ORGANIZATION OF OUTSOURCING IN LOGISTICS PARTNERSHIP BETWEEN THE SEAPORTS OF MONTENEGRO AND SLOVENIA

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Abstract
The scientific problem and the subject of research consists of the explanation and analysis of organizational outsourcing possibilities of regional logistics partner cooperation between Slovenian seaport of Koper and Montenegrin seaport of Bar. This paper elaborates an original idea about how to attract Chinese investors, shippers, logistics providers, bankers and other business entities by usin the strategy of organizational outsourcing in order to expand the port of Bar, modernize its infrastructure, increase the depth of its draft for receiving the largest ships and the creation of intermodal logistics and distribution centers in the closer and wider hinterland. This would allow huge amounts of Chinese goods to be partly shipped to the closer and wider region whereas the rest would be shipped through the port of Koper to Europe.
Its hypothesis is that the creation of integrated logistics supply chain, using the organizational outsourcing strategy, would attract a significant portion of China's import of goods to Europe and increase the competitiveness and advantages of the ports of Bar and Koper, in the part of economy of scale, increase of quality of logistics service, reduction of total logistics costs and achievement of higher added value of all port and logistics services in these seaports.
Key words*: organization, outsourcing, logistics, partner cooperation, Chinese investors, Bar seaport, Koper seaport.*

1. Introduction

The last decade of the new millennium has brought major paradigm changes in the field of integrated logistics and sea ports. They were followed by numerous theoretical and practical innovations, primarily in the organization area.

The importance of sea ports and the application of integrated logistics in them are increasing. Seaports must adjust to the changes at global maritime market through the increase of the size of the infrastructural and supra structural capacity followed by continuous technological and information advancement, cooperation with logistics providers and the integration of its logistics functions. In addition, geographical location, size and level of infrastructure and supra structure of seaports determine the final model of integrated logistics, as well as organization of the outsourcing strategy.

The organizational and other changes that have occurred in recent decades in the global shipping market caused a significant increase in the number of sea ports and their capacities (infrastructure, supra structure, transportation, logistics, terminal and other). The investments had the biggest role in this, whose flows were continuous and dynamic. It dominantly influenced the overall modernization of port infrastructure and the increase of the level of logistics services, particularly in terms of container transport. The fact that over 90% of cargo transported by sea speaks says enough about the importance and need for continuous development of seaports,

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expansion of range and improvement of the quality of port and logistics services, which are being provided to increasingly demanding customers. This is particularly important for transition states in which an economic and social crisis are being reproduced for a long time, in which the maritime industry is a priority, but also very underdeveloped.

In modern business conditions the advanced sea ports tend to integrate all functional areas of logistics to the greatest possible extent, in order to significantly shorten the time of executing orders of port services, accelerate and streamline logistics flows, reduce total logistics costs, reduce the time of logistics operations and achieve the appropriate complete and quality customer satisfaction in the part of the port logistics services (Draskovic, 2011, p. 37). The global complexity of market relations, increasing competition, information and business risk as well as financial, information and other relations between the partners are the key factors why the sea port are accepting the organizational integration of logistics functions. Every day the speed, intensity and complexity of material, financial and logistics information flows are increasing while the reduction of intermediate links, and insurance (reserve) stock is getting stronger. In such circumstances, the only way to ensure stability of functioning of the system of sea ports and their logistics systems is their further organizational integration. Therefore, the modern logistics systems in seaports are increasingly viewed as a whole in terms of organization integrated marketing and management functions, through which the process of cargo handling is being implemented. It is being insisted on full organizational integration of primary and supporting logistics flows. It is a continuous logistic chain that gradually adds value to port and logistics services, which must be performed in timely manner, with high quality, reliably, functionally and synchronized, which are the basic organizational attributes of logistics integration.

Organization integrated logistics of sea ports assumes the systematic and process approach, as opposed to the fragmented one, applied by smaller ports such as the Adriatic ports of Bar, Ploce, Split, and in larger part Rijeka and Koper. Looking for big investors and global logistics providers, they fail to significantly reduce the amount of total logistics costs, or to engage in significant integration of logistics processes. Their development in the future will directly depend on the acceptance of changes in the global environment and application of logistics concepts whose core competence is organizational integration. Therefore, this paper starts from the idea about organizing of partnership performance of ports of Koper and Bar in seeking and finding the big Chinese investors and providers, in terms of modern logistics trends and flows of world merchandise trade.

Why Chinese? Share of logistics in GDP - U.S. 10% China 20%, and India 13%. A large part of global trade shifted from Asia to the EU and surpassed the China-US trade. Annual Chinese import into the EU is estimated to 160 billion U.S. $ (http://hercegbosna.org/forum/post306384.html, accessed 01/10/2012). Current trade route goes from Suez channel across the Mediterranean to the Gibraltar and then northwards to England and Denmark. Main ports that receive Chinese goods are English and the port of Antwerp. The duration of this route is 14 days longer than the road to the Adriatic Sea, which is a natural extension of the Suez Channel.

The Chinese are very interested in the port of Rijeka because of the depth of its draft. Germany, Sweden and Eastern European economic zone lobby for Rijeka to become China's main stock of cargo (mainly containers). So far the British had for many years opposed to this. However, for more than two decades, the Chinese have been showing great interest for capacity utilization and the organization outsourcing the port of Bar as well. Political and other causes have contributed to failure of the realization of this important business and logistical arrangement. With high probability we can assume that the establishment of organizational partnerships between the port of Koper and the port of Bar would decisively contribute to easier, faster and more constructive entering of Chinese Investors (shippers, logistics providers, banks and other businesses) into the port of Bar.

Part of the above mentioned 160 billion of US dollars profit pie may be significantly be allocated to the ports of Bar and Koper through their partnership relationship and joint logistics approach. The organizational idea might be easily transformed into practical implementation in

relatively short time frame through quality project elaboration. The motivation to find the way out of the deep economic crisis that threatens to further reproduce and spread, with all the accompanying positive developments: the growth in employment, living standard, the state budget, productivity, easy servicing of external debt and so on, contributes to the feasibility of the idea.

China has huge foreign trade surplus and investment potential. It publicly shows it interest in the modernization of certain sea ports at the Adriatic and in the opening of the logistics and distribution centers in its hinterland. This interest is followed by offering concessions expressed in billions of U.S. $ and looking for a decades-long period. This is a big chance that the Montenegrin port of Bar obviously can not utilize without the participation of another partner Adriatic port, with a higher level of infrastructure development, logistics knowledge and experience. The Chinese are also much more interested in terms of logistics in cost effective investment in which two Adriatic ports would participate in partnership. We assume that out of number of reasons the Port of Bar would achieve an ideal business and logistical cooperation exactly with the Slovenian port of Koper. The primary reason could be the geographic location of the port of Bar, the depth of its draft, opportunities to significantly increase its depth and very large and unused opportunities for opening intermodal logistics centers that the broader background of the port of Bar offers.

The profit of sea ports that unload Chinese containers is huge. It is believed that the accompanying business activities around the harbor are very profitable: For each 1 U.S. $ that the port earns, other services around the harbor of Port earn $ 11 USA (trade, carriers on land and others.). The size of the profit pie in the game may be illustrated by the fact that Italy is offering to the Chinese the port of Bari and free transport to the north of Italy, if the port of Bari is selected as the main entrance gate of Europe.

2. Theoretical approach to the significance organizatio of outsourcing and integrated logistics supply chain

Under current conditions of strong international competition, top performance and low costs of all activities are essential not only for successful operation, but also for the very survival of companies. An increasing number of companies worldwide have been limiting their operation to strategic activities in areas generating the highest added value, simultane-ously separating other activities and entrusting them to external specialized partners able of performing them at a lower cost and with higher-quality.

Integrated logistics supply chain is the term used to characterize the system of advanced sea ports. This refers to the set of all types of providing logistics port services (reception and processing of orders, designing and manufacturing of port services, sales, service, distribution, resource management and supporting logistics functions of the port), which are necessary to meet user demand of port services - from initial momentum of ordering port services, through providing information on logistics flows to the final delivery to the user.

