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CHALLENGES OF INFORMATION TECHNOLOGY AND SUPPLY CHAIN MANAGEMENT IN LOGISTIC SECTOR: WITH AN OVERVIEW OF QUEHENBERGER LOGISTICS IN MACEDONIA

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Abstract:
The Logistics and freight transport industries are ones of the most dynamic and important sectors of each economy. Logistics provides a vital "backbone" function in supporting macroeconomic processes and the operation of markets, critical infrastructures and distribution to both business and consumers, which extended much more with process of globalization. Every contemporary logistic company is conducted by the quality and precious with IT technologies in supply chain management ("just in time model"). Every real logistic operation is mirrored in the IT system. Modern IT guarantees the fast forwarding of the order, maximum transparency and the complete documentation of all business processes.
The purpose of this paper is to give a comprehensive review **of new information technologies in logistics operation, especially of** the branch of the Quehenberger Logistics in Macedonia**.** The Salzburg-based company Quehenberger Logistics **typically uses a wide range of transport modes – trains, trucks, planes and ships** and thereby strives to optimally integrate the existing software solutions of the customer, to reduce the costs and strengthen effectiveness**. Existing technologies are already playing important roles for ongoing services like as just in time (JIT) and just in sequence (JIS). In fact, the benefits of specific technologies, such as radio-frequency identification (RFID) and global positioning systems (GPS) are already used in this company. The effective usage of such existing information technologies can already yield major efficiency and ecological benefits in the supply chain.** Quehenberger Logistics create IT interfaces in order to optimized and harmonized IT systems and connect all the players around the world in the most cost-effective way, who can then seamlessly follow what is happening along the entire chain of transportation and across all continents and modes of transport. The integration of existing individual solutions generates cost-effective and efficient new applications that match the needs of customers precisely.

Key words:
IT interfaces,
Logistics systems,
Supply chain management,
Just in time (JIT),
Quehenberger Logistics.

INTRODUCTION

There are more than 190 countries in the world today. All countries participate in international trade. No matter what their size, shape, number of populations, however, there are certain characteristics that are common to all. In each, for instance, there is economic activity. Goods and services are produced, exchanged, and consumed.

The globalization of business has had a tremendous impact on the way companies operate today. Tectonic shifts in the world economy, combined with leaps in Internet and telecommunication technology, are irreversibly transforming the global market. But, major industrial countries play a leading role in the international trade of goods and services.

International business has been undergoing a period of rapid transformation. Trends towards globalization, integrated logistics and the development of Information and Communication Technology (ICT) are all reshaping the world's trading patterns and consequently physical trade flows.

With the increasing globalization of economic activity and rapid development of Information and Communication Technology, businesses are seeking to develop and organize strategic, efficient and world-wide networks. These networks, which are often referred to as global logistics, focus on integrating product sourcing, production and distribution.

International transportation is concerned with the highest scale in the mobility of freight and goods with

intercontinental and inter-regional movements. It is consequently subject to many geopolitical considerations such a control, competition and cooperation. Globalization processes have extended considerably the need for international transportation, notably because of economic integration, which grew on par with the fragmentation of production systems and the expansion of international trade. Both processes are interdependent and require an understanding of the transactional context in which multinational corporations are now evolving in. There is thus a growing level of integration between production, distribution and consumption, which efficiency has been expanded by logistics.

Globalization drives a higher level of complexity in the logistics supply network, highlighting the important role of distribution and transportation to enhance market value of products. The importance of distribution and transportation in maintaining a company's sustainable, competitive advantage further increases the sophistication of distribution and transportation operations. Global logistics represents the process involved in getting a product from the factory floor to the store shelf, and everything in between. It includes the global sourcing of the product — where it's manufactured — its transportation, the industrial real estate sites and warehouses that hold it prior to delivery, the logistics management software and other technology used throughout the supply chain and the third-party logistics providers who manage the process from beginning to end.

Transport and logistics have a critical role to play in the evolution of the world economy. As the expand to new markets and strengthen the transport links between their domestic markets and rest of the world, they will provide the infrastructure for radically changing trading networks.

