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GLOBAL LOGISTIC NETWORK OF COURIER SERVICES FOR THE 21ST CENTURY

ABSTRACT

The development of logistics has contributed a lot to all the branches of economy. A successful economic subject cannot exist without a well-developed logistic branch. In economics the organization of logistics is becoming a strategic element regarding the policy making of enterprises. Logistics belongs to an area that will play an important role in our lives; therefore, the development of a logistic system is of an exceptional significance for the economy and also for the non-economic sphere of activities. So, modern logistics enables us to bring into line different interests in management of material current. Global organizers of logistic services are developing and specializing in some essential services, such as combining of cargo into assembly consignments and also their distribution. The biggest global tenderers of logistic services are considered, DHL, TNT, FEDEX, UPS...

KEY WORDS

logistic network, courier services, global logistic networks

1. INTRODUCTION

Nowadays we are all striving towards bigger realization at the lowest possible costs. Care for production and exchange is becoming bigger and bigger, and so are the flows mostly organized as inevitable supplementary activity which is not always as effective and successful as it should be. *The scientific problem of the research: taking into account the fact that courier services have gradually been developing for several decades, until today global networks of logistic courier services still have not been formed, because this topic has rarely been a subject of discussion.*

From the above-mentioned problem of the research the subject of the scientific research is derived: *to research and formulate results about theoretical characteristics of logistic networks and courier services in general, especially of the global network of logistic courier*

services, and to suggest concrete measures for transformation of the global network of logistic courier services for the 21st century.

The problem and the subject of the research refer to the complex and real subject of the research: the global network of logistic courier services.

The basic scientific hypothesis: development and affirmation of courier services and logistic industries result in a necessity for formation of a rational global network of logistic courier services for the 21st century.

2. THEORETICAL CHARACTERISTICS OF LOGISTIC NETWORKS

The phenomena about logistic networks are elaborated selectively with the purpose of cognition, understanding and use of the most important characteristics of creation, formation and use of logistic networks and their important segments.

2.1. Logistics as a science and logistics as an activity

Logistics as a science is a collection of interdisciplinary and multidisciplinary knowledge, which teaches and demonstrates laws in several activities, (functions, processes, measures, businesses, rules, operations...), that functionally and operationally connect all separate processes of mastering spatial and timing transformations of the materials, goods, semi-manufactures, production materials, capital, knowledge, information, into fast and rational (optimal) unique logistic processes, currents of material, capital, knowledge, information from the input to the output point. Of course with the aim of reaching with minimal resources and potential input (buyer,

user of services), maximum output of demand, based on tender, in the form of concrete and appropriate logistic services within concrete and existent logistic systems.

Logistics as an activity denotes a collection of planned, coordinated, regulated and controlled immaterial activities. This can be understood as a function of a process, amount of business and an operation of work, with which all processes of mastering of spatial and temporal transformations of the material, goods, semi-manufactures, production materials, capital, knowledge, information are functionally and operationally connected to achieve a fast and rational logistic process from a consigner to a consignee. Of course with the aim of reaching with minimal input the maximum output of the market's demand (buyer, user, consumer). The notion of logistics as a science differs from the contents and characteristics of logistics as an activity, because logistics as a science presents the most important basis for logistics as an activity. [2,5]

2.2. Notion and elements of logistic networks

Based on the present level of scientific and technological development, especially logistics as a science and logistics as an activity, it can be asserted that a *logistic network is a system of interacting logistic centres, roads, corridors, routes, lines (...), logistic chains, logistic-distributional chains, transport chains, transport networks (...), which have the same sphere of interest and make fast, economical and rational processes of logistic products possible.*

Based on qualitative and quantitative analyses of the notion of a logistic network it can be asserted that every logistic network has its fundamental elements: *logistic network of eyes, logistic network of knots, logistic sides between logistic knots or sides of logistic network eyes.* (cf. Fig. 1)

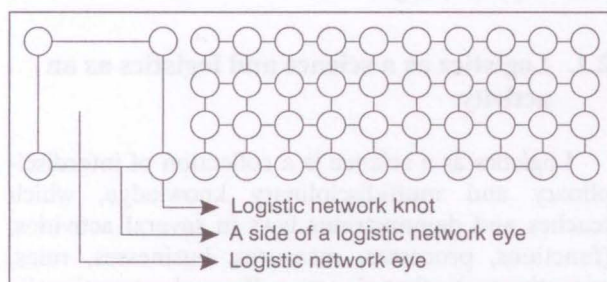


Figure 1 - Elements of logistic networks

Every element of logistic networks has its own fundamental characteristics:

- *Logistic network eyes* represent smaller or bigger geographical areas of different shapes limited by roads, corridors, canals, lines (...). More of such areas (i. e. eyes) can represent smaller or bigger lo-

gistic-gravitational zones around bigger or smaller logistic-distributional centres or logistic centres within logistic networks, in which logistic and transport chains are functioning (...).

- *Logistic network knots* mostly represent bigger or smaller *logistic centres* wherein warehouses, terminals, duty-free zones, trade centres, distributional centres (...) are operating and are connected with logistic-distributional chains or logistic and transport chains, respectively (...). *Logistic network knots* can also be logistic-distributional centres or distributional centres that function in certain logistic-gravitational zones with the help of logistic-distributional chains or logistic and transport chains, respectively (...).
- *The sides of logistic network eyes* represent roads, railroads, aircraft corridors, ship lines, water canals, rivers, lakes, pipelines, gas conduits, product routes (...). These *threads in the sides of logistic networks* can also represent transport chains, logistic chains, and logistic-distributional chains (...). It depends on the model, size, and complexity of a particular logistic network (...).

