

CUSTOMER VALUE CREATION IN SEAPORT: AN ANALYSIS OF INTER-ORGANIZATIONAL RELATIONSHIPS

Marcella De Martino, Institute for Service Industry Research (IRAT) - CNR, Via M. Schipa 91, 80122 Naples (Italy), Email for correspondence: m.demartino@irat.cnr.it

Valentina Carbone, ESCP Europe, 79 Av. de la Republique Paris (France)

Alfonso Morvillo, IRAT - CNR, Via M. Schipa 91, 80122 Naples (Italy)

ABSTRACT

The paper addresses the main gaps of the port literature on the topic of customer value creation and proposes a framework of analysis drawing from the Resource Based View (RBV) of the firm. From this perspective, seaports can be viewed as dynamic networks of actors that exchange resources, share knowledge and build supply chain capabilities for the pursuit of customers' satisfaction. In this network, resources allocation and interaction contribute to the value creation and the sustainability of the strategic choices in case the strategic aims of port operators converge towards customer's satisfaction. The paper, through a case study methodology, discusses the contribution of resources to the customer value creation by analysing the case of the port of Naples.

Keywords: Port Competitiveness; Customer value creation; Resource Based View of the Firm.

1. INTRODUCTION

Most of the studies on port competitiveness have focused on the efficient and effective port service management in the process of satisfaction of the shipping companies' requirements. This perspective, even though crucial in the process of the strategic planning of port development, it is not sufficient for ensuring a sustainable integration of the seaport with its own productive hinterland. The effective integration of seaport in the international and local distribution and logistics chains depends more and more on immaterial resources such as the knowledge of the market and of customer's needs, the development of competences and the agility in reacting to the demand's changes, the sustainability of the growth strategies. With the aim of contributing to knowledge advancement on the seaport competitiveness from a micro-economic perspective, the objective of the paper is to propose a framework of the analysis of customer value creation drawing from the RBV of the firm. In particular, as in others services, resources allocation and interaction can represent crucial features in port value creation process as these enable both Port Authority and port business operators to be strategically oriented towards customers' satisfaction.

The paper is structured as follows: the first section focuses on the analysis of the concept of customer value within the port literature. To this end, a review of the most relevant papers dealing with port competitiveness according to the SCM approach has been carried out. While the industry organization perspective has been widely applied in the port studies, the analysis shows a gap of the literature on the model of analysis drawing on RBV of the firm.

At this regard, this paper contributes to this gap by proposing a theoretical framework for the analysis of customer value creation in seaports based on the RBV of the firm. Based on this framework, in the fourth section, a preliminary case study has been carried out on the contribution of the port of Naples to value creation process of a manufacturing firm, located in its own hinterland. Further research directions and conclusions are provided in the last sections.

2. CUSTOMER VALUE IN THE PORT STUDY: A LITERATURE REVIEW

In this section, main findings of the literature review on current models of analysis of port competitiveness are provided (De Martino et al., 2013). To this end, the analysis focuses on five key-features of the research: customer orientation, the focus and the unit of analysis of the port competitiveness, the conceptual category and approach of analysis and finally, the main issues addressed by Port Authority's strategies (Table 1).

The first consideration refers to the increasing recognition of customer orientation as a leading factor for effective port policy actions and strategies. Heaver (1995) already highlighted that shippers' choices among logistics systems, as well as the choices of shipping companies, are the competitive realities to which port must respond. Since then, studies have been focusing on key factors that bring to port selection according to carriers and logistics operators, such as shipping companies; shippers; freight forwarders. An increasing number of studies have focused on hard and soft components of the integrated and value added port offer in satisfying different customers' requirements. Finally, others have mainly focused on Port Authority's strategies for boosting supply chain integration and customer satisfaction

With reference to the focus of the analysis, it is only in the last decades that the strategic importance of relationship networks and port supply chain integration for the improvement of customer' satisfaction have become central issues in port development strategies. This trend is consistent with the process of privatization in ports that brought to a variety of governance structures in different countries (Brook and Pallis, 2008). The shift from public to private investment in ports was not solely ideological or based on beliefs in the efficiency of private compared to public enterprises (Heaver, 2006). As terminal operating companies have grown, they have also been able to bring to ports an increased level of expertise as well as capital, and a greater awareness of the need to supply value added services. This led to a greater attention to port customers' requirements so that performance attributes' gaps can be identified for improvement.