LOGISTICS AND ECONOMY GROWTH

The logistics and freight transport industries are ones of the most dynamic and important sectors of each economy. Logistics is far more than just goods transport, warehousing and special process solutions. On average, logistics costs account for 10-15% of the final cost of the finished product. This includes costs such as transportation and warehousing. Logistics provides a vital "backbone" function in supporting macro-economic processes and the operation of markets, critical infrastructures and distribution to both business and consumers. Since logistic companies typically use a wide range of transport modes – trains, trucks, planes and ships - they are interested in improvements that affect the entire system.

The logistics sector is by no means a clearly defined sector of the economy. It does not exist as a service sector in the national accounts system. In general it is understood that the logistics sector covers all outsourced logistics activities, while in-house logistics activities within the manufacturing and distribution sectors are not part of the logistics sector. [4]

Business logistics is the process of planning, implementing and controlling the efficient and effective flow and storage of goods, services, and relating information from the point of origin to the point of consummation for the purpose of conforming to consumer requirements. But modern logistics process is expanded with supply chain management. Whereas logistics has traditionally focused on coordination the product, the information movement, and the flow of activities on the individual firm, supply chain management coordinates the product, information, cash movement and flow activities in a logistics channel environment. [1]. The effective and efficient management of transportation has significant impact on all three types interfirm flows (product, information and financial capital) and is critical in achieving supply chain integration and objectives. [2].

Efficient logistics systems allow world businesses to take advantage of the fact that lands, and the people who occupy them, are not equally productive. Logistics is the very essence of trade. It contributes to a higher economic standard of living for us all. To the individual firm operating in a high-level economy, good management of logistics activities is vital. Markets are often national or international in scope, whereas production may be concentrated at relatively few points. Logistics activities provide the bridge between production and market locations.

One of the most obvious manifestations of logistics activities is the growth in freight transport due to the worldwide expansion of trade. In particular, the globalization of industry, including planning, sourcing, manufacturing and marketing activities has resulted in more complex trading and much more developed transport networks.

Development of trade networks has also been facilitated by major regulatory and technical trends. Trade liberalization, particularly within trading blocs such as the Asia-Pacific Economic Cooperation (APEC), the European Union (EU) and the North American Free Trade Agreement (NAFTA), has removed constraints on cross-border movement and has reduced related "barrier costs". Advances in telecommunications and information technology have given companies the means to improve the efficiency of their businesses across widely dispersed geographic locations.

The global logistics industry is estimated at roughly 5,4 trillion euro or 13,8% of the global GDP. This leads to annual logistics expenditures in Europe and North America of around 1 trillion euro respectively. [7]

The annual logistics cost for the USA is about 9% of GDP and internationally it varies between 9% and 20% of the GDP. The US logistics market is the largest in the world and accounts for one-third of the world logistics.

Logistics is the backbone of European industry, making fundamental contributions to the competitiveness, efficiency and sustainability of European business. Europe is home to several logistics companies which are world leaders. Five of the top 10 global logistics companies are European. In 2008 in terms of revenue, logistics is generating €950 billion. Despite this, it is often forgotten or incorrectly grouped together with other sectors of industry. This misunderstanding is largely due to the complex nature of logistics.

They are a large variation between the European countries according the logistics sector employment, costs per

tonnage, sharing in GDP etc. Across all 27 EU member states, the logistics sector employed in 2005 some 7 million persons, 5.6 million (80 %) in the EU-15 countries (representing 3.2 % of the total labour force) and 1.4 million in the 12 new member states (3.3 %). Despite a considerable variation of the share of the commercial logistics sector in both the old and the new member states between roughly 2 % and 5 %, the average importance of employment in the logistics sector is the same in the old and new member states. Also, they are a large variation between the European countries according costs per tonnage e.g. ranging from about 5 EUR in Bulgaria to nearly 19 EUR in Denmark and Sweden for road transport in 2006, mainly caused by the immense difference in labour costs. The share of labour costs in total costs varied in 2006 between 13 % (Bulgaria) and 68 % (Luxemburg) in road haulage in contrast to rail freight and also air freight transport where this share varied between 1 % (Bulgaria) and 20 % (Belgium). Finally, the logistics sector produces slightly less than 3 % of GDP in both old and new member states. In absolute terms its contribution was 284 billion EUR, of which 93 % were produced in the old and 7 % in the new member states. [4]

The industry is extremely diverse, including a range of branches such as freight, global forwarding, express and contract logistics as well as being multi-modal. Logistics also spans across a variety of sectors, including the life sciences, healthcare, technology, aerospace, retail, consumer and fashion industries. This market fragmentation has historically led to the absence of a single body representing the industry. Logistics has a role to strength competitiveness and increasing efficiency of European economy.