2.3. Fundamental characteristics of important types of logistic networks

Based on their fundamental characteristics, all logistic networks can be classified into six particular types: [2,91-120] *conventional logistic networks, multimodal logistic networks, micrologistic networks, macrologistic networks, global logistic networks and megalogistic networks.*

- *Conventional logistic networks* have their logistic centres or their subsystems (e. g. distributional centres) directly connected with suppliers or warehouses, terminals, trade centres, distributional centres (at other locations), logistic centres (at other locations), and buyers and consumers. *Logistic network eyes* are in conventional logistic networks connected with roads, lines, canals, corridors, transport chains, logistic chains, logistic-distributional chains (...). *Logistic operators* and transporters play the key role at the functioning of *conventional logistic networks.*
- *Multimodal logistic networks* have a characteristic of having a direct interacting connection of several logistic centres vertically and several logistic centres horizontally with the belonging logistic subjects. In multimodal logistic networks many different means of transport take part in many different branches of transport. *Threads of multimodal logistic networks* represent roads, railways, aircraft corridors, ship lines, rivers, water canals, pipelines, gas conduits, waterworks, cable railways (...). The most important *multimodal logistic network eyes*

knots are *logistic centres* which are bigger or smaller with a bigger or smaller number of logistic subjects. Such centres can supply logistic subjects on smaller or bigger logistically gravitational areas. *Smaller knots in logistic networks* represent suppliers, warehouses, trade centres, distributional centres, buyers, consumers, transporters (...).

Theoretically and practically, *multimodal logistic networks* can be macrologistic networks, global logistic networks, megalogistic networks, or micrologistic networks functioning as their subsystem. *Multimodal logistic networks*, regardless of their length, width, the number of network eyes, the number of network knots, the density of logistic threads, complexity of relations among logistic subjects, the number of active and passive logistic subjects (...), cannot function optimally without material (commodities') currents, informational currents, financial currents and proprietary currents. *Legally-economic relations* among many active and passive logistic subjects in multimodal logistic networks are very complex, because legal rules and legal institutions of many branches of law, e. g. law of all branches of traffic, forwarding trade law, multimodal law, warehouse law, harbour law, logistic law (...), refer to such relations.

- *Micrologistic networks* are formed on a relatively small geographical area or in a region of a micro-economic system, in a region of a micrologistic system, e. g. micrologistic networks in *Primorsko-goranska community*. Such logistic networks have small, medium-size or large *logistic centres*, which connect producers and suppliers horizontally and/or vertically with merchants and consumers. All branches of traffic can take part in *micrologistic networks*. The most common are: road, railway, sea and aircraft transport. Distribution is mostly done only with conventional transport and very rarely with combined and multimodal transport. *Micrologistic networks* are combining parts of multilogistic networks, macrologistic networks, global logistic networks and megalogistic networks. *Legally-economic relations* among legal logistic subjects in *micrologistic networks* are relatively simple, because they are defined by known legal rules and institutions of national law (...).
- In contrast to micrologistic networks, which function on a relatively small geographical area, *macrologistic networks* are formed on a specific national economic market or macrologistic system, e. g.: *macrologistic network in the Republic of Slovenia*. In such logistic networks several small, medium-size and large *logistic centres* have a primary position. They contain horizontally and vertically more producers, suppliers, warehousemen, trade centres, distributional centres, middlemen (...), buyers,

consumers (...). *When forming macrologistic networks many factors should be taken into consideration*, e. g.: traffic infrastructure, traffic suprastructure, the degree of development and the structure of economics, the number and the structure of producers and manufacturers, the number and the structure of suppliers, the number and the structure of middlemen (e. g. freight forwarders, agents, transporters...), the number and the structure of small merchants, the number and the structure of buyers, the number and the structure of consumers (...), the amount of the gross national product in micrologistic zones, the level of »development« of the grey market.

- *Global logistic networks* are formed on the world's global economic and logistic market, planet Earth. Such logistic networks consist of macrologistic networks, e. g.: *global logistic network in Europe*. A primary position in such logistic centres goes to *mega, macro and micro logistic centres*, which horizontally and vertically connect many producers, manufacturers, suppliers, warehouses, terminals, smaller distributional centres, middlemen (...), buyers, consumers (...). *Global logistic networks* enable the supply of many mega, macro and micrologistic centres, their subsystems and all logistic subjects in a particular global, multinational region. These networks supply hundreds of millions of consumers with hundreds of millions of different products.
- *Megalogistic networks* can be formed, observed and researched at three levels:
 - *Megalogistic networks in a narrow sense* are formed on a big logistic market, on which logistic products are massively produced, for example: in a big and developed country (e. g. the United States of America) or in a region of a large economic integration (e. g. European Union) or in a region of a particular continent (e. g. Europe).
 - *Megalogistic networks in a wide sense* are formed on a big logistic market, on which logistic products are produced. This market is bigger than a continent, bigger than a big economic integration and bigger than a big economically developed country - the logistic market is on the planet Earth.
 - *Megalogistic networks in the widest sense*, on the present level of technical, technological and scientific development (...) or production power, can only be researched theoretically and from a futuristic point of view, because these networks refer to a production of logistic services among objects in our solar system, for example between the Earth and the Moon (...).