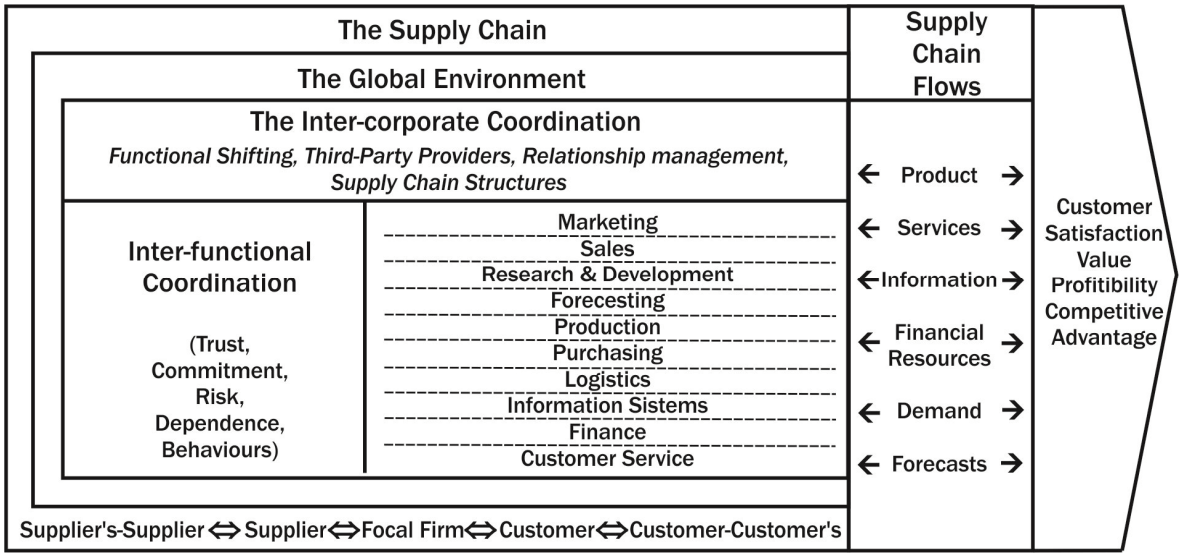
*Logistics management a*s defined by the Council of Supply Chain Management Professionals (CSCMP): "*Logistics management is that part of supply chain management that plans, implements, and controls the efficient, effective forward and reverse flow and storage of goods, services, and related information between the point of origin and the point of consumption in order to meet customers' requirements. Logistics management activities typically include inbound and outbound transportation management, fleet management, warehousing, materials handling, order fulfillment, logistics network design, inventory management, supply/demand planning, and management of third party logistics services providers. To varying degrees, the logistics function also includes sourcing and procurement, production planning and scheduling, packaging and assembly, and customer service. It is involved in all levels of planning and execution—strategic, operational, and tactical. Logistics management is an integrating function which coordinates and optimizes all logistics activities, as well as integrates logistics activities with other functions, including marketing, sales, manufacturing, finance, and information technology*" (Supply Chain and Logistics, Terms and Glossary, 2006, p. 89).

SCM as defined by the Council of Supply Chain Management Professionals (CSCMP): "*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. Supply Chain Management is an integrating function with primary responsibility for linking major business functions and business processes within and across companies into a cohesive and high-performing business model. It includes all of the logistics management activities noted above, as well as manufacturing operations, and it drives coordination of processes and activities with and across marketing, sales, product design, finance and information technology*" (Supply Chain and Logistics, Terms and Glossary, 2006, p. 138).

SCM has risen to prominence in recent years in both academic and commercial circles. However, there is still no universally accepted definition of what SCM is (and, indeed, is not). As pointed out in a widely cited article by Mentzer et al. (2001, p. 2): "*Despite the popularity of the term Supply Chain Management, both in academia and practice, there remains considerable confusion as to its meaning. Some authors describe SCM in operations terms involving flow of products and materials, some view it as a management philosophy, and some view it as a management process*". Mentzer et al. (iBID.) provide a comprehensive overview of the more important of these definitions and, based on their analysis, provide a definition of their own. From this representative sample of SCM definitions, Mentzer et al. suggested that three definition categories can be identified. Firstly, many authors define SCM as a *management philosophy*. In this context, SCM adopts a systems approach to viewing the supply chain as a whole, from the supplier to the ultimate customer. A chain-wide collaborative approach, driven by a strong customer focus, aims to synchronise intra-firm and inter-firm capabilities. Secondly, many authors consider SCM as a *set of activities to implement a management philosophy*. Seven activities are proposed, based on the earlier research, which appear necessary in the successful implementation of the philosophy: a) integrated behaviour in customer and supplier firms, b) mutually sharing information, c) mutually sharing risks and rewards, d) cooperation among supply chain members, e) the same goal and the same focus on serving customers, f) integration of processes, and g) partnerships to build and maintain long-term relationships. These activities are aimed at creating added value of port and logistics services, durable competitive advantages and core competences for performing of certain activities. According to this definition, SCM involves multiple firms and multiple business activities, as well as process orientation to coordinate activities across functions and across firms within the supply chain. This definition led to the development of a conceptual supply chain management model as pictured in Figure 1 below.

J. Mentzer et al. (2001) suggested, SCM can be regarded as a management philosophy then this philosophy is concerned first and foremost with integration. The widely cited work of Bowersox and his collaborators at Michican State University (Bowersox et al., 2000, p. 5), which describes a framework of six competencies (the *Supply Chain 2000Framework)* that lead to world class performance in logistics and SCM, supports this view. These competencies, grouped into three areas (operational, planning and relational), are all concerned with integration. The work of S. Fawcett and G. Magnan (2002, p. 343) identified four levels of integration in practice: a) internal cross-functional integration, b) backward integration with valued first-tier suppliers, c) forward integration with valued first-tier customers, and d) complete backward and forward integration ('from the supplier's supplier to the customer's customer'). Most businesses - certainly manufacturing- based business - can be described in terms of the five functions: buy, make, store, move and sell. This is what is referred to as the internal (or micro- or intra-firm) supply chain as shown in Figure 2.

Figure 1: The Mentzer Model



Source: Adapted from Mentzer et al., 2001, p. 4

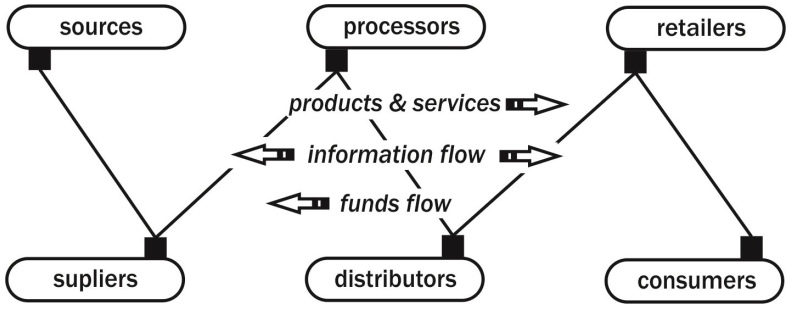
Figure 2: The internal (micro) supply chain integration



Source: Adapted from Sweeney, 2011, p. 40

The simplistic representation in Figure 2 of the external (or macro- or inter-firm) supply chain shows materials flowing from the raw material source through the various stages in the chain to the final consumer. Money (i.e. funds) then flows back down the chain. The point is that every link matters and that value is added, and profit generated, at each link along the way.

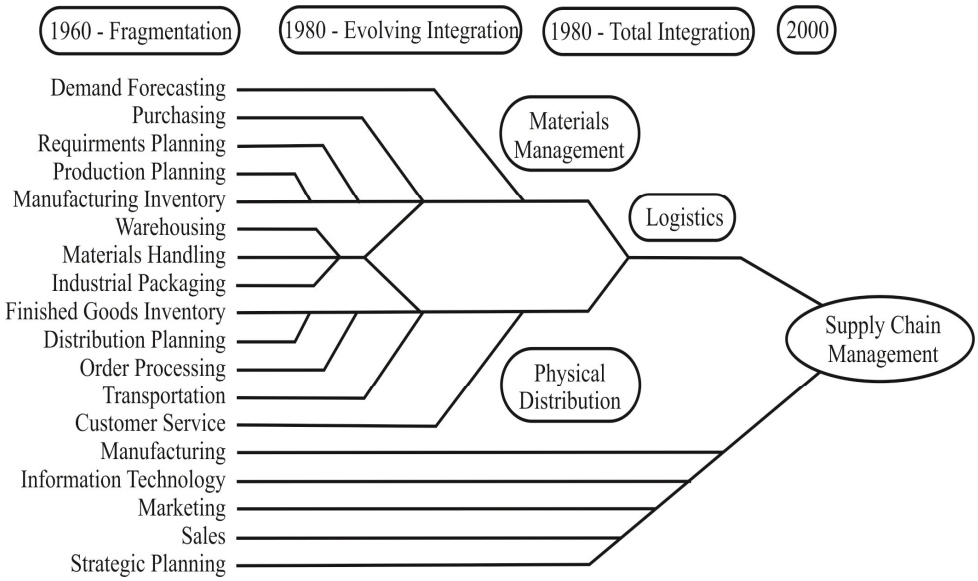
Figure 3: The external supply chain integration



Source: Adapted from Sweeney, 2011, p. 40

A. Battaglia (1994, p. 49) developed a model which indicates the way in which SCM has evolved from its main constituent functions from the 1960s to date (see Figure 4).