Logistics has a key role to play in increasing the competitiveness of European industry in both the services and manufacturing sectors. The distribution of materials, components and products is one of the determining cost factors in production. Therefore, a well-run supply chain has a positive knock-on effect across an entire organization, offering a competitive advantage to all types of business.

As logistics evolves from the classic transport function to a more strategic, cross-functional and global discipline, the importance of logistics only increases. Increasing the efficiency of logistics has the potential to decrease the cost of a finished product. The European Commission recognizes the importance of logistics in increasing Europe's competitiveness. In its 2006 Communication on Freight Transport Logistics in Europe, the Commission stated that "logistics measures are indispensable for maintaining and increasing European competitiveness and prosperity in line with the renewed Lisbon agenda on growth and jobs". The Commission also recognizes that, whilst logistics is primarily a business-related activity and a task for industry, the authorities have a clear role to play in creating the appropriate framework conditions.

One of latest initiatives is the Commission's proposal enhancing security in the supply chain. This proposal illustrates the balance that has to be drawn between security procedures fulfilling the highest requirement and the free flow of trade.

INFORMATION TECHNOLOGY AND LOGISTICS

Information technology and Internet have had a tremendous impact on the way companies operates today. This technology has developed so quickly over the past few years that it is difficult to speculate what the future hold. Globalization, Internet and hyper competition gives a new dimension to the market and operation. All three forces reinforce the pressure to reduce prices. The reasons should be sought in the growing interest in electronic commerce. Trends towards globalization, logistics and the development of ICT, including e-commerce, are combining to reshape the world's trading patterns and consequently physical trade flows.

Internet technology is rapidly becoming a powerful business tool because of its online commercial services and e-commerce capabilities. The net is ready to become a medium by which companies trade, make contracts, exchange data and information, discuss designs and locate components. Strategic applications of innovative information such as Global Positioning System (GPS), ITS, Electronic Data Interchange (EDI) and Electronic Commerce (EC) integrated through the Internet will then become inevitable.

The growth in IT is not just restructuring the world economy; it is leading to a new phase of industrial transformation. According to a study in which participated the leading information technology companies (AT & T and Cisco), and investigated the matter and actuality shows six dramatic changes that will face companies in the next five years: [5]

- The global digital economy comes of age
- Industries undergo a digital transformation
- The digital divide reverses
- The emerging markets customer takes center stage
- Business shifts into hyperdrive
- Companies reorganize to embrace the digital economy

Indeed, to compete on the global stage, and reap the benefits of the digital marketplace, IT experts agree that industries will continue to see sweeping changes over the next five years, particularly in IT (72%); telecommunications (66%); entertainment, media and publishing (65%); retail (48%); banking (47%) and life sciences (38%).That is the nature of technology, for both good and bad—it destroys old ways of operating that aren't as powerful anymore."

Such restructuring is leading to economic growth, better allocation of resources and above all greater freedom of choice for consumers.

Today's transportation and logistics systems have new challenges:

- The Internet and e-business
- Continued globalization
- Business alliances
- Rapidly changing satellite technology

The use of satellite technology has a major impact on logistics. Using global positioning technology (GPS), sat-

ellites are being used to track vehicles throughout their movement from origin to destination. Existing technologies are already playing important roles in Transport and Logistics operations across Europe. The introduction of the satellite navigation system GALILEO will have a substantially positive impact on this development and so will the Long-range Identification and Tracking (LRIT), River Information System (RIS) and Automatic Identification System (AIS). SafeSeaNet should also contribute to improving logistics in the maritime field. In rail transport, telematics application for freight (TAF) and the European Railway Traffic Management System (ERTMS) should provide applications for integrated railway logistics. [3]

In fact, the benefits of specific technologies, such as radio-frequency identification (RFID) and global positioning systems (GPS) are already being employed by leading logistics companies. Technological changes in communications (such as satellite global positioning systems to maintain contact with motor carrier fleets) have helped to improve service quality to the extent that motor carrier companies now are able to meet narrowly defined time windows for pickups and delivers. The continued development of radio frequency identification (RFID) is allowing companies to technology and computers is another area that has tremendous potential for logistics. [2].