2.4. Relation between transport networks and logistic networks

Based on fundamental cognitions on *transport and logistic chains, logistic-distributional chains and transport and logistic networks* it is possible to demonstrate *the relation between transport networks and logistic networks*. It is a fact that it is not possible to overcome spatial and temporal dimensions in sales, exchange, manipulation, transport, distribution (...) of material goods among the places of production and places of consumption without the existence of *transport chains, logistic chains, logistic-distributional chains, transport networks and logistic networks*. [2,70-90]

Transport chains are the essential constituent part of transport networks, transport chains are the essential constituent part of logistic chains and logistic-distributional chains. Transport chains, logistic chains, logistic-distributional chains and transport networks are the fundamental constituent part of conventional logistic, multimodal logistic, micrologistic, macrologistic, global logistic and megalogistic networks with all their characteristics (...). This means that *logistic networks* cannot be formed, really organized, operated on, rationalized, optimized, operationalized, controlled (...) without previously formed (...) transport, logistic, and distributional-logistic chains and transport networks (...).

In theory and practice of the transport and logistic industry, *transport networks and logistic networks* function in a constant interaction, since they are reciprocally connected, they are compatible and complementary, their tasks are intertwined, network eyes, network knots and network threads in one network are becoming the main and/or auxiliary network threads, network knots and network eyes of another network, or vice versa: network eyes, network knots and network threads of *logistic networks* can be auxiliary network threads, network knots or network eyes of transport networks (...).

It can be affirmed that *logistic networks* are much more complex, exacting (...) than *transport networks* regarding their characteristics (...).

3. MORE SIGNIFICANT CHARACTERISTICS OF COURIER SERVICES

A man is a being that constantly seeks company, and so the need and desire for mutual connections and communications developed somehow with the beginning of the human existence. The beginnings of an organized mediation by notices with couriers or heralds go back to the ancient times. History mentions Egyptians, Persians, Chinese and other nations and coun-

tries, Greeks and especially Romans. We can say that the transport of messages is as old as society. In the ancient times especially, the rulers of states of great extension became aware of the advantage of fast, regular and reliable information when governing distant provinces or when making important political and military decisions.

3.1. Notion, duty and development of courier service

The term *courier service* or sometimes also *courier activity*, stands for a transfer of messages, information in time and space, fulfilling fundamental logistic principles. In history, fast state connections were organized by heralds and messengers, who overcame distances in space and time on foot or horse and thus served exclusively their rulers and their highest administrative and military officials, in a sense of directing and exploiting countries under their rule. The real courier service is about enterprises which specialized in fast and reliable transport of documents and smaller parcels by couriers. Door-to-door service was developed to achieve speed and reliability of these transport services. At the same time individual treatment of every consignment of courier goods is taking place, together with the choice of the type of transport and the choice of the transport route.

3.2. Transformation of classical courier service into a logistic courier service

Simultaneously with the development of logistics, companies that deal with courier, express and parcel delivery started to operate. Quick delivery of consignments, and above all quick delivery of parcels is becoming one of the fastest growing businesses in the world. Of course, we could not imagine this success without the use of communication and information technologies. The biggest development of such enterprises is recorded in the United States where the use of the most advanced technology is very widespread. [1,399]

The biggest global enterprises, such as: DHL, TNT, UPS and FedEx are using local production resources. Worldwide they have opened local branch offices, connected and made strategic partnerships with local courier enterprises. At some places they have also connected with public postal operators and are in this way using the most branched-out logistic network of post offices. Today, services are performed through central distributional centres (hubs) that are usually situated near airports. The sole system of operation over the so-called hubs is most common for enterprises dealing with the distribution and the delivery of consignments. An enterprise has several main or in-

ternational hubs or some sort of central warehouses, where consignments are gathered from a single region or country. In these centres consignments are subjects of further processes of distribution until they reach final users. Enterprises usually have one centre for a particular region, where consignments are gathered and shipped further. Figure 2 presents the function of the hub centres.

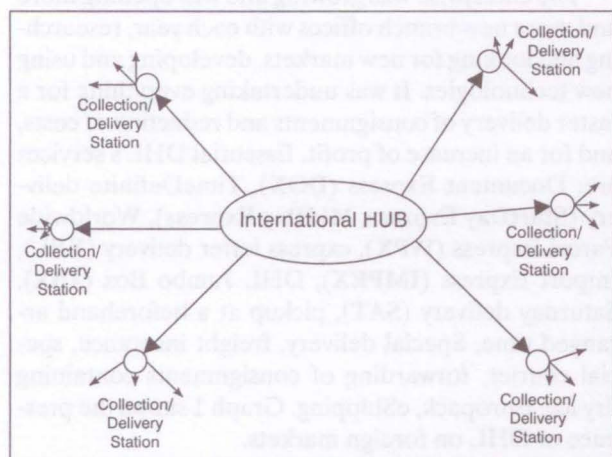


Figure 2 - Operation of the hub-and-spoke system

Source: FedEx Pressemappe, September 2004

The characteristic of the present happening on the market are various takeovers and mergers of enterprises and various strategic partnerships. Public state post offices have adapted to the market of courier consignments, they have re-formed and have become a bigger and bigger competition to courier enterprises. Today, privatized postal enterprises operate at all big undertakings. Four big post offices have appeared on the market: German, British, French and Dutch. All these post offices have established their special enterprises for forwarding services. Postal enterprises also expand their sphere of activity to the field of forwarding and other logistic services.