Figure 4: SCM Evolution



Source: Adapted from Battaglia, 1994, p. 49

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It indicates that the evolution has involved a shift from highly fragmented to much more integrated approaches with the 1990s characterised as the decade of "Total Integration". During the 'Evolving Integration' decade (the 1980s) various functional areas became integrated into *materials management* and *physical distribution* – these then became further integrated under the *logistics* umbrella. SCM extends this integration further by linking logistics with manufacturing, information technology (IT), marketing, sales and strategic planning. The model provides a useful visual representation of the way in which companies have attempted to move away from the functional stovepipe or silo approach to more integrated approaches, facilitated by IT. It is interesting to note that this model is analogous to two other 'three phase' approaches to logistics evolution.

2.1 The importance of logistics integration in seaports

According to V. Sergeyev (2005, p. 49), an integrated logistics chain of the seaport in practice must be line edited for easier accounting and cost analysis, resource optimization, rational decision-making, more appropriate allocation of risks and benefits, faster and more complete information of all companies and better organization of monitoring of meeting the logistics plan.

Management of the logistics services chain in the seaport, as shown in the Table. 1, represents the integration of the key logistics trends and operations. It includes: a) all key seaport logistics activities, which focus on physical movement of cargo in the port, the corresponding providing of port logistics services and their delivery to users, b) all providers of port services, c) all logistics port operators, which integrate their logistics performance in increasing the added value for final beneficiaries, d) all final beneficiaries of logistics and port services, and e) all logistics flows.

According to the theoretical concept of Mentzer (2001, p. 18) and the practice of advanced seaports, the above integration is made, of systematic and strategic coordination of all logistics flows, activities and subjects aiming to improve their logistics and overall port service activities. It includes many port processes of transport, handling, storage, receipt and delivery of cargo, and performing a variety of logistics services to customers in the sea port by the port management, port agents and port operators. This includes the overall management of logistics with the logistics administration and information.

Table No 1: Matrix of logistics supply chain management based on the integration of logistics activities in seaports

Suppliers of port logistics services of different levels			*Port logistics providers*			*Users of logistics and port services at different levels*		
⇳	⇳	⇳	⇳	⇳	⇳	⇳	⇳	⇳
⇔	***material flows***							⇔
⇳	⇳	⇳	⇳	⇳	⇳	⇳	⇳	⇳
⇔	***information flows***							⇔
⇳	⇳	⇳	⇳	⇳	⇳	⇳	⇳	⇳
⇔	***financial flows***							⇔
⇳	⇳	⇳	⇳	⇳	⇳	⇳	⇳	⇳
core logistic activities of the seaport								

Source: Adapted from Stock and Lambert, 2001, p. 52

M. Draskovic (2011, p. 35) points out that the essence of integrated logistics in the maritime ports consist of synchronous execution of all logistics activities and the timely implementation of agreed logistic port services in a particular place, with a minimum total logistics costs, allowing the creation of added value. Minimizing total logistics costs can be achieved by adding certain logistical value to incoming cargo, which may be achieved in any of the following methods (Roca, 2004, p. 12): a) *through a change* that alters the structure of cargo in the port, b) *transport*, c) *storage* and d) *additional terms of delivery*. According to Draskovic (Ibid.) , the importance of integrated logistics is multifaceted. It acts as a third subsystem of the logistics system[2], which is focused on the movement and storage of cargo in the port from unloading time to time of loading to the final consumer. Further, it seeks to overcome a variety of spatial and temporal inconsistencies and limitations, while reducing the number of intermediaries. In addition to *transportation* (to and from the Port) and *storage*, which are the two basic functions of integrated logistics, the seaports are trying to integrate as many other logistics activities such as handling, cargo handling, packaging, inspection, measurement, documentation creation, information and financial flows and others.

The formation of an integrated logistics system is a raising issue of development of sea ports. In this sense, according to (Roca, 2004, p. 27), the dynamics of development continually sets new demands on the integrated logistics system, which therefore must be very flexible and adaptable to growing changes in the environment in many segments, especially in the market, technological and transport segment. For evaluation of the effectiveness of the above mentioned system, a very important criterion is the reduction of a) the total logistics costs, which are directly related to service delivery in the seaports, b) logistical risks, c) the time of delivery of orders and d) increase of quality of logistics services.

The essence of logistics integration in maritime ports has its own logic, to which each functional area should contribute to the overall maximum score that enhances the competence of the port logistics. This entails overcoming local thinking and isolated ambitions of functional parts of seaports, which must necessarily be subordinated to the integrated inter-functional logistics coordination, in which all the links (from input to output) are equally significant for the total score. The advantages of an integrated approach to logistics in maritime ports shall be provided through the following (adapted from: Sergeyev, 2005, p. 77): a) unification and centralization of basic functional areas of logistics, b) overcoming the contradictions between the production, management and marketing, c) forming a unified, modern efficient information system, d) higher level of typization and compliance of logistics operations, e) increase of a general sense of

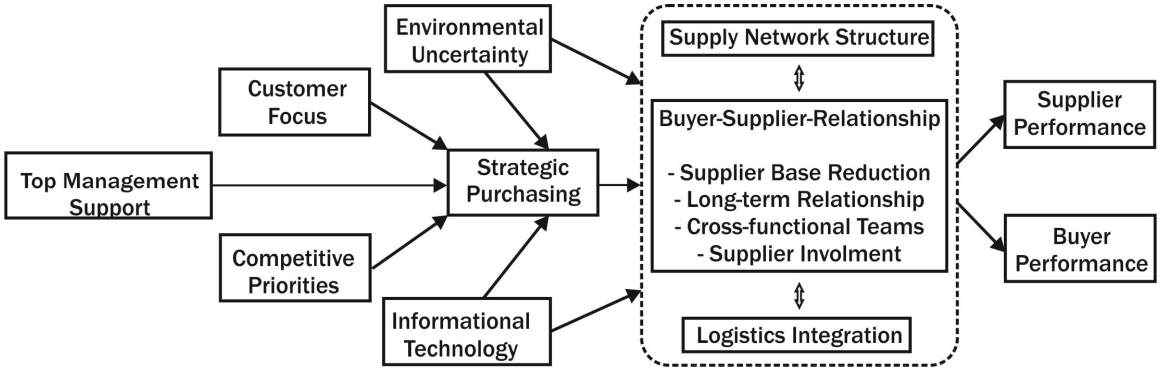
[2] The first subsystem is a physical supply of production (transport of raw materials and other material) and the other is the internal movement of raw materials and finished products in the company.

responsibility within a single target logistic function - to create additional value, and f) increasing degree of inter-functional and inter-organizational coordination.

D. Lambert, M. Stock and J. Ellram (1998) find that all firms within the supply chain must overcome their own frameworks and adopt the principles of procedural organization of various logistics functions of supply. Relationships in the supply chain are long and involve significant strategic coordination. They start from the assumption of specific development of business cooperation, communication and partnerships, resulting in specific beneficial effects of the SCM concept. The basic prerequisites are a willingness of all participants in the supply chain for joint action, trust, commitment to complete tasks, interdependence, organizational compatibility, shared vision, participation in key processes, accepting joint leadership and management support. They are necessary for integration and successful implementation of systematic, strategic and procedural approach. Their fulfilled provides numerous benefits that can be divided into two levels. The first level contains the exchange of information, sharing risks and rewards, cooperation, integration of key processes, longevity and stability of business relationships and quality cross functional coordination. The other level contains lower prices, greater customer value and satisfaction for customers, as well as the creation of lasting and sustainable competitive advantage.

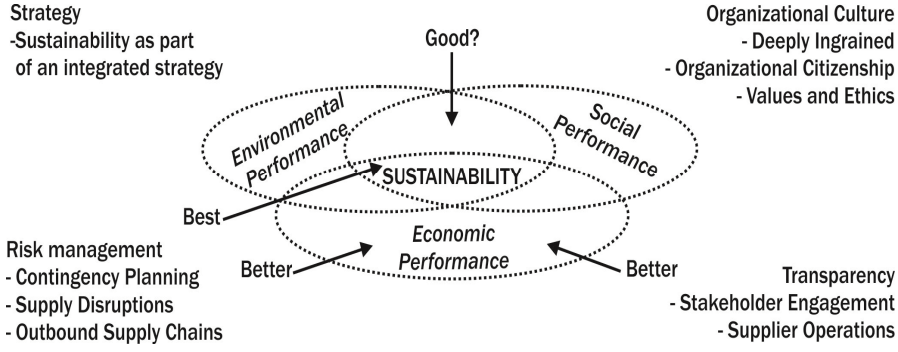
I. Chen and A. Paulraj (2004) developed their prominent research framework of SCM as a response to various calls for theory building in operations management, e.g. by S. Melnyk and R. Handfield (1998) or J. Meredith (1998). They consolidate and integrate relevant findings of various previous works into a research framework (see Figure 5), emphasizing the interdependence of relationships within a supply chain and hence the need of aiming for collaborative advantage.