The effective usage of such existing information technologies can already yield major efficiency and benefits in the supply chain management. Smart technologies should be introduced to avoid delays in the supply chain for security and reasons. Computer system also support the flow of materials and products along the supply chain. Purchasing and transportation systems supported by electronic data interchange (EDI), and more recently the Internet, manage the flow of materials from vendors. Numerous technologies, such as CAD/CAM and automatic materials handling systems, support the manufacturing process. Deployment planning, vehicle load management, and vehicle routing and scheduling systems plan the movement of products from plants to warehouses to customers. The benefits of using an integrated system is to reduce logistics costs and improve customer service. [1]

However, with the increased adoption of mobile phones throughout the world and the growth of phones with GPS positioning capabilities, mobile phones and networks are now an essential tool for providing important tools and information to developed better concept of supply chain management.

Global logistics networks serve as a circulatory system for the corresponding global value-adding chain where various components in the logistics network serve different functions in an organizationally unified manner. Therefore, in order to achieve better customer service, organizations are increasingly adopting the two levers of process improvement and technological breakthroughs, improved supply chain management system and information technologies innovations such as cloud platform.

The existence of high-performance information infrastructure will dictate the logistics competence of a country or a region. These complex and sophisticated information infrastructures will induce interactive processes in logistics activities.[6].

SUPPLY CHAIN MANAGEMENT AND TRANSPORTATION REQUIREMENT PLANNING

Information systems and information technology are critical to manage effectively the processes in the supply chain. Improvements in both of these areas over the past few years have allowed firms to significantly reduce assets and operating costs, as well as improve over logistics service.

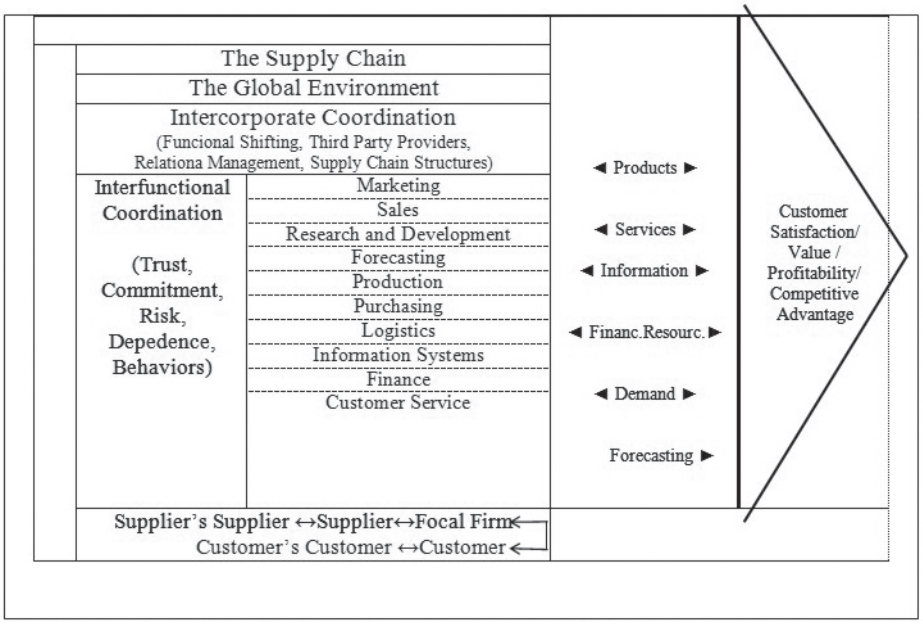

Figure 1. A Model of Supply Chain Management

Logistical activities have always been vital to organizations, and so business logistics and supply chain management represents a synthesis of many concepts, principles, and methods from the more traditional areas of marketing, production, accounting, purchasing, and transportation, as well as from the disciplines of applied mathematics, organizational behavior, and economics.

Supply chain management (SCM) is a term that has emerged in recent years that captures the essence of integrated logistics and even goes beyond it. Supply chain management emphasizes the logistics interactions that take place among the functions of marketing, logistics, and production within a firm and those interactions that take place between the legally separate firms within the product-flow channel. Opportunities for cost or customer service improvement are achieved through co-ordination and collaboration among the channel members where some essential supply chain activities may not be under the direct control of the logistician.