3.3. Logistic courier service in the maelstrom of globalization

It is possible to say that with the help of globalization and open market courier activity has become one of the fastest growing branches of economy. With 6.6 percent annual growth index, aircraft freight transport is the fastest growing branch in the world. Together with the durability of products becoming shorter and shorter, merchandise travels more and more often in small quantities so the capital would not stay bound in warehouses, management of time and reliability play an important role, and that is an advantage for tenderers of express services, especially the so-called integrators.

To assure an uninterrupted transport of consignments from a consigner to a consignee and a corresponding use of capacities, integrators invest especially in the construction of a suitable logistic system. The advantages of such suitability of a logistic information system are in elimination of physical as well as informational problems in knots of a complex logistic chain. The construction of integrated information and communication systems for permanent control and direction of each consignment enables the elimination of errors, that are taking shape in knots of a physical current of consignments, as well as enabling access to the consignment at any time.

To prevent multiple, personally intensive and at many times incorrect input of data, a unique standardized input of data at the pickup of a consignment is initiated. The system receives information about: weight, consignee, place of delivery, date of delivery, means of transport, transport route for each consignment, identification of the consignment.

After the end of this procedure, all participants of the enterprise have access to these data. With communication connection a fast informational flow is enabled, which means that information can travel faster than the consignment, or they can launch its current (transport arrangement, customs dispatching....). With this information a fast and authentic control of the status of the consignment is possible. Today, satellite techniques are used. This way not only the progress of the consignment is monitored, but also accounts are kept. Accounts are automatically made and sent out from the central computer. Such extensive information enables optimization of plans for land and aircraft transports. At planning capacities, decisions about quantitative and qualitative adaptations of needs for means of work, demands of the market are taken into consideration. [1,417]

Indices of growth in activities of express and courier services are far from decreasing. For integrators this means successive expansion of their capacities in the field of aircraft, rolling stock and construction of knots or hubs if they are to meet the growing demand. These are long-term strategies that take into account high expenses and long-term investment, especially when regarding time necessary for production of aircraft. Integrator's means of transport are extensive and various and they have to meet the demands of users, market and infrastructure. The laws must also be taken into consideration (inhibition of night flying, noise restriction, traffic ways, knots). Today railroad and sea transport, which do not have such strong restrictions about size and weight of consignments, are already included in this type of transport. In city deliveries the best means of transport are roller-blades, bicycles, mopeds, scooters, motorcycles.

4. CREATION OF GLOBAL LOGISTIC NETWORKS OF COURIER SERVICES FOR THE 21st CENTURY

Global networks of logistic courier services are created at the world's global economic and logistic market, on the planet Earth. Such networks form macrologistic networks of courier services, for example: global network of logistic courier services of Europe and North America.

4.1. Fundamental presumptions for creation and application of a global logistic network of courier services

Logistic managers and other logistic experts, who create global networks of courier services, have to pay attention to many factors, without which such networks could not function optimally, for example: size and structure of logistic-gravitational zones, degree of development and functionalism of traffic infrastructure and suprastructure, structure and degree of economic development (...), amount of gross national product in micro and macrologistic zones, degree of development and functionalism of modern transport technologies (...). When researching present phenomena of global networks of courier services it is important to know that they are composed of several micro and macrologistic networks of courier services, in which processes of production of courier services are taking place.

4.2. Analysis and evaluation of efficiency of the present global logistic network of courier services

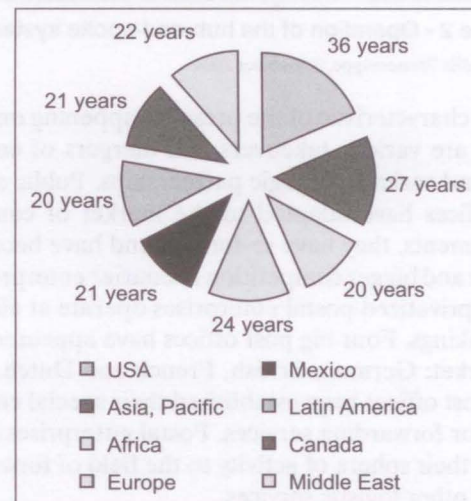
Logistics belongs to a field which will significantly influence our lives, that is why the development of a network of courier services is of exceptional importance for the economy as well as the non-economic sphere of activity. The modern network of courier services enables adjustments of different interests in management of material current. Global organizers of logistic services are developing and specializing in a few essential services, such as pooling of cargo into assembly consignments, and also the sole distribution of these consignments. The biggest global tenderers of logistic services are considered enterprises such as: DHL, UPS, FedEx, TNT, GLS.

4.2.1. Economic operations and network of DHL

The DHL enterprise was established on 20th September, 1969 in the United States. The founders were Adrian Dalsey, Larry Hillblom and Robert Lynn, and

initials of their surnames, D, H and L were used to name the enterprise. The main reason for the establishment of the enterprise was that at that time documents about consignments travelled together with them on a ship. When the ship with the cargo arrived to the place of delivery, it took a lot of time for the documents to be checked and all customs formalities done. [4,2]

The enterprise was growing and was opening more and more new branch offices with each year, researching and looking for new markets, developing and using new technologies. It was undertaking everything for a faster delivery of consignments and reduction of costs, and for an increase of profit. Essential DHL's services are: Document Express (DOX), TimeDefinite delivery (StartDay Express, MidDay Express), Worldwide Parcel Express (WPX), express letter delivery (XPL), Import Express (IMPEX), DHL Jumbo Box (J BX), Saturday delivery (SAT), pickup at a beforehand arranged time, Special delivery, freight insurance, special courier, forwarding of consignments containing dry ice, Europack, eShipping. Graph 1 shows the presence of DHL on foreign markets.