Figure 5: A research framework of supply chain management



Source: Adapted from Chen & Paulraj, 2004, p. 121.

Figure 6: Sustainable supply chain management



Source: Adapted from Carter and Rogers, 2008, p. 369

C. Carter and D. Rogers (2008, p. 368) identify four facets supporting the performance on the triple bottom line by means of a review of sustainability literature: risk management, transparency, strategy, and organizational culture (see Figure 6). On this basis, the authors define SSCM: "*as the strategic, transparent integration and achievement of an organization's social, environmental, and economic goals in the systemic coordination of key interorganizational business processes for improving the long- term economic performance of the individual company and its supply chains*".

From the point of introduction of integrated logistics and global logistics operators in seaports, descriptive definition of SCM management across its five core components is relevant (Cohen and Roussel, 2005, pp. 10-19): operational strategy, outsourcing strategy, the choice of marketing channels, strategy of consumer service and asset management (equipment selection, location, etc.). Our final definition is provided by J. Stock and S. Boyer (2009, p. 706). Their definition is based on a synthesis of a wide range of suggestions provided by a variety of practitioner, academic and hybrid sources. They deconstructed the commonalities in all the reviewed suggestions in order to develop their definition of *SCM as.*

2.2 Supply Chain Integration and Evolution of Port Function

Researches carried out by UNCTAD in 1992. have shown that there are three generations in the development of sea ports and that their evolution went through a fundamental transformation: from providing traditional services to value-added logistics services. According to the modern concepts, there are three stages of port development, which are determined by port development policy and strategy, differences in the method of approach, scope of the port's activity and expansion level, and the port's activity integration level.

Table 2: Evolution of port function

	First generation	***Second generation***	***Third generation***
Start period:	*Before 1960s*	*After 1960s*	*After 1980s*
Principal cargo	Conventional cargo	Conventional cargo and bulk cargo	Bulk and unit cargo containerization
The port development position and development strategy	Conservative junction point of the sea and inland transportation	Expansionism transportation and production centre	Industrial principle international trade base chain connecting transportation system
Activity scope	(1) Cargo handling, storage, navigation assistance-pier and	(1) + (2) Cargo type change (distribution processing), ship related industry - enlargement of port regions	(1)+(2) + (1) Cargo information, cargo distribution, logistics activity - Formation of the terminal and distribution centres
Structure formation and specifics	- Everybody acts individually in the port - Port and its users maintain informal relations.	- Relations between port and its users become more close - Emergence of the slight correlation among port activities - Negative cooperation relations between port and self-governing community	- Formation of the port cooperation system - Trade and transportation chain concentration in the port - Relations between port and self-governing community become more closer - Extension of the port structure
Character of the productivity	- Invention of the cargo distribution - Individual supply of the simple services - Low value added	- Invention of the cargo distribution - Cargo processing - Complex services - Increase of the value added	- The flow of the cargo and information - Distribution of the cargo and information - Combination of the diversified services and distribution - Value added
Core factors	Labour/capital	Capital	Technology and know-how

Source*:* Modified from UNCTAD, *Port Marketing and the Challenge of the Third Generation Port,* 1992.

First generation port: Until 1960, ports played a simple role as the junction between sea and inland transportation systems. At that time, the main activities in the port region were cargo handling and cargo storage, leaving other activities extremely unrepresented. Such a way of thinking severely influenced related persons in the government and local administration. Also, it even influenced persons related with the port industry, so it was considered that it was enough to develop and invest in only port facilities, as the main functions of the port were cargo handling, storage and navigation assistance. It was for these reasons that important changes in transportation technology were neglected.

The second-generation ports: The second-generation ports are those built between 1960 and 1980, and had a system comprising of government and port authority, so the port service providers could understand each other and cooperate for mutual interests. The activities in these ports were expanded ranging from packaging, labeling to physical distribution. A variety of enterprises have also been founded in ports and hinterlands. Compared to first-generation ports, the second- generation ports have a characteristic that freight forwarders and cargo owners had a tighter relationship. We can say that the second-generation ports had begun to notice the needs of customers, but when it came to keeping a long-term relationship with customers, they took a passive attitude.

The third-generation ports: From 1980, container transportation has been developed quickly, and the new intermodal transport system emerged. The activities of production and transportation have linkage to form an international network. The former services function has been enlarged to include logistics and distribution services. The environment protection facilities are becoming more important, so the ports are developing closer relationships with those in their surrounding neighborhoods. Compared to the past, today's port authorities are focusing on efficiency rather than effectiveness. In the third-generation ports, the needs of customers were analyzed in detail and port marketing has been actively engaged (UNCTAD 1992, p. 20).

Nowadays the contest in the efficiency of providing basic port services is no longer possible. Hence the necessity of seaports to look for new ways of achieving competitiveness. Users of port services are increasingly demanding. Providing value-added logistic services has become a powerful way for seaports to build a sustainable competitive advantage. Customers now demand that logistics value added services become an integral part of the overall port services. This creates a big challenge for logistics management of the port. Modern development of sea ports is based on the *Core SCM model*, which includes coordination, collaboration and integration as a major strategic component having in its environment the competitive priorities, supply chain structure, physical and technical infrastructure, e-business, location, and facilities.

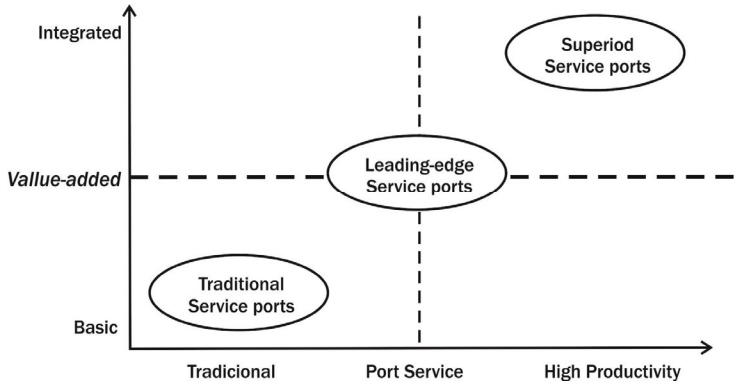
These days, the commercial success of a port could stem from a productivity advantage in traditional cargo-handling service, from value-added service, or from a combination of the two. Productivity advantages come mainly from economies of scale and economies of scope, suggesting that the most productive ports will be those that are equipped to handle large cargo volumes and/or significantly reduce unit costs through efficient management. Shippers and carriers select individual ports not only based on their cargo handling service capabilities, but also on the benefits they are capable of "delivering". Unless a port can deliver benefits that are superior to those provided by its competitors in a functional aspect, port customers are likely to select ports based merely on price. This fact raises the question of how a port can achieve value differentiation.

In the 1970s, almost every port provided the same basic package of services to almost every customer. Nowadays, however, it is more difficult for ports to compete on the basis of cargo-handling service. There has been a convergence of technology within cargo-handling service categories. This means that though new technology may sometimes provide a window of opportunity for productivity improvement, in many cases that same technology is also available to competitors. It is no longer possible to compete effectively on the basis of basic, traditional functions. Thus, there is a need for ports to seek out new means of gaining a competitive edge.

The late 1980s saw the emergence of major changes. Customers began to ask ports to provide a greater variety of services. Providing value-added services is a powerful way for ports to build a sustainable competitive advantage. Shippers and port customers are becoming increasingly demanding. Customers now tend to look at value-added logistics services as an integral part of their supply chain. As a result, ports must attempt to satisfy these needs by offering differentiated services. This poses a particular challenge for port management.

Studies show that the most successful ports are those that not only have a productivity advantage in cargo-handling services, but that also offer value-added services. Thus, there are several available options for ports to choose from, as shown in the simple matrix in figure 7.