After careful study of the various definitions being offered, we can propose the broad and rather general definition as follows: "Supply chain management encompasses the planning and management of all activities involved in sourcing and procurement, conversion, and all logistics management activities. Importantly, it also includes coordination and collaboration with channel partners, which can be suppliers, intermediaries, third party service providers, and customers. In essence, supply chain management integrates supply and demand management within and across companies."

The supply chain management model in Figure 1 viewed as a pipeline shows the scope of this definition. It is important to note that supply chain management is about the co-ordination of product flows across functions and across companies to achieve competitive advantage and profitability for the individual companies in the supply chain and the supply chain members collectively. It is difficult, in a practical way, to separate business logistics management from supply chain management. In so many respects, they promote the same mission:

"To get the right goods or services to the right place, at the right time, and in the desired condition, while making the greatest contribution to the firm."

Some claim that supply chain management is just another name for integrated business logistics management (IBLM) and that the broad scope of supply chain management has been promoted over the years. Conversely, others say that logistics is a subset of SCM, where SCM considers additional issues beyond those of product flow. For example, SCM may be concerned with product pricing and manufacturing quality.

Technological change will increase sharing information between shippers and carriers and improve the efficiency and effectiveness of freight flows. This model is calling *Transportation requirement planning (TRP)* systems. TRP systems can be stand-alone systems or they can be connected to enterprise resource planning system. This type of system allows the shipper to connect to supplier, customers and carriage. This sharing information is necessary to optimize freight movements. The TRP system also utilizes map and distance data as providing inputs to carrier freight payments systems. TRP systems are an application of managing the transportation process as shown in Figure 2.

TRP system requires as inputs the freight movement information from the shipper as well as capacity and pricing information from carrier. Once this information is received, TRP system can provide optimal shipment planning, allowing truckload consolidation for the shipper and continuous moves for the carrier. The system also allows for real-time status reporting, if the carrier and the shipper have the technologies to capture real time data. TRP system can also provide performance reports as well as allow simulation analysis to answer "What it" types of question. **[1].**

The implementation of TRP technologies offers tremendous opportunities to improve the operation and management of transportation planning system. This technology presents a whole set of new challenges to transportation decision makers. Moreover, realizing the potential of TRP requires a new way of thinking about transportation system and how companies can work together to address transportation problems. The investment of human capital to reorient the thinking about technology's role in transportation is well worth the effort.

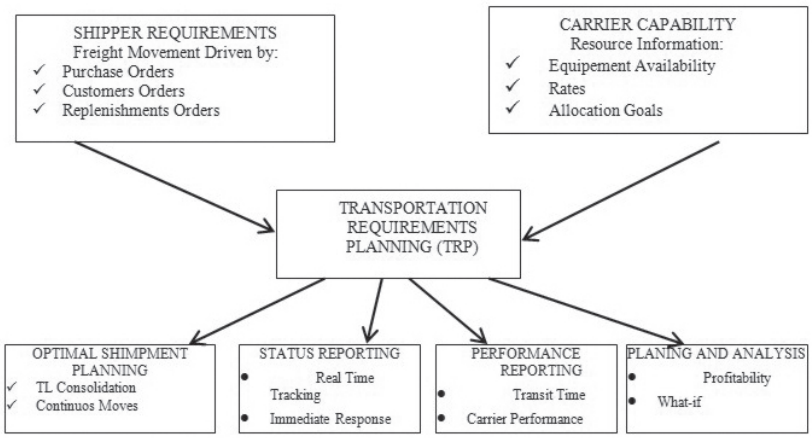

Figure 2. TRP Model
Source: W.L.Grenoble, Center for Supply Chain Management, Penn Sate University, 2003