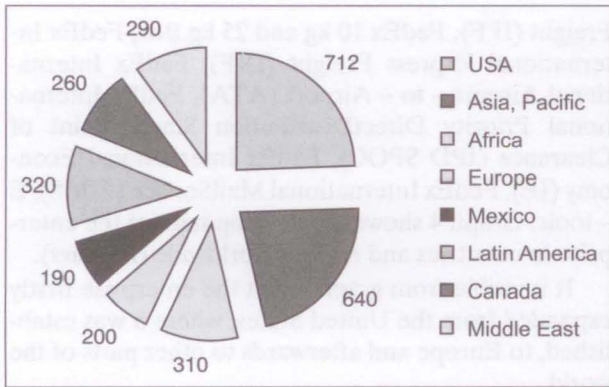


Graph 1 - Presence of DHL on markets of individual countries and regions (in years)

Source: <http://www.dhl-usa.com/Company/reliability.asp?nav=AboutDHLUSA/CompanyInfo/Welcome> (20.10.2004)

Graph 1 shows that the enterprise has the longest period of presence in the United States, which is understandable because it started operating there. The enterprise expanded first to the Pacific and Asian region, and afterwards to Europe. The latest expansion was to the Latin American region and African region. The presented Graph 2 shows the number of daily flights of DHL aeroplanes in individual countries and regions.

It is visible from Graph 2 that the biggest number of flights is made in the United States, followed by Asia and Pacific, and the least flying is done in Mexico.



Graph 2 - Number of daily flights of DHL aeroplanes in individual countries and regions

Source: <http://www.dhlusa.com/Company/reliability.asp?nav=AboutDHLUSA/CompanyInfo/Welcome> (20.10.2004)

The number of flights is highly dependent on the density of population and of course the number of possible users of services. We could also say that the number of flights is some sort of an indicator of economic power of an individual region. In regions with big economic strength there is also a high number of daily flights, and in regions with small population density and therefore less developed technology and economy, the number of daily flights is smaller.

DHL International network operates in more than 226 countries in the world, and with more than 170,000 employees it enables fast and reliable services. DHL's worldwide network, with more than 78 hubs, 238 portals and over 5000 service branches, is the biggest worldwide network of international express delivery. It was constructed with the purpose of increasing the speed and the quality of services. DHL's aeroplanes are of various sizes, stationed on strategic places for the fastest possible access to users of their services. DHL delivers consignments by 75,000 vehicles. Annually, more than a billion consignments are transported and 2922 daily flights are made by DHL.

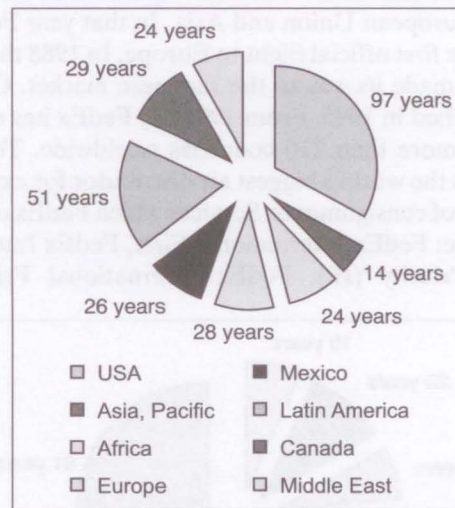
4.2.2. Economic operations and network of UPS

In the beginning of the 20th century a need for fast personal transport of different messages, documents, parcels emerged in the United States. It took too much time for a post office to deliver a consignment, usually one day before the consignment was delivered. In the year 1907, the 19-year old James E. (Jim) Casey borrowed 100 dollars from a friend and established an American courier enterprise in Seattle, Washington. He already had some experience in courier work, because he had worked for many enterprises in Seattle. He rented an office and received orders over the phone. When he received an order, he sent a courier, who ran to the customer, picked up the parcel and later delivered it. This was six years before the United

States Parcel Post system was established. The enterprise was successful and it grew. Jim rented a new office with his partner Claude Ryan, which was under the pavement. Jim's brother George was the couriers' boss and he gave employment to mostly young teenagers, who became couriers. One of the main reasons for the success of the enterprise despite their youthfulness and big competition was their reliability, speed and punctuality, inexpensiveness and around-the-clock service. Every courier who wanted to work for the enterprise had to sign a special policy about politeness. [5, 1]

The enterprise grew and developed and adapted to market demands. From 1913 to 1918 it specialized in parcel delivery for retail stores. In the period from 1988 to 1990 the enterprise was in a process of international growth. UPS became an international enterprise in 1975.

UPS performs these services: Computerized Operations Monitoring, Planning and Scheduling System (COMPASS), Delivery Information Acquisition Device (DIAD), UPS Package Tracking, UPS Express, UPS Supply Chain Solutions, UPS Express plus, UPS Express saver, UPS standard, UPS expedite. [6, 2]



Graph 3 - Presence of UPS on markets of individual countries and regions (in years)

Source: <http://www.ups.com/content/si/en/about/history/1929-2002.html> (22.10.2004)

Graph 3 shows the presence of the enterprise in individual countries and regions (in years). The enterprise has the longest presence in the United States, where it was established. The first expansion was to Latin America and later to Canada and the rest of the world.