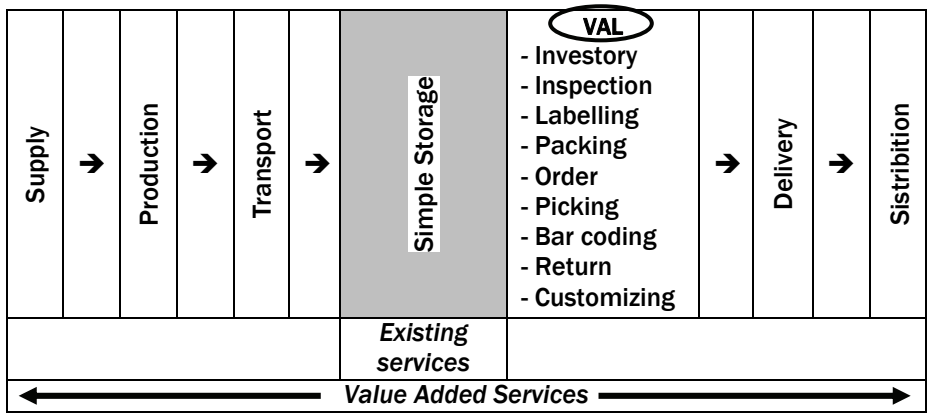
Figure 7: Matrix of competitive advantage



Source*:* Adapted from UNCTAD 1992 , p. 21

Sea ports providing traditional services from the lower left corner of the matrix do not differ from their competitors. The only option for them is to be shifted toward the right side of the above matrix, creating the key strengths (competencies) at the level of productivity, or upwards, i.e. by superior logistics services that create added value. In Singapore, which is a leading regional and international logistics facility in Southeast Asia, the logistics industry is developing value-added services as a strategic business sector. Logistics industry participated with 7% of GDP in Singapore in 2000. Year, and employed 5.1% of the workforce. European largest sea port-the port of Rotterdam has been particularly successful in creating a logistics center. Advanced ports around the world constantly emphasize the function of logistics centers, mainly due to high levels of global production and the need for value added logistic services.

Figure 8: VAL service of logistics centres in port area



Source: Adapted from UNCTAD 1992, p. 27.

Both logistics companies and shippers agree that value added services in logistics centres are important in supply chain management, and this tendency is expected to continue in the future. Figure 8 shows that value-added logistics (VAL) services encompass far more roles and functions than the existing services. In many cases, these services overlap or include third-party services, such as inventory management, inspection, labeling, packing, bar coding, order picking and reverse logistics etc. The pressures of VAL services in the logistics chain have increased the demands of logistics centre behind port areas.

The main VAL activities are (Ibid.): a) receiving goods, breaking shipments, preparing for shipment, returning empty packaging, b) simple storage, distribution, order picking, c) countrylizing and customizing, adding parts and manuals, d) assembly, repair, reverse logistics, e) quality control, testing of products, f) installing and instruction, and g) product training on customer's premises. The advanced ports around the world have continuously emphasized the function of logistics centres mainly due to the high degree of global production and the need for value- added logistics (VAL) services. These trends in international logistics strongly suggest that the trend toward VAL in the ESCAP region is likely to continue into the future. Some ports are already modifying the warehousing function to include the VAL functions when they develop new ports or reshaping existing ports.

Logistics centres can be classified into three different categories or generations. It is based on the scope and extension of logistics activities as in table 3. Logistics firm in logistics centre behind a port area are able to perform basic value-added service and carry out other value-added logistics services at the same time. That is, logistics centres provide not only traditional activities such as storage, but also value-added logistics services such as labeling, assembly, semi-manufacturing and customizing. Logistics centres combine logistics and industrial activities effectively in major port areas to create country specific and/or customer specific variations or generic products.

Table 3: Logistics centres evolution

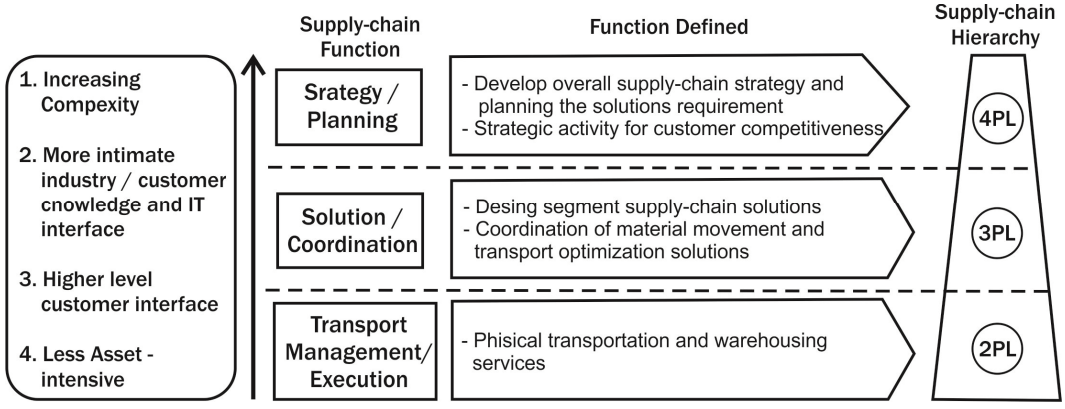
		Materials management
		Distribution Services (national/global)
	Bonding	Import clearance Bonding; Inbound transportation
Receiving	Receiving	Receiving
	Cross-docking	Cross Docking
Storage	Storage	Storage Inventory management and control Shipment scheduling
Order processing	Order processing	Orders processing
Reporting	EDI Reporting	EDI Reporting
Picking	Picking	Picking
Order assembly	Order assembly	(Product) subassembly; Order assembly
(Re)packaging	(Re)packaging	(Re)packaging
	Stretch-shrink-wrapping	Stretch-shrink-wrapping
Palletizing/unitizing	Palletizing/unitizing	Palletizing/unitizing
Label/mark/stencil	Label/mark/stencil	Label/mark/stencil
Shipping	Shipping	Shipping
Documentation	Documentation	Documentation
	Outbound	Outbound transportation
	transportation	Export documentation FTZ operation JIT/ECR/QR services Freight rate negotiation Carriers/route selection Freight claims handling Freight audit/payment Safety audits/reviews Regulatory compliance review Performance measurement Returns from customers Customer invoicing

Source: Adapted from Bolten, 1997, p. 19

When logistics centres are grouped together in a common dedicated area, it is sometimes called a Distripark (Distribution Park). Therefore, a Distripark is a large-scale, advanced, value-added logistics complex with comprehensive facilities for distribution operations at a single location, which is connected directly to container terminals and multimodal transport facilities for transit shipment, employing the latest information and telecommunication technology. Rotterdam in the Netherlands, Bremen in Germany, and Singapore are examples of this kind of arrangement. Container ports are generally a preferred choice to set up Distriparks, since they are already closely located to various inland transport facilities and a highly skilled workforce.

Logistics centers are in the advanced ports grouped into "distripark", which is a large, developed logistics complex, with full equipment for a variety of advanced logistics and distribution activities to individual sites. It is directly linked to the container terminals and multimodal transport equipment for transit. It uses the most advanced information and telecommunications technology. Multimodal logistics operators are closely connected with the port logistics centers, because they both according to W. Delfmann (www.spl.uni-koeln.de, p. 14), are integrators of resources, skills, competencies, knowledge and technology of various organizations aiming to design, build and implement comprehensive logistics solutions in the supply chain. The development of multimodal logistics outsourcing is going towards strengthening provider types 3PL, 4PL and 5PL, whose services include practically the total supply chain. Figure 9 illustrates this along the dimensions of theoretical scope and practical applicability.

Figure 9: Logistics integrated solutions



Source: Adapted from Planning Commission Ministry..., 2007, p. 3

3. The Role of Outsourcing in the Enhancement of Competitiveness

To operate successfully, seaports must continually seek and implement new strategies to improve their competitive ability. Outsourcing is the one of the most frequently used modern strategic options. It allows better use of resources to carry out key seaport activities. Subsidiary activities are transferred to specialized external partners for cheaper, faster and better operations. Focusing on key activities reduces overall logistics costs, contributes to a superior realization of subsidiary activities and allows to improve operations, create competitive advantages and increase exports. Seaports with specialized partners remain in a long-term and cooperative business relationship. The competitive advantage of seaports increases through outsourcing by reducing the costs of external activities (compared to the costs of internal realization). Connecting with specialized partners increases the quality of inputs and domestic products (services).

The articles cite various reasons for implementing outsourcing. The Otsourcing Institute lists top ten reasons (http//www.outsourcing.com/...): reduce and control operating costs, improve company focus, gain access to world-class capabilities, free internal resources for other purposes, resources are not available internally, accelerate reengineering benefits, function difficult to manage/out of control, make capital funds available, share risks, cash infusion, increase flexi-

bility, increase product and service value, satisfy customers and shareholders, improve operational performances, innovation realization, increase credibility and image by connecting with top partners, access to new markets and business opportunities, etc.