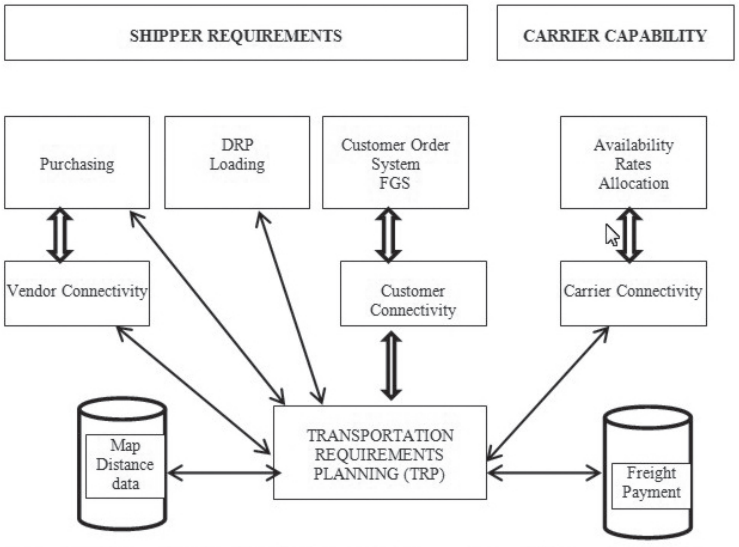

Figure 3. Transportation requirement planning (TRP) Model
Source: W.L.Grenoble, Center for Supply Chain Management, Penn Sate University, 2003

QUEHENBERGER LOGISTICS MANAGEMENT SYSTEM

Republic of Macedonia has a great tradition in the field of logistics sector. In this paper a review is given on Quehenberger Logistics in Macedonia. The company was formerly known as Logwin logistics and today this company operates as a subsidiary of Quehenberger Logistikgruppe. One of the main goals of the company Quehenberger Logistics in Macedonia was to introduce and evaluate the Supply Chain in Macedonia in domain of textile industry. Management of Quehenberger Logistics Macedonia deal with the numerous challenges and variability in this sector, arising from time and delivery performance of suppliers, manufacturing processes and global demand.

One of the features of the textile industry is the short life cycle of the product, the need for fashion, seasonal and cultural changes of the product and increasing standards demanded in the global markets. For this reason Quehenberger Logistics through its organizational structure needs to implement a model of integrating suppliers, manufacturers and buyers together in order to fully exploit common resources and improve the quality and cost of the final product. This especially applies to the acquisition of some of the responsibilities that are not principal activities of customers (Outsourcing) as: acquisition logistics, internal and external storage, commissioning, packing, labeling, quality control in the country of production, processing orders, customs services, global tracking inventory, consolidation and deconsolidation of shipments, insurance, distribution, export- import administration.

Guided by the optimization principle Quehenberger Logistics strives to minimize inventory and maximize the productivity of all assets, reducing the duration of the cycle and be ready for all the needs of customers and the global market.

To fully respond to these challenges, Quehenberger Logistics has developed an international logistics available in a number of airports and ports in the implementation of the necessary intercontinental transports. Particularly important Asian countries (China , South Korea), where part of ancillary arrive and basic materials for the needs of the textile industry. So Quehenberger Logistics company for their needs as well as for a number of Macedonian firms perform the following services:

Quehenberger Logistics is especially the leader in the field of international travel logistics route, in region of Western Europe and Balkan countries of production and delivery of raw materials, semi-finished and finished products. Weekly on Western European markets, Italy and Spain and back, departing 50 high volume vehicles specially designed for textiles. Here you can use the existing infrastrukturan flexibility and ability to complement other transport facilities with aggregate shipments. At that domain Quehenberger Logistics offers the next opportunities:

- Partial or complete shipments of raw materials from the earth to supply the country of production
- Partial and complete shipments of finished products as the pendulum condition and packaging in cardboard , with volume vehicles and containers
- Aggregate shipments of basic and auxiliary materials
- Forward shipments with appropriate vehicles that do not limit the days of prohibition for driving with double crew
- Combined shipments in two or more countries of production
- Preparing with customs clearance and non-cleared goods in a customs warehouse
- Customs clearance of consignments by declarants company
- Insurance of goods

With the services offered by Quehenberger Logistics, customers can be sure that each company get complete flexibility, impeccable service quality, short delivery, lowest cost and lowest prices. Particular emphasis is given to the company's partnership, mutual trust, openness and upgrade that enable competitive advantage for companies,