The UPS enterprise employs 357,000 people and has 270 aeroplanes. For delivery it uses around 88,000 vehicles. Annually 3.4 billion of consignments are transported and 1845 daily flights are made by UPS.

4.2.3. Economic operations and network of FedEx

The enterprise was established in June 1971 and it actually started to operate in April 1973. At that time the enterprise had 14 small aeroplanes, stationed in Memphis on an international airport. On 17th April 1973 Federal Express transported 186 parcels in 25 cities in the United States. The headquarters were transferred to Memphis, which was the geographical centre of fast consignment transport.

Today, the enterprise has the biggest air fleet numbering 649 aeroplanes. They have around 42,000 vehicles, which they use for delivery of consignments. In 24 hours the air fleet travels over 500,000 miles, and their couriers make around 2.5 million miles a day, which is the same as 100 times around the Earth. The enterprise ultimately developed at the beginning of the year 1980. Competition tried to catch up with the fast growing enterprise which continued increasing its share of the market by almost incredible 40 per cent annually. In the year 1983 FedEx recorded a profit of one billion dollars. That made FedEx the first enterprise in the United States to reach such income in only ten years of economic operations. First international economic operations started in 1984 with expansion of services to the European Union and Asia. In that year FedEx made the first official flight to Europe. In 1988 the enterprise made its way to the Japanese market. China was reached in 1995. From 1995 on, FedEx has operated in more than 210 countries worldwide. Today, FedEx is the world's biggest air distributor for express delivery of consignments. Services which FedEx offers today are: FedEx International First, FedEx International Priority (IP), FedEx International Priority

Freight (IPF), FedEx 10 kg and 25 kg Box, FedEx International Express Freight (IXF), FedEx International Airport – to – Airport (ATA), FedEx International Priority Direct Distribution Single Point of Clearance (IPD SPOC), FedEx International Economy (IE), FedEx International Mail Service (FIMS), E – tools. Graph 4 shows the development of the enterprise in countries and regions worldwide (in years).

It is visible from graph 4 that the enterprise firstly expanded from the United States, where it was established, to Europe and afterwards to other parts of the world.

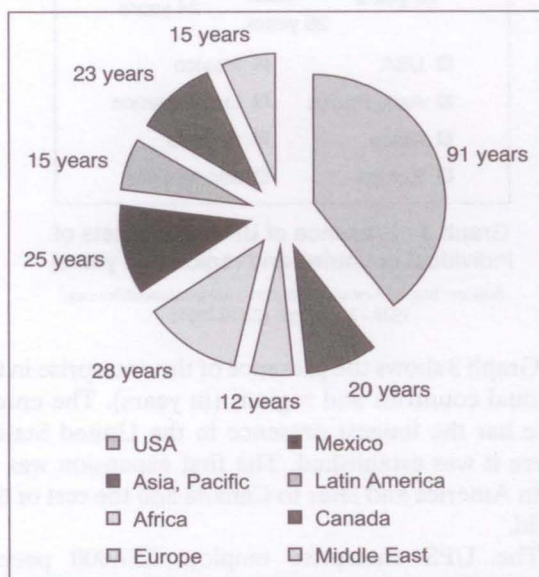
4.2.4. Economic operations and network of TNT

The enterprise TNT was established in 1946 in Australia. The original name was Thomas Nationwide Transport, after the founder Ken Thomas. Today the name of the enterprise is TNT. In 1950 the enterprise Alltrans was established, which merged with Thomas Nationwide Transport in 1967 and the new enterprise was named TNT. In 1969 the enterprise expanded to the European market. Today TNT is the world's leading enterprise for distribution, logistics and international mail. Besides Europe, TNT covers with its services and agencies Africa, Asia, Australia, Middle East, North and South America. TNT offers services: 9:00 Express, 12:00 Express, Global Express, Economy Express, Import Service, World Express Freight, Freight Tracking, Freight Insurance, Clinical Express. The enterprise operates in more than 200 countries in the world and has 43,000 employees. For delivery of consignments TNT uses 43 aeroplanes and 20,000 vehicles. Annually, it transports 183 million consignments. [7,1]

4.2.5. Economic operations and network of GLS

Global Logistics System is part of an all-European enterprise, and it assures reliable, high-quality service of distribution and delivery of parcels. GLS is a part of an extensive network in 30 countries. It is specialized in services of express parcel distribution for customers in Slovenia and Europe. GLS's services are based on the essential values of the enterprise, which are: quality, reliability, flexibility at a reasonable price. GLS's information system for international consignments enables every user to check and control transports of concrete consignments with the use of internet and the "Track & Trace" system. GLS's information system for local consignments enables tracking of consignments over a bar code, so clients can track consignments from pickup to delivery. The main GLS's strategy is based on a simple philosophy: Think globally, operate locally! [8,5]

An international network, which is owned by General Logistics Systems International Holding B. V., is



Graph 4 - Presence of FedEx on markets of individual countries and regions (in years)

Source: <http://fedex.com/us/about/today/history/timeline.html?link4> (25.10.2004)

internationally constructed through unity and standardization. The fundamental philosophy in performing services is flexibility, quality and reliability. Besides everything that stands behind these conceptions, this also means the reliability of delivery with low damage, loss or theft rates.