Consistent with the shift in the focus of the analysis, the unit of analysis has also changed towards logistics systems of which ports (in particular terminals) are components. Robinson (2002) has already described the interactive changes in the individual components of the logistics systems, to which ports belong, and related them to the changing values of shippers. In this respect, port has been interpreted as: a value chain system, a bundle of resources and activities, an actor of the business relationships network; an open system. In accordance with these interpretations, the unit of analysis has become more complex going further the terminal as key-actor of port competitiveness until embracing actors' inter-organizational relationships - at dyad, supply chain and network levels - and more intangible characteristics: resources activation; port management and organization.

Customer value creation in Seaport: an analysis of inter-organizational relationships
De Martino Marcella, Carbone Valentina and Morvillo Alfonso

Table 1: The analysis of customer value creation in the port literature: a state of the art

PORT CUSTOMER	FOCUS OF THE ANALYSIS	UNIT OF THE ANALYSIS	CONCEPTUAL CATEGORY AND APPROACH	MAIN ISSUES FOR P.A'S STRATEGY
<p>Shipping company</p> <p>Heaver <i>et al.</i> (2001); Notteboom and Winkelmanns (2001); Song (2003); Yap and Lam (2004); Tongzon and Heng (2005); Ng (2006); Song and Panaydes (2008); Tongzon <i>et al.</i>, (2009).</p> <p>Shipper</p> <p>Heaver (1995); Compés Lopez and Poole (1998); Robinson (2002).</p> <p>Client portfolio</p> <p>Carbone and De Martino (2003); Bichou and Gray (2004); Yeo <i>et al.</i>, 2008; De Martino and Morvillo (2008); Mangan and Lalwani (2008); Brooks and Pallis (2008).</p> <p>Freight forwarder</p> <p>Tongzon (2009).</p>	<p>Port Authority strategy</p> <p>Heaver (1995); Notteboom and Winkelmanns (2001); Brooks and Pallis (2008); Tongzon and Heng (2005).</p> <p>Relationships and performance</p> <p>Compés Lopez and Poole (1998); Heaver <i>et al.</i> (2001); Carbone and De Martino (2003); Song (2003);</p> <p>Bichou and Gray (2004); Ng (2006); Yap and Lam (2004); Harrison and Håkansson (2006); De Martino and Morvillo (2008). Yeo <i>et al.</i>, 2008; Tongzon <i>et al.</i> (2009); Tongzon (2009); Cetin and Cerit (2010).</p> <p>Paradigm shift</p> <p>Robinson (2002); Paixão and Marlow (2003); Mangan and Lalwani (2008).</p>	<p>Terminal</p> <p>Heaver (1995); Heaver <i>et al.</i> (2001); Notteboom and Winkelmanns (2001); Paixão and Marlow (2003); Song (2003); Bichou and Gray (2004); Yap and Lam (2004); Tongzon and Heng (2005); Ng (2006); Song and Panaydes (2008); Mangan and Lalwani (2008).</p> <p>Shipping company</p> <p>Robinson (2002); Yeo <i>et al.</i> (2008).</p> <p>Supply chain and network</p> <p>Compés Lopez and Poole (1998); Carbone and De Martino (2003); De Martino and Morvillo (2008); Tongzon (2009); Tongzon <i>et al.</i> (2009); Harrison and Håkansson (2006).</p>	<p>Competitive strategies</p> <p>Heaver (1995); Notteboom and Winkelmanns (2001); Song (2003).</p> <p>SC integration and orientation</p> <p>Robinson (2002); Carbone and De Martino (2003); Bichou and Gray (2004); Song and Panaydes (2008); Tongzon (2009); Tongzon <i>et al.</i> (2009).</p> <p>Lean and Agile</p> <p>Paixão and Marlow (2003); Mangan and Lalwani (2008).</p> <p>Cooperation and competition</p> <p>Heaver <i>et al.</i> (2001); Song (2003); Yap and Lam (2004); Tongzon and Heng (2005).</p> <p>Efficiency and effectiveness</p> <p>Ng (2006); Brooks and Pallis (2008); Cetin and Cerit (2010).</p> <p>Business relationships and resource activation</p> <p>Harrison and Håkansson (2006); De Martino and Morvillo (2008).</p>	<p>Terminal and performance measurement</p> <p>Heaver, 1995; Heaver <i>et al.</i> 2001; Notteboom and Winkelmanns (2001); Robinson (2002); Song (2003); Bichou and Gray (2004); Yap and Lam (2004); Tongzon and Heng (2005); Ng (2006); Song and Panaydes (2008); Brooks and Pallis (2008); Yeo <i>et al.</i> (2008); Tongzon, 2009; Tongzon <i>et al.</i> (2009); Cetin and Cerit (2010).</p> <p>Resources and network</p> <p>Paixão and Marlow (2003); Carbone and De Martino (2003); Harrison and Håkansson (2006); De Martino and Morvillo (2008). Mangan and Lalwani (2008).</p>