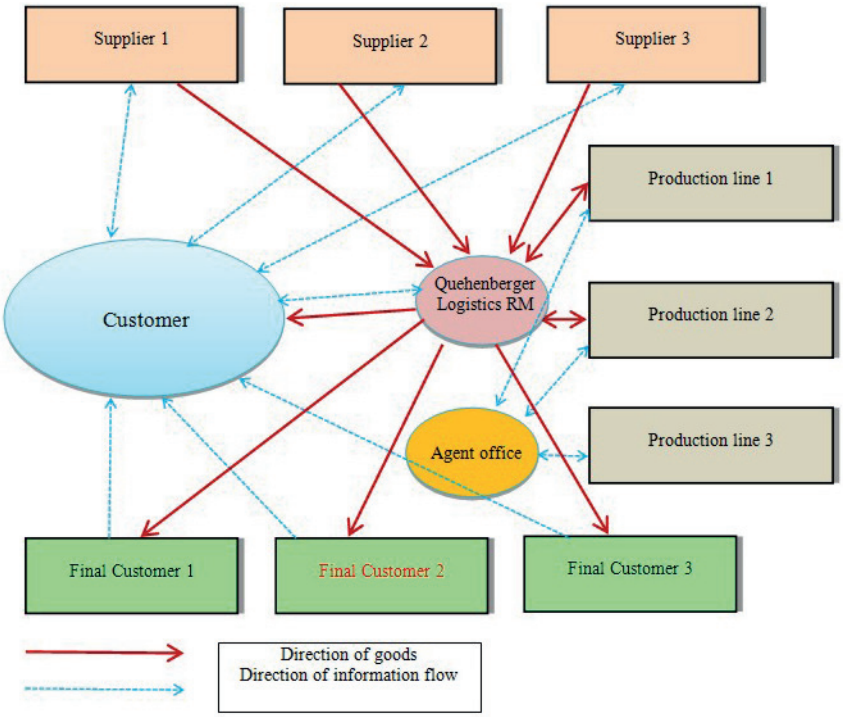

Figure 4. Organizational Model of Quehenberger Logistics

resulting in improved business performance in comparison with those who would be made individually.

With its logistics center company Quehenberger Logistics offers services to optimize the following types of services :

- Transport Logistics (domestic and international road transport, aircraft and maritime transport)
- Logistics cost
- Auxiliary storage and basic materials ,
- Download the finished products
- Control the quality and quantity
- Sorting of finished products ,
- Labeling and packaging
- Commissioning of finished products
- Circulations of finished products
- Global monitoring of supplies and products
- Insurance
- Customs services
- Export- import administration
- Distribution etc.
- The next great interest to Quehenberger Logistics besides the perspective of the textile industry is automotive sector. Macedonia offers a particularly cost competitive operating environment for automotive components manufacturing. The operating costs for the automotive components sector in Macedonia are among the lowest in Central and Eastern Europe due to its excess capacity and low average wages. Macedonia's proximity to the rapidly growing automotive manufacturing base in Central and Eastern Europe and Turkey, which have become a regional superpower in the automotive industry, makes it an ideal location. The geographical proximity to these markets allows low distribution costs and "just-in-time" product delivery from Macedonia.

INFORMATION AND TECHNOLOGIES SERVICES IN QUEHENBERGER LOGISTICS IN MACEDONIA

Quehenberger Logistics in Macedonia offers comprehensive range of tailor-made transport and logistics services from a single source. As a full-service logistics organization, this company take care of the whole supply chain, from warehousing to the final delivery of the product, including value-added services.

Quehenberger Logistics offers individual customer and sector solutions – from supply chain management and warehousing including logistical value - added services through to complete outsourcing projects.

Every real logistic operation is mirrored in the IT system. The starting point is always the customer's order. The ordering system is linked to the IT system of his external logistics service provider. Depending on the designated priority, the logistics service provider transports the required parts to the production line on a scheduled run or by express delivery. Only a few minutes separate an order being placed and delivery – depending on the distance between the warehouse and the production facility. Every day it is common for several consignments to be dispatched for ongoing production just-in-time (JIT) and just-in-sequence (JIS) – non-stop orders and the immediate delivery of individually loaded racks to the assembly line is the norm here. Whether JIT or JIS, urgent or scheduled, each outgoing consignment is registered by the IT systems of the customer and logistics service provider. At the end of this flow of goods and information the consignment is received and an electronic receipt issued.

Modern IT guarantees the fast forwarding of the order, maximum transparency and the complete documentation of all processes. Quehenberger Logistics thereby strives to optimally integrate the existing software solutions of the customer and to reduce interfaces. The modular system can be individually adapted and is scalable without steps.