GLS has split the services on the international market into groups: Europe-wide parcel consignment (the customer can order transport of a consignment into any European country, where GLS is stationed. The price and time of delivery depend on a destination and weight of a consignment); **Echo Pack** (the Echo Pack service enables GLS to pick up for a customer a consignment in a foreign country and import it into Slovenia. Meanwhile, the enterprise offers total control over the costs of parcel distribution); free sample shipments of minimal values (General Logistics Systems d. o. o. enables extremely reliable, fast and economical customs examinations. The service is an innovation on consignments that are transported among countries which are members of the European Union. A specific procedure for parcels with limited value for support and faster customs examinations (depends on the country of origin and the country of destination and of course contents of an individual consignment). By using this service, 24 hours of transit time and 10 for consignment can be saved. As well as with other international consignments, a PRO FORMA invoice has to be enclosed also with free sample shipments (with the value of the merchandise stated).

4.2.6. Economic operations and network of other courier services

We have to mention the **Post of Slovenia**, because Slovenia is a member of the Universal Postal Union (UPU), and the membership in this union and some other unions, enables the Post of Slovenia to actively cooperate in all processes of the international postal service. The Post of Slovenia offers in addition to its fundamental service-transport of letter consignments, some other services, such as express mail, and international delivery and distribution of parcels.

The **City Express** enterprise operates with more than 1000 enterprises in all Slovenia and it has: 3 offices, 26 couriers, 4 connectors, 9 employees in offices, 12 delivery vans, 1 large van, 11 motorcycles, 6 bicycles. They are specialized in SameDay delivery. They operate by the hub principle. When an operator receives a call and an order of service, it is within 15 minutes handed over to a courier on a dispatcher. The courier gets all important data: address, type of consignment, means of transport is chosen.. Afterwards, a courier, stationed in the main hub sets out to pick up the consignment. For this operation the courier has 15 minutes at their disposal. When the consignment is collected, the time intended for the delivery of the

consignment to the addressee starts running, and that is from 30 to 150 minutes (in cities). Today, the enterprise has a lot of contracting clients, some of the users of their services are enterprises: LEK, Mobitel, Telekom, Petrol, the Court of Law, different Ministries...

Door-to-door is an enterprise involved in distribution and marketing and it was established in 1991 in Ljubljana. The headquarters are situated in BTC complex in hall 12, where the main logistic centre is located together with the management of the enterprise. The enterprise has seven other regional centres or assembly stations in bigger cities in Slovenia. It has 180 employees, who take care of an uninterrupted work by using rolling stock. Their main direction is the so-called B2B or in other words an enterprise for an enterprise. The goal of the enterprise is to offer a high-quality and user-friendly services. To reach all set aims, they use adequately qualified workers, appropriate information technology, and a big emphasis is placed on personal contacts with the users. For a client they carry out a complete logistic and distributional service, with all the support and organization of transport and 24-hour time limit for any place in Slovenia. [9,2]

The **Yellogistics company**, is a subsidiary of the Post of Austria. It is a dynamically organized enterprise, which combines knowledge, experience and technologies enabling effective delivery of parcels of up to 70 kilograms all over Slovenia. Working with barcodes enables simple delivery and pickups of consignments, and it makes tracking a lot easier. The enterprise has five offices in Slovenia: in Ljubljana, Maribor, Celje, Nova Gorica and Novo Mesto. Managers and their employees all strive for fulfilment of customers' needs and for adaptation of their services to suit their customers' needs in the best possible way.

The **Intereuropa Express** enterprise is a part of the global trust INTEREUROPE. Intereurope Express is a service which assures pickup and delivery of consignments all over Slovenia and Croatia. They have a "door-to-door" type of service. Speed, punctuality, reliability, shipment tracking, modern technology and competitive prices are the starting-points for effectiveness of Intereuropa Express. Specialized and qualified employees and own information system enable shipment tracking from a consigner to a consignee.

The **Slovenske železnice** enterprise, besides its basic activity such as passenger transport and freight transport in national and international transport, and railroad transport, offers also door-to-door deliveries by road. Of the mentioned competition each one has its own rolling stock and performs its services in Slovenia exclusively by road. And the Slovenske železnice enterprise with its express service connects road and railroad traffic. In case of an increased busi-

ness in such a way that the enterprise with its rolling stock cannot assure fast and reliable service, the enterprise contacts its business partners to take part in the process of performing services. Their rolling stock counts around 50 vehicles, half of which are vans and the rest are larger vehicles. In Slovenia they have 11 logistic centres together with an additional possibility of the use of railroad and road transport for consignments in national as well as international transport.

4.3. Proposition of steps for transformation of global logistic network of courier services for the 21st century

With the purpose of formation and operationalization of a successful, effective and profitable global logistic network of courier services for the 21st century, certain steps should be undertaken in the global logistic system:

- 1) **A global legal frame of courier services** should be formed. This means that the world organization of courier services should suggest a **convention of courier services** or at least general terms for economic operations of courier services. A corresponding multilateral legal document should include fundamental legal rules and institutes for economic operations of courier services (...).
- 2) **Managers and specialized experts for management of courier services should be educated and qualified.** With special programmes in primary, secondary and tertiary system of education it is necessary to educate and qualify experts for performance of creative and operative businesses in courier services. Such experts should have an adequate amount of interdisciplinary in multidisciplinary knowledge and skills (...).
- 3) **Management of economic operations and performance of businesses should be contemporarily organized.** Organizing forms (e. g. joint-stock companies, holding companies, concerns, ...) and organizing structures (e. g. divisional, matrix, functional, ...) should be constantly adapted to changes on the global market (...).
- 4) **Levels of compatibility and complementarity of micro and macrologistic networks of courier services should be constantly increased.** Only with compatible and complementary micro in macro networks of courier services it is possible to form optimized global logistic networks of such services (...).
- 5) **Means of transport and transport technologies should be constantly modernized.** To carry out the fundamental task of courier services (i. e. all consignments delivered to consignees on the planet Earth within 24 hours from pickup...), courier services have to use up-to-date means of transport in

their work (e. g. suitable aeroplanes, ...) and up-to-date transport technologies (e. g. palletization and containerization, ...).

