable documents which contain the subject and the cost of services.

System of documents is formed by a number of economic and political factors. This means that transport documentation differs depending on a country. Therefore, this process is most complicated that in the case of domestic transport. In order to simplify international documentation, a number of measures are taken in order to unify and simplify the formalities. A uniform, international standards and limitations are prepared.

Basic documents used in international transport include:

1. Motor vehicle transport – international consignment note
2. Transport by rail – international railway bill
3. Transport by sea – international sea waybill
4. Inland water transport – inland waterway bill
5. Transport by air – international air waybill
6. Multimodal transport – international FIATA multimodal transport bill of lading

Additionally container transport is based on ICF transfer note and CMR international consignment notes.
Fundamental legal acts used in transport include [3.]:

- **Motor vehicle transport**
  
  In Poland, uniform norms and standard for access to carrier profession and the market, in the case of both international and national transport is regulated by the Act of 6 September 2001 on road transport, Journal of Laws 2001, No. 125, pos. 1371.
  
  
  
  CMR convention regulates the relationships which result from content of CMR international consignment notes, prepared by forwarders or goods dispatcher and signed by the driver on behalf of the carrier.
  
  
  ADR – convention concerning road transport of hazardous products (1975), appendix to the Journal of Laws 1975, No. 35, pos. 189
  
  AETR – agreement on work of vehicle teams which perform international road freight services, Journal of Laws 1999, No. 94 pos. 1086,1087.
  
  ATP – Convention concerning transport of quickly decaying foods and special means of food transport - Journal of Laws 1984 No. 49 pos. 254

- **Transport by rail**

  In European international transport by rail, two legal freight systems are functioning:

  CIM, based on the Convention of 1980 on international rail freight COTIF. COTIF is composed of two appendixes:
  
  - Appendix A, concerning transport of people and luggage (CIF)
  - Appendix B, concerning transport of cargo (CIM) Published in Journal of Laws 1985 r. No. 34 pos. 158.
  
  CIM bill of lading should be prepared in two languages: country of dispatch and in French, German or Italian.
  
  In the case of rail deliveries within the association of Intercontainer – Interfrigo (ICF), a documents which confirms conclusion of the agreement is TR (transfer note).
  
  SMGS, based on the agreement on international rail carriage of cargo from 1951, obilges mainly in the countries of former CIS. The document signed by national representative of ICF (in Poland this means Polcont company) represents a confirmation of acceptance of a delivery for transport.

- **Air transport**

  International air freights are subject to Warsaw’s Convention of 1929 or Montreal’s Convention signed in 1999. There are also ordinances by the IATA (the International Air Transport Association), which are in force between the carriers and the ordinances by the International Civil Aviation Organization (ICAO).
  
  In Poland, international air freights are regulated by the Aviation Act of 3 July 2002 (Journal of LawsNr.130, pos. 1112 with further amendments). The Act adapted Polish law to EU requirements.
  
  International Air Waybill (AWB). It defines the relation of dispatcher and receiver of goods to the carrier and it constitutes a settlement document in relation of importer-exporter, since it confirms the quality and amount of the transported goods.

- **Transport by sea**

  
  Consignment note:


In Poland: Marine Code of 18 September 2001 (Journal of Laws No. 138, pos. 1545). Regulation of the Code are not applied if other regulations are contained within the international agreement where Poland is one of the party.

- **Intermodal transport**

- **Others**
  The Transport Act: Journal of Laws 2000 No. 50, pos. 601 with further amendments.

The above listed legal acts, being a regulation of conditions for transport realized in different countries, provide the basis for uniform documents necessary to provide transport services by different types of means of transport. Transport companies and international companies which realize transport process on their own are obliged to act according to these regulations. Through this type of regulations it is possible to conclude international contracts of transport services based on legal conditions.

**Summary**

Driven by globalization, emergence of the companies which function outside the borders of their parent entity is an increasingly frequent occurrence. Management of these organizations requires detailed determination of decision competencies and the competencies of each branch. One of the areas which call for concrete solutions is management of transport of employees who move between the branches, means of production, materials and final products. This process must correspond to performance of tasks defined in the strategy of the company, take into consideration all transport solutions, beneficial in organizational and economic aspects. Depending on whether the services are located inside the company or they are subcontracted to another company, the scope of duties resulting from the process of management of transport contains different elements.

If a company has their own transport department with a suitable base and vehicle stock, the process of transport management includes the following activities:
- Organization of transport base,
- Purchase, technical inspections and simple activities to maintain the stock,
- Subcontracting stock repairs,
- Employing, training, remuneration and motivation of employees in transport divisions,
- Coordination of the activities in terms of scheduling drivers working time,
- Knowledge of sector regulations and their adaptation to the performed transport activities,
- Knowledge of relevant legal requirements within the country where transport tasks are performed,
- Care for timeliness of the performed tasks, according to the concluded agreements and obligations and contractors’ requirements,
− Bearing consequences and costs of non-performance of the concluded agreements, within the scope depending on proper transport and skilful coordination of transport,
− Bearing fixed and variable costs generated by internal transport.

In the case of subcontracting of transport services to other companies, obligations of transport process management in international companies are considerably limited, however, the importance of the decisions should also be emphasized. The most essential is location of the order for transport services beneficial to the company. An unconditional obligation is verification of credibility of the contractor and transport opportunities, particularly in terms of technical and technological requirements. A consequence of these activities is short- and long-term contracts, which should secure interests of both subcontractors and customers. Bearing that in mind, the scope of managerial activities in terms of transport process in the case of orders requires concluding beneficial contracts and their reliable exertion. Based on demand for transport services, transport companies are established. They specialize in transport of passengers or certain products. Similarly to other domains of economic life, transport is also characterized by specialization of companies according to the type of services and transport of special goods or materials. To catch up with the needs of international companies, intermodal and multimodal transport is developed. Similarly to improvement in means of production, means of transport are also improved. In the reality of today, with continuously more rigorous requirements of the quality and timeliness of transport services, execution of contractual obligations and time pressure among senior managers, functional management of transport processes is of huge importance. All the activities included in the definition of management must be realized within this process. Transport process must be based on planning, which contains the elements of coordination of routes and means of transport depending on the needs notified by the contractors in consideration of suitable budgetary provisions concerning realization and purchase of appropriate transport services. Fundamental function is organization, which might considerably affect the cost of services. It covers fundamental activities of transport process such as reaching locations of loading, the activity of loading, securing the cargo, freight, unloading, return to the location of loading and the accompanying activities such as: care for the state of means of transport, trainings for drivers, suitable working schedules. Management of this process is also important from the standpoint of the a complex scope of provided services, through to coordination of contractual obligations, utilization of means of transport and supervision over the staff directly performing particular transport services. However, one of the most important functions in transport processes is performed by controlling, which determines the safety of passengers and materials. Controlling is an element of management, which is paid a particular attention in contemporary globalized world. All the activities of transport process are regulated by certain legal acts which must be respected by both transport enterprises and international companies. These regulations cause unification of transport documents in international trading and conditions of the provided services. Transport process is an essential element of sustainable development of enterprises, also international ones. Importance is attached today to the conditions of its ecological functioning, particularly in terms of utilization of ecologic fuels. This problem will have to become an element of transport process in the nearest future.

References


[5.] MARSZAŁEK S.: Organizacja zarządzania w transporcie, Wydawnictwo Śląskiej Wyższej Szkoły Zarządzania, Katowice 1999, 139-140.