Threre are two types of marketing logistics organizations: a) *in-house* or in-sourcing logistics (1PL), which means that the company conducts its logistics activities internally and have the equipment to manage the logistics (transport facilities, warehouses, etc..) and trained staff, and b) second-party logistics service operators (2PL), based on assets and the traditional logistics functions management, such as transportation and storage, accepting the opinion of Bade, Mueller and Youda (1999) that there are three levels of logistic *outsourcing*, characterized by organizational development in the seaports, respectively:

– third-party logistics providers (3PL) as contract logistics companes, performing delegated logistics functions, which can be the whole process of logistics or just some selected activities such as transport and storage; these experts are positioned between the buyer and the shipper, providing services for the shipper and therefore are called third party logistics,
– fourth-party logistics operators (4PL) as an evolutionary concept of 3PL, providing better services to the customer demand; logistic operators as integrators manage and run complex logistics operations including resources, informations about the supply chain, control of stowage and logistic architecture, and
– fifth-party logistics operators (5PL) are advanced in the service of e-business and can manage all parties in the supply chain in e-market of seaport services.

Greater orientation towards logistics outsourcing strategy creates more opportunities for process cooperation and synchronization, resulting in greater business efficiency and profitability of the seaports. The highest organizational level of outsourcing among advanced seaports is 4PL. Logistics operator type 4PL is an integrator that performs the following organizational actions:

– gathers logistical resources, capabilities and technology of its own and other (complementary) organizations for designing, building and starting comprehensive supply chain logistics,
– combines and controls operational processes, technologies, management processes and resources, and all logistics flows in the supply chain,
– offers the broadest range of logistics services, high-tech capabilities, better flexibility, information, data exchange and communication,
– allows better use of logistic capacities and inventory reduces, and
– takes responsibility for the realization of all logistics flows in the complex supply chain in seaports.

The above organizational actions allow gaining competitive advantage in the global market of port services and complete satisfaction of port service users. In addition, the motive for engaging seaports external logistics operator type 4PL is to increase profits, reduce various operating expenses of the port, reduce working capital and fixed capital, improve the quality and increase the speed of logistics services, better planning, the availability of new logistics services, shorten the time logistics cycle, improve customer service and strengthen its own key skills. Generally, use of synergistic effects, from organizational logistics partnership, implies better cargo consolidation and reducing of the number of logistic suppliers and intermediaries. Focusing on the model managing of the strategic processes instead of local operational tasks, enables creating value-added of logistics services, with the same or better quality. The desired result is achieved with a minimum loss of time and resources. Intensifying the process of logistics integration creates new opportunities for cheapening the port services, based on the reduction of total logistics costs.

On a global scale it is estimated that outsourcing has increased by 60% in North America and 74% in Western Europe, in the period 2005-2007. It is expected that 4PL market increase in Europe from €4.7 billion in 2002 to approximatelly €13 billion in 2010 (Hannon, 2003, p. 24S1). The organization of logistics activities assumes the formation of appropriate organizational structure, i.e. relationship between the individual organizational units, parts, employees, port authorities and seaport communication systems. Generally, there is a differenece between:

a) the *traditional forms* of organization, where logistic activities on a functional bases (transport, storage, inventory, purchasing, etc.) are delegated to individual sectors and superior services in sea port (marketing, sales services, commercial, etc.), and

b) the *modern forms* of organization, where logistics activities are increasingly aiming to specialize port operators, that integrate the largest number of considered activities.

In the strategic and methodological point of view, the logistics outsourcing is based on decisions „Make-or-Buy". Its advantages and disadvantages can be proved by thorough and realistic SWOT analysis. At the same time, a seaport must pay attention especially to the preservation of its own key competencies, level of logistics efficiency and the relationship between costs and benefits in various business decisions. M. Corbett (2004, pp. 77-78) believes that decisions on outsourcing methodology have four stages: planning initiatives, exploring strategic implications, cost/performance analysis, and the choice of port operators. Each of these stages has specific steps and analysis of certain factors: risks, costs, benefits, resources, technology, knowledge, organizational capabilities, market requirements and conditions, information technology, etc.

4. Analysis of the Current Level of Service in the Port of Bar

In terms of assessing the quality of port services L. Mirotin (2003, p. 49) suggests the use of the following parameters: a) *internal port environment* (equipment, devices, dock transport systems for moving freight, storage, weighing, control systems, enclosures, training, hospitality, correctness and the complaisance of port personnel, the level of information support, etc.), b) *reliability* (execution on time, the absence of risk and user mistrust), c) *the liability* (the guarantee of fulfillment of port services, port staff wishes to assist the service user), d) *completion of services* (competence of port personnel, the existence of the necessary skills and habits), e) *availability* (ease of contacts) and f) *timing, speed and price.*

P. Marlow and C. Paixao (2003, p. 195) proposed as additional indicators: *frequency* (the time required for the provision of port services), *flexibility* (adaptability to customer requests for port services), *control* (appropriate information on the status and position of cargo in the port) and *security* (implementation services without any damage or loss of cargo). In addition, the Port practice testifies to the importance of mutual understanding between the port staff and users, the level of operating costs (cost of transport per unit of measure), the level of permeable options, mobility in providing of port transport under different conditions, continuity of port transport (their regularity), guarantee of keeping the cargo subject to port services safe, efficient use of transport vehicles, mechanization and automation of loading and reloading operations, etc..

Looking through the prism of these indicators, as well as the above theoretical approach (in 2), it seems safe to conclude that the current level of quality of port and logistics services in the port of Bar is unsatisfactory. The same can be said for its competitiveness in comparison with Adriatic ports of approximate capacity, particularly in relation to the world average. Comparison with the advanced world sea ports would be devastating according to all parameters. The reasons are numerous, but among economic causes, the lack of investment and high-quality logistics partners are predominant. The total realized turnover of cargo in 2010 amounted to 787 833 tones, of which 36.3% relates to the containers 20 'and 40'.

Montenegro is territorially and economically a significant economic area, which has unused resource and location capabilities. Their proper identification and valorization are the prerequisite for reflection on the above idea of partner logistic cooperation with the port of Koper. It may include expansion of the Free zone of the Port of Bar on the entire territory of Montenegro,

which would be the best way to valorize Montenegrin resources, its comparative advantage and priority industries such as tourism, maritime and agriculture. According to the statements of the management team of the port of Bar, it may receive only a small number of large ocean vessels, i.e. only 40 ships from the planetary fleet of containers of 4722 ships, due to technical limitations on the vertical mechanization of general cargo container terminal. However, there is contrary information in Serbian sources, according to which the port of Bar was made for ships from the Suez Canal, but because of the shallow draft, 70% of these ships can not sail into the port of Bar. In addition, the new investor would have to purchase a new crane for unloading containers from large ships. For all these reasons, it is emphasized that the port of Bar operates with only one half of the projected capacity of five million tons per year. The process of negotiating with the largest global operators lasts for a long time. Due to the disturbed political relations, through the Port of Bar is transported only 7-8% of goods from Serbia. Until recently it was 20%, and so much more. Balancing of draft depth in the port of Bar to 14 meters would allow acceptance of ships such as "Panamax". It is not possible to obtain detailed information on the depth measurement of all berths and waters. The fact is that so far not a single "Panamax" has ever entered the Port of Bar.

A brief PEST analysis is as follows:

– P - *Political / legal factors*: adopted Law on Ports of Montenegro, the Transport Development Strategy of Montenegro and the EU standards, laws on environmental protection and other.;

– E - *Economic factors*: the excellent geographic and transport position of the port, global economic crisis, low level of economic development, bad GDP trends , slowed flows of goods in the gravitation field, the port privatization process aimed at giving long-term concessions, a large number of employees, low capacity utilization;

– S - *Socio-cultural factors*: still present paternalism among employees, oversized number of employees, a relatively new high level of professional skills of employees, there is a strong motivation of employees to learn and develop professionally;

– T - *Technological factors*: there are significant investments in research and development, focus on new technologies, poor technical-technological equipment, a solid representation of modern information technology, insufficiently developed transport infrastructure of the region, there is no integration in more complex systems, flexible organizational structure. The PEST analysis above shows, that the Port of Bar has a need and real opportunities for partnership linking with the Port of Koper and integration with a big Chinese investment and global logistics service provider based on the benefits of long-term concessions.