- 6) **A global integral information system of courier services should be built.** Irrespective of the clear competition among enterprises that professionally perform courier services on the global economic market, they have to cooperate on a principle of partnership. With such cooperation it is possible to operationalize only if there is a global information system of all or the biggest courier services (...).
- 7) Other measures, such as e. g. modernization of traffic infrastructure, faster development of physical and logistic distribution, cooperation of courier services with logistic forwarders, customs services, insurance agencies (...), can contribute to the optimization of global logistic networks of courier services in the 21st century (...).

5. CONCLUSION

After integration of Slovenia into the European Union, big changes were made in the field of logistics and courier service. With Slovenia becoming a fully authorized member of the European Union on 1st May 2004, customs formalities inside the EU were abolished. Of course, customs formalities with countries, not members of the EU, have remained. With the integration, a big switch in logistics happened. Enterprises were obliged to redirect from tenderers of forwarding activity to tenderers of the whole of logistics. In this relentless fight for users there is only enough space for the biggest and the strongest and of course for the ones that are capable of fast adaptation to changes on the market. The decisive role in the field of macrologistics is in the hands of the state of Slovenia. However, firstly it is about solving logistic infrastructure on a basis for solving macrologistic problems.

The process of the logistic chain has become more and more complex, because consigners and users need logistic services which are adapted to their work processes. Production enterprises have established that with good organization and introduction of the so-called "just in time" service they can save up to 10% or more. Because of that, big specialized logistic enterprises have been established, which with the use of logistics in all fields and segments of the enterprise achieve satisfaction of the users, together with a reduction of costs and an increase of profit and competitiveness.

The biggest global enterprises, such as: DHL, TNT, UPS and FedEx use local production sources. Around the world, they have opened local branch offices, connected and made strategic partnerships with

local courier enterprises. In some places they have also established connections with public post operators and use in this way the most branched logistic network of post offices. We can say that with globalization and open market, courier activity has become one of the fastest growing branches in economy. With 6.6 % annual growth index air freight transport is one of the fastest growing branches in the world.

UPS has been present on the market of distribution and delivery the longest, followed by TNT, then DHL and FedEx. UPS has the largest number of employees, but the largest air fleet is the property of FedEx. DHL, despite the smaller number of aeroplanes than UPS, makes more daily flights. The primary position regarding employees goes to UPS, followed by DHL, FedEx and TNT.

Considering the share, which an individual enterprise holds in the world's market of distribution and delivery of consignments, DHL holds the primary position despite the smaller number of employees than UPS, which occupies the third place after FedEx. The smallest share goes to TNT, which together with all the other world's enterprises holds a 28% share in the market of distribution and delivery of consignments.

The modern global logistic network of courier services enables adaptation of different interests in management of material current. Global logistic networks of courier services are created on world's, global economic and logistic market, on the planet Earth. Such logistic networks are formed by macrologistic networks of courier services, for example: global logistic network of courier services of Europe and North America.

With the purpose of formation and operationalization of a successful, effective and profitable global logistic network of courier services for the 21st century, it would be necessary to undertake certain steps in the global logistic system: to form a global legal frame of courier services; to educate and qualify managers and specialized experts for management of courier services; to organize management of economic operations and performance of businesses of courier services contemporarily; to constantly increase levels of compatibility and complementarity of micro and macrologistic networks of courier services; to constantly modernize means of transport and transport technologies; to build a global integral information system of courier services; to take other measures, such as e. g. modernization of traffic infrastructure, faster development of physical and logistic distribution, cooperation of courier services with logistic forwarders, customs services, insurance agencies (...), which can contribute to optimization of global logistic networks of courier services in the 21st century (...).

The aim of everyone in an enterprise, from its smallest link to its management unit, should be a tendency towards success and satisfaction of the final user, of course, with minimal costs. All of this can be reached by correct and successfully planned global logistic network of courier services for the 21st century.

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POVZETEK

GLOBALNA MREŽA LOGISTIČNIH KURIRSKIH SLUŽB ZA 21. STOLETJE

Razvoj logistike je v veliki meri pripomogel k razcvetu vseh panog gospodarstva. Ni uspešnega gospodarskega subjekta, ki ne bi imel zelo razvito vejo logistike. V gospodarstvu postaja organiziranost logistike strateški element vodenja podjetij. Logistika torej sodi med tista področja, ki bodo pomembno vplivala na naše življenje, zato je razvoj logističnega sistema izjemnega pomena, tako za gospodarstvo kakor tudi za negospodarske dejavnosti. Torej nam sodobna logistika omogoča usklajevanje različnih interesov v upravljanju materialnega toka. Razvijajo se globalni organizatorji logističnih storitev, ki se razvijajo in specializirajo na nekaj ključnih storitev, med katere spada združevanje tovara v zbirne pošiljke ter tudi sama distribucija teh pošiljk. Med največje globalne ponudnike logističnih storitev prištevamo podjetja kot so: DHL, TNT, FEDEX, UPS...

KLJUČNE BESEDE

kurirske službe, logistična mreža, globalne logistične mreže

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