Quehenberger IT system enters the item number, quantity, time frame and recipient into the input fields. The actual dialogue begins now when he discovers whether the item is available or not. The order information also appears on the monitor in the warehouse of his logistics partner. IT is hard at work in the warehouse control centre, fully automatic, but under human supervision. The warehouse management system (WMS) is programmed to automatically sort all incoming orders according to urgency (prioritization) and feed the order data into the system. The order information is now visible to the warehouse staff – they take the required items from the shelves and report their action by scanning the bar code into the system. When they pass the goods on to the packers, they also record this electronically. The packers wrap the goods and take them to the picking area, with the flow of information running parallel yet again. The pickers now assemble the order going to a common destination in the manufacturing facility.

Efficient logistics operations demand correct and time-precious making decisions to achieve basic logistic thesis: exact product on exact place at exact time. Undoubtedly, that fulfilling of this task needs to have qualitative information. In other words, it is necessary to know vehicle position or delivery moment to provide optimal delivery in any moment to provide optimal delivery process and to reduce transport costs and operation procedures. For fulfilling those task, Quehenberger Logistics in Macedonia uses CVC mobile telematics tracking solutions.

The CVS Mobile telematic system is a business solution that enables the flawless management of vehicle fleets, working processes and mobile employees. It is suitable for use in numerous areas, mainly in transportation, logistics, construction, passenger traffic and numerous service-oriented private and public organisations. It also enables constant communication between the vehicle/driver and the vehicle fleet manager. The company provides a series of already developed applications to review and manage working activities in the field – via the internet (WEB) or WAP-applications on mobile phones.

CVS Mobile telematic service allows simple management and accurate control of the vehicle fleet. The date on the location and condition of vehicles and tasks performed by the driver(s) is available to the company at all times.

With telematic systems for managing a vehicle fleet and their application expansion to the internet (WEB) or mobile portals (WAP) it is possible to track the cargo/vehicle/driver with different devices. The company can upgrade its services with the option of tracking cargo via the web or mobile phone, which gives the customers interactive and real time access to the status of its transports/deliveries.

Telematic systems for managing vehicle parks provide:

- Vehicle and cargo tracking
- Full control over the vehicle fleet
- Driver navigation and path optimisation
- Complete telemetry of the vehicle park
- Fuel consumption optimisation
- Working time and driver run optimisation

New technologies present new means to manage the flow of information. IT as a productivity tool can be utilized to both increase the capability and decrease the cost at the same time. The integration of the telematic system with the company's central information system enables the exchange of data between different applications, which makes it easier for the company to keep and manage documentation. Systemic solutions that provide the automatic capture and transfer of data are also significantly more accurate than manual entries, which consequently reduce the number of errors and the misuse of the company's operating activities. The connection with the company's central system makes it possible to carry out accurate analyses of working processes and their optimisation because it is easier to uncover bottlenecks in the operations via various queries. By implementing advanced analyses and report reviews that are prepared by the system, it is possible for the management of the company to make decisions on new measures regarding the company's operations, and various area managers will find it easier to optimise the employee's working time based on the collected and processed data.

CONCLUSION

Technological research has produced many innovations in logistics concepts and systems. From now on it is imperative to target research and development on the integration and consistent validation of the most innovative concepts and systems. The innovative information technologies for communications and for managements must benefit the activities and processes on the logistics market. This is especially important in logistics where decision-making in real time is often postulate of successful business decision.

Future trends in logistics may prompt companies to rethink their logistics strategies. In this paper, some of the most logistics and supply chain management solutions for Quehenberger Logistics in Macedonia are being shown. This company keeps track of the contemporaneous globalization discourse, and the aim of the company is to provide service for which the consumer is ready to pay the amount that justifies invested resources. In pursuit of competitive advantages Quehenberger Logistics in Macedonia takes attention of importance of IT, especially to extent by business philosophy of Just in Time model. Modern IT guarantees the fast forwarding of the order, maximum transparency and the complete documentation of all processes. Quehenberger Logistics thereby strives to optimally integrate the existing software solutions of the customer and to reduce interfaces. As a full-service logistics organization, this company take care of the whole

supply chain, from warehousing to the final delivery of the product, including value-added services.

The next great challenges of Quehenberger Logistics besides the perspective of the textile industry is automotive sector. The geographical proximity to the European markets allows low distribution costs and "just-in-time" product delivery from Macedonia.

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