A brief SWOT analysis is as follows:

– *Threats*: strained political relationships in the region, global economic crisis, the decline of direct foreign investments, lack of interest by investors;

– *Opportunities*: a clear development strategy, qualified and skilled workforce, a modern information system, great experience and tradition, the possibilities for market expansion and the range of port and logistics services, desire for integration, absence of the possibility of new competition appearance;

– *Weaknesses*: lack of competence, unexploited competitive advantages, lack of investments, poor reputation among the users, the lack of brand and market leadership, average management, lack of protection from competition, outdated equipment and technology, low productivity;

– *Strengths*: favourable maritime-geographic location, proximity to the existing transport corridors in Central Europe, great capacity of loading operations, a large storage area for goods and distribution centres, favourable transit fees, years-long solid business, openness for partnership cooperation and provision of long-term concessions. The above SWOT analysis shows that the port of Bar needs to focus on the improvement of overall business performance and creation of new concepts for new and successful strategy. Depending on the combination of internal and

external factors, in the future, it is possible to identify several types of strategy, but it is certain that the Port of Bar (in the case of partnership cooperation with the Port of Koper and finding a strategic investors and global provider) will choose a maxi-maxi strategy.

The partners and banks of Italy are seriously interested in a strategic partnership with the Port of Bar, because this is the best link with Romania and Russia, as an important foreign trade partner. The lack of highway, modernized railroad and the lack of connection to the Pan-European network put the Port of Bar in a second-rate position. The aged machinery and its low capacity, partial dilapidation and undeveloped infrastructure (banks, draught, internal roads) directly affect the poor business. All this speaks for the urgent need for a partnership linking and integration of the Port of Bar with some of the major Chinese investors.

The question is: are there realistic possibilities for this? Instead of a positive response, we will offer the following facts. Container mother ships from Asia more and more frequently stop in the Mediterranean hubs. Shippers have found that the freight, as well as the duration of the round trip from Asia to the Mediterranean ports, instead of the ports in the North Sea, may be reduced for 1/3. This is important in terms of cost per day trip of a modern container ship. The product of such decision is the opening of more container hubs in the Mediterranean, the most important of which are Piraeus, Malta and Gioia Tauro. The relocation of production requiring a great workforce from Western Europe and the Middle East to South East Europe is also a realistic opportunity. Great liner shipping companies are trying to ensure their market share by stronger control of the transport chain. They are not only ship owners anymore, but also providers at terminals that own the docks or control them, and are also involved in the inland handling of containers. Expensive loading/unloading equipment ensures quick loading operations and brief detention of a ship in the harbour. Until recently, the Mediterranean ports could not meet this requirement because their gravitational hinterlands were underdeveloped. Today's Mediterranean hub ports have developed due to the favourable position in relation to the main trans-Mediterranean route for container liners. This can be a great opportunity for investment in the Port of Bar.

5. Requirements for the Implementation of the Preliminary Concept

Strategic requirements of the discussed preliminary concept are based on the orientation of Montenegro toward the accession to EU and Euro-Atlantic integration. This anticipates a continuous effort to make the economic system compatible with EU standards, while maintaining the openness of the Montenegrin economy and strengthening its competitiveness on the basis of use of natural, economic and human resources. The above corresponds to the strategic development priorities (see more in the Government of Montenegro, www.gov.me/rubrike/ekonomski-programi).

The economic requirements for the implementation of the design concept can be found in the government's macroeconomic policy programme for 2009. Many elements directly indicate that there are realistic economic preconditions for the partner cooperation of the Port of Bar and the Port of Koper (the need for improving competitiveness, safeguarding the interests of foreign investors and logistics providers, implementation of prepared infrastructural projects, etc.). This is also the basis of the recommendations by the World Bank for boosting infrastructural investments.

Logistics requirements for the implementation of the discussed preliminary concept are based on the fact that the distribution centres in the world are the bearers of the logistics supply chains. They are the simplest way for achieving direct links to customers and total control of the market. Therefore the considered preliminary concept should be oriented toward their formation, in addition to the development of the Port of Bar. This requires big investments. Distribution centres contribute to the strengthening of the company's brands, market share, and control of billing, improved customer service, winning the leading position in the market, providing sales services to customers, faster and safer delivery. Companies tend to reduce costs through more efficient

supply chain management, which is now one of the basic principles of logistics, and therewith the existence of distribution centres.

Infrastructural requirements for the implementation of the preliminary concept is based on the fact that the infrastructural development of the Port of Bar would positively influence the implementation of the planned road and rail routes, thus connecting Montenegro to important European transport corridors, with better quality connections of the Montenegrin transport system to trans-European transport network (TEN-T). There is an ongoing resolving process regarding the bottlenecks and the construction of roundabouts for almost all the towns, the construction and reconstruction of the third lanes on many main roads and initialization of the highway construction. For the implementation of the necessary reconstruction programme and improvement in the efficiency of the railway system, EBRD has provided EUR 15 million. The construction of the railway Capljina-Niksic has been announced, having a regional importance since it connects Montenegro, Bosnia and Herzegovina, Albania and Macedonia, including an important connection to the Port of Bar. The overhaul and electrification of the railway Niksic-Podgorica is in the process of finalization.

Location requirements for the implementation of the preliminary concept are probably the most important ones. Montenegro is situated in Southeast Europe, on the Adriatic coast. It borders Serbia, Croatia, Bosnia and Herzegovina and Albania.

Figure10: Location of the seaports Bar and Koper



Montenegro is by its position a Mediterranean and Balkan country, thus main traffic routes connect the Port of Bar with the Montenegrin hinterland and the Balkan states. The total length of the railway network in Montenegro is 250 km (part of the Belgrade-Bar railroad, which is electrified, and the railway line Niksic-Podgorica-Bozaj (Albania). The total length of the roads in Montenegro is about 7,000 km, where the length of main and regional roads is 1847 km. It is expected to start with the construction of the highway Belgrade-Bar. Montenegro is a country with a long maritime tradition. It has also two airports (Podgorica and Tivat).

In maritime industry, there are requirements for the purchase of new ships that will perform container service between the Port of Bar and a transhipment centre. For entering into long term agreements with the parties interested in the transhipment of goods from a wider gravitation area of the Port of Bar, it is necessary to introduce the most updated logistics forms and create a single transport chain, which would include various forms of transport. Through organizational, management and functional transformation, and subsequent privatization of the Port of Bar, it is necessary to create infrastructural prerequisites for raising the attractiveness and optimal positioning of the Port of Bar on the market of transport. This will facilitate the attraction of foreign capital to be invested in operational activities and other development projects of the Port of Bar. These are all strategic movements toward the creation of conditions for providing the Port of

Bar with regional significance. This primarily refers to the finding of strategic partners, such as the Port of Koper, the strong Chinese shipowner and global logistics provider. It is necessary to improve the port infrastructure, provide a deeper draft and updated technology for the transhipment of containers and general cargo. As unused opportunities, there are modalities for the activation of 7.8 ha of the port aquatorium, which is aimed at developing production and trading activities. This also anticipates the procurement of modern mechanization (mobile port cranes, loading bridges with deadweight of 12 tons, etc...). The Port of Bar will be given for years-long concession use (www.gov.me/rubrike/ekonomski-programi, p. 18).

The application of benchmarking in partner cooperation of the seaports Bar and Koper can ensure an improvement in the quality of port and logistics services, improvement in business processes, reduction in operating costs and total logistics costs, enhancement of the quality of the organization as a whole and increase in customer satisfaction, new business opportunities, achieving competitive advantage, increase in creativity, enhancement of the quality of the organization as a whole and increase in profit. In this case, it must be based on the best practices of advanced sea ports and logistics providers. Therefore, the expansion of possibilities regarding the discussed ports anticipates better stimuli for Chinese investors and providers and promotion of favourable investment environment.

The hinterland of the Port of Bar can be adjusted to the development of assembly industries and distribution centres for export to European countries, banking services and insurance, ecotourism and organic food production for the needs of tourism and export. The development of operational port and logistic functions, associated with the formation of large distribution centres, modern warehouses and port terminals (in the very Port of Bar and its hinterland) can be put in the function of the future free zone, which would be oriented toward the entire territory of Montenegro. In this part, the transport logistics is of special importance. It also anticipates the development of inspections, quarantines, industrial and economic administration, tax authorities and banks, insurance and telecommunications companies, liberalized legislation in the field of investment, low taxation and profit repatriation.

The Adriatic seaports of Rijeka, Koper and Trieste are competitive due to their geographical position. The Port of Koper is the youngest of the three. In terms of their areas, it is 10 times bigger than the Port of Rijeka. This provides it with a higher annual cargo turnover. However, its further development is limited by the 12-meter sea depth, lack of transhipment capacity, poor infrastructural connections to the hinterland, which is insufficient for the total daily turnover, small gravitational area.

According to European and international standards, the Port of Koper belongs to the group of small ports, and Port of Bar to the group of very small ones, because its bandwidth is below 500,000 TEU units. The global maritime market shows the great need for the centralization and concentration of seaports. This implies the need for their joint partner appearance and cooperation. In the future, the associated partner Ports of Koper and Bar could compete with medium-sized Mediterranean ports with the volume of container transhipment of approximately 0.7-1.7 mil. TEU units (*Containerisation International Yearbook*, 2009).