Source: De Martino *et al.*, 2013

With reference to the conceptual categories and approaches of the analysis, the research is very heterogynous. In the first studies, the emphasis is on PA's policy actions for allowing port customer to get competitive advantages. The focus is on the activities - such as terminal management, cargo handling, and inland distribution - that can be source of competitive advantage for shipping companies. The reference to Porter's value conceptualization is predominant in these studies and approaches of analysis are directed to the quantification of port competitiveness (for example, cargo handling efficiency and transport costs minimization). In later time, scholars adopt a holistic view of port competitiveness, by considering the "hard and soft" components of the port business, that include the range of services, the ICT systems, the know-how, the level and intensity of relationships between actors. Indeed, studies adopt mixed approaches of analysis of port competitiveness based on quantitative and qualitative indicators, aimed at understanding of port supply chain integration and orientation; agile and reactive roles of port, cooperation and competition; efficiency and effectiveness; business network relationships and resource activation.

Finally, there is a clear recognition of the need to adopt a bottom up approach in the Port Authority's decision making process in order to define an active (and pro-active) role for ports in the new competitive scenario. Most of the studies have considered terminal as key resource (critical asset) in the Port Authority's decision making process, especially respect to the shipping company's requirements. Others have tried to define comprehensive port performance measurement aimed at quantifying the effectiveness of policy actions consistent with the organizational and managerial context of the port. At this regard, only few contributions have considered the crucial role of resources in boosting inter-organizational relationships.

In conclusion, the acknowledgment of inter-organizational relationships as leading factor of port competitiveness can be witnessed in those papers/cases where the seaports, meant as an actor of the supply chain, extend the supply of services to those firms located in regional economic systems, such as the freight forwarders and the shippers (i.e. the exporters). The ability of the port operators to provide, in cooperation or in competition, a complex set of services - that goes beyond the traditional maritime transport and handling to include value added logistics services – is necessarily based on the availability of key resources, defined in literature as critical assets, which hold a central position for the acquisition and accumulation of value in the supply chain. In this respect, Port Authority can develop an entrepreneurial or facilitating role (Verhoeven, 2009) at regional-hinterland levels. Resources play an important role as they can promote the development of inter-organizational relationships between the port operators and other actors of the regional economic system. More recent research applies RBV to the study of strategic alliances (Das and Teng, 2000; Dyer and Singh, 1998; Eisenhardt and Schoonhoven, 1996), as well as extends RBV theoretically into what Acedo, Barroso, and Galan (2006) refer to as a "relational view".

3. CUSTOMER'S VALUE CREATION IN PORT: THE RBV

The conceptualization of the framework of analysis of customer value creation according to the RBV of the firm relies on two core assumptions. First, resources allocation and interaction (Håkansson and Waluszkeski, 2002; Baraldi et al., 2012) represent key features in port value creation process as these enable both Port Authority and port business operators to be strategically oriented towards customers' satisfaction. Following Penrose's (1959) concept of resource heterogeneity, the value of a resource always depends on which other resources it is combined with (Håkansson & Snehota, 1995). The interactive nature of resources necessitates a focus on resource bundles or combinations of resources across firm boundaries rather than on the characteristics of a single resource (Håkansson &

Snehota, 1995). Second, resources are closely linked to activities and actors utilize them within specific activities where their potential value can become visible and be exploited (Håkansson, 1987). As in the process of service production, value is coproduced in the interactions service providers - customers (Normann and Ramirez, 1994; Vargo, 2008; Baltacioglu et al., 2007), also with reference to the port service production process, port operators (terminal operating companies, shipping companies, freight forwarders, logistics operators) co-produce value in the interactions with their customers.