The world container shipping is dominated by the liner navigation between specialized container port terminals of various sizes. There are large sea ports with huge port terminals enabling high traffic. They are called hub-ports or hubs. Nevertheless, there are many medium and small container terminals in the world, in the so called spoke-ports. Big world routes operate between the limited number of hubs, and smaller feeder routes connect the hub ports with spoke ports. This kind of organization increases the intensity of traffic between hub ports, and therewith enables the growth of the spoke ports. This is where we should look for the conditions for future partner cooperation between the sea ports of Koper and Bar, which need to use their advantage of the most economical and shortest connections to Europe.

L. Qianwen (Qianwen, 2010, p. 29) analysed the technical efficiency of 32 Mediterranean container sea ports. He calculated the indexes of technical efficiency by the mathematical modelling of four internal variables as the inputs: the longitude of connections (m), total area of termi-

nals, rate of capacity utilization with containers being kept (TEU units) and quality of capacity management (in tons). Many of the stated indicators contain the quality of logistics ports. The index of technical efficiency mainly depends on the investment in port infrastructure. In line with the increase in the discussed index, increases also the quality of port logistic services. The author came to the conclusion that the efficiency of sea ports primarily depend on shaping the strategy for investment in infrastructure that can be aggressive and/or non-aggressive. The port of Koper is at the end of the list of medium efficient ports with the index of 0.26, while the port of Bar belongs to the group of inefficient ports with the index of 0.09 (Qianwen, 2010, p. 32). We can conclude that the investment in port infrastructure and logistics, with better utilization of the capacities and application of integrated marketing logistics, is the prerequisite for increasing the technical efficiency. Investment in the port of Bar on the basis of awarded concessions would enable relatively fast familiarization of the discussed ports in terms of technical efficiency and facilitate their partner cooperation, which can be multifunctional.

7. Conclusion

Medium container capacities with stabile business environment and logistics providers in the inland area of hinterland are the development imperative for the port of Bar. The implementation of the discussed project idea for partner cooperation with the port of Koper can be fulfilled only based on some external capital, knowledge, management and acceptance of mutual risk. It would provide conditions for a fast, long-term and good quality solution for the following issues: preservation of old and creation of new jobs, increase in the scope of transport and production of port and logistics services, increase in export, increase in GDP, budget stabilization, neat servicing and reduction of foreign dept, increase in life standard, improvement of management etc.

The positioning of Montenegro in the processes of accession to EU is based on the principles of *Interconnectivity* – interconnections at all levels, *Intermodality* – inter-branching in entirety and *Interoperability* – internal-branching and inter-branching connection of services. Fast adjustment to the above stated principles is an additional reason for believing in the possibility of partner cooperation between the ports of Koper and Bar and attraction of a strong strategic investment partner and global logistics provider. This would enable an accelerated infrastructural and logistics development, as well as greater application of multimodal concept of transport.

The seaports of Bar and Koper, acting together, would be an equal competition to the most of Mediterranean and Baltic ports in terms of good quality in port and logistics service providing, as well as the scope of transhipment.

The analysis has shown that application of outsourcing can have a positive impact on increase of partnership cooperation between Slovenian and Montenegrin seaports, their competitiveness, and the importance on the international market.

References

Battaglia, A. J. (1994), "Beyond Logistics: Supply Chain Management (Operations)", *Chief Executive*, No 99, 48–50.

Bolten, E. F. (1997), *Managing time and space in the modern warehousing*, Amacom, New York.

Bowersox, D. J., Closs, D. J. and Stank, T. P. (2000), "Ten mega-trends that will revolutionize supply chain logistics", *Journal of Business Logistics,* Vol. 21, No 2, 1-16.

Carter, C. R. and Rogers, D. S. (2008), "A framework of sustainable supply chain management: moving towards new theory", *International Journal of Physical Distribution & Logistics Management,* Vol. 35, No 5, 360-387.

Chen I. J. and Paulraj, A. (2004), Towards a Theory of Supply Chain Management: the Constructs and Measurement, *Journal of Operations Management,* Vol. 22, No 2, 119-150.

Containerisation International Yearbook (2009).

Cohen, S. and Roussel, J. (2005), *Strategic Supply Chain Management*, McGraw Hill Co, N.Y.

Cox, S. A. (1999), "Power, value and supply chain management", *Supply Chain Management: An International Journal*, Vol. 4, No 4, 167-175.

Cox, A. (2001), "The power perspective in procurement and supply management" *The Journal of Supply Chain Management*, Vol. 37, No 2, 8-15.

Draskovic, M. (2011), *Savremene razvojne tendencije marketing logistike u morskim lukama*, Ekonomski fakultet, Subotica.

Fawcett, S. E. and Magnan, G. M. (2002), "The rhetoric and reality of supply chain integration", *International Journal of Physical Distribution & Logistics Management,* Vol. 32, No 5, 339-361.

Enabling Successful Supply Chain Management-Coordination, Collaboration, and Integration for Competitive Advantage, Doctoral Thesis, Mannheim University Press, Mannheim.

Lambert, D. M., Stock, J. R. and Ellram, L. M. (1998), *Fundamentals of Logistics Management*, Irwin/McGraw-Hill, Boston, MA, Chapter 14.

Lambert, D. M., Cooper, M. C. and Pagh, J. D. (1998), "Supply chain management: Implementation issues and research opportunities", *The International Journal of Logistics Management*, Vol. 9, No. 2, 1-19.

Lysons, K. and Gillingham (2003), *Purchasing and Supply Chain Management*, Prentice Hall.

Marlow, P. B. and Paixao, C. A. (2003), „Measuring Lean Ports Performance", *International Journal of transport Management*, N0 1, 190-199.

Melnyk, S. A. and Handfield, R. B. (1998). May you live in interesting times ... the emergence of theory-driven empirical research. *Journal of Operations Management,* Vol. 16, No 4, 311-319.

Meredith, J. R. (1998). Building operations management theory through case and field research. Journal of Operations Management, Vol. 16, No 4, 441-454.

Mentzer, J. T. et al. (2001), "Defining Supply Chain Management", *Journal of Business Logistics*, Vol. 22, No 2, 1-25.

Mirotin, L. B. (2003), *Transportnaya logistika*, Ekzamen, Moskva.

Planning Commission Ministry of Railways Ministry of Shipping, Road Transport & Highways Asian Institute of Transport Development (2007), *Regional Seminar on Intermodal Logistics,* Vigyan Bhavan, New Delhi.

Roca, B. (2004), *Marketing logistika*, Kultura, Backi Petrovac.

Schroeder, R. G. and Flynn, B. B. (2001), *High performance manufacturing: Just another fad*? in Schroeder, R. G. and Flynn, B. B. (Eds.), *High performance manufacturing - global perspectives*, New York.

Sergeyev, V. I. (2005), *Korporativna logistika – 300 otvetov na voprosi profesionalov*, Infra–M, Moskva.

Stock, J. R., Lambert, M. D. (2001), *Strategic Logistics Management*, McGraw-Hill, New York.

Stock, J. and Boyer, S. (2009), "Developing a consensus definition of supply chain management: a qualitative study", *International Journal of Physical Distribution & Logistics Management,* Vol. 39, No 8, 690-711.

Supply Chain and Logistics, Terms and Glossary (2006), http://www.logisticsservicelocator.com/resources/glossary03.pdf

Sweeney, E. (2011), "Towards a Unified Definition of Supply Chain Management", *International Jour-nal of Applied Logistics*, Vol. 2, No 3, 30-48.

Terminology in Logistics (1994), *ANNEX Dictionary*, European Logistics Assotiation.

Qianwen, L. (2010), *Efficiency Analysis of Container Ports and Terminals*, Centre for Transport Studies Department of Civil, Environmental and Geomatic, London.

UNCTAD (1992), *Value-Added Services of Logistics Centres in Port Areas*, http://www.unescap.org/ttdw/Publications/TFS_pubs/pub_2194/pub_2194_ch3.pdf, downloaded 10.01. 2012, 19-40.

Vlada Crne Gore (2010), *Ekonomska politika Crne Gore za 2011. godinu* (www.gov.me/rubrike/ekonomski-programi, downloaded 10.12.2011).

http://www.spl.uni-koeln.de

http://www.scm-institute.org

http://hercegbosna.org/forum/post306384.html

http//www.outsourcing.com/content.asp?page=01b/articles/intelligence/oi_top_ten_survey.html & nonav=true

http://www.ukessays.com/essays/business/the-concepts-of-supply-chain-management-business-essay.php#ixzz2MOSYD7W5