In order to analyse customer value creation in seaport, three ideal types of port service supply chains can be identified with reference to specific targets of port's customers (De Martino *et al.*, 2013): shipping company, freight forwarder and shipper/manufacturing firm. Each of these supply chains is characterized by different bundles of resources that can foster value creation in the seaport. In particular, in the key - dyad shipping company - terminal operating company, the value creation process is characterized by the interactions among the port service provider (TOC), the port service supply suppliers (T, M, P operators) and the port customer (SC). The core service of this traditional port service supply chain is the supply of marine (towage, mooring and pilotage) and terminal services (vessel tie-up services, container/cargo handling and transfers). In this case, the port shows an approach mainly focused on internal logistics, based on the supply of cargo handling services as the main client is represented by shipping companies. Port Authority's strategic options are aimed at maximizing throughput, improving shipping companies' satisfaction and increasing the efficiency of port operations through the concession of physical resources such terminal and quay.

In the case of freight forwarder (fig 2), port value creation is determined by the interactions of an increasing number of port actors - terminal operating company (TOC), TMP operators, shipping company (SC), railway and road operators and the freight forwarder FF, in the process of production of core (maritime transport and handling) and complementary services (inland transport and warehousing). Different service supply chains can be identified through port actors' interactions in process of customer's satisfaction. In particular, customers can be the shipping company, and the freight forwarder that define different services attributes in terms of volume, time, frequency and destination and, consequently, different key logistics performance indicators (KPIs).

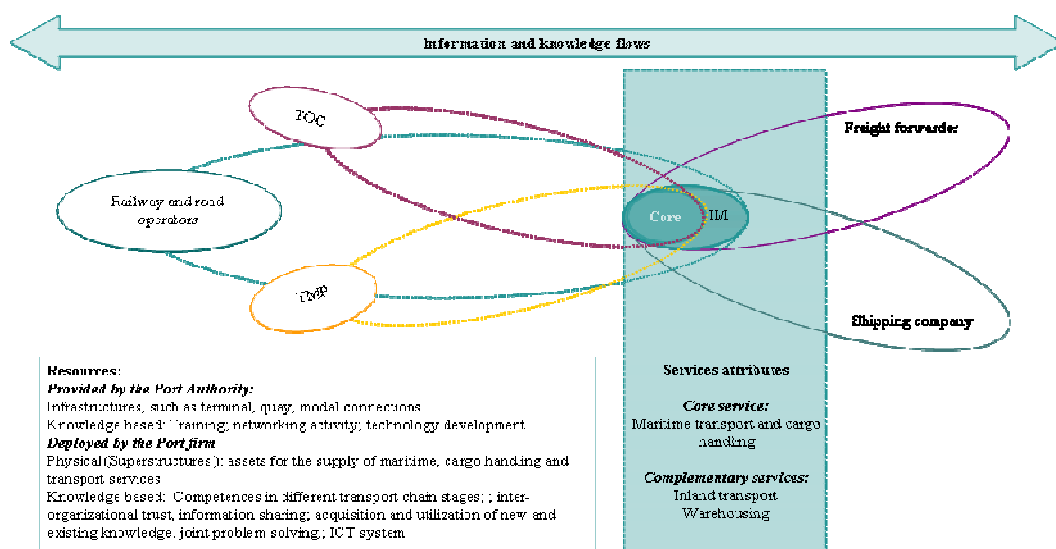


Figure 2. Port value creation β : the intermodality

The bundles of resources necessary for providing intermodal services are the physical resources allocated by the Port Authority that allows the seaport to be interconnected with the local transport system and the knowledge based one, that can be related to the training and educational services, to the networking activity and technology development. In order to provide intermodal services, different forms of inter-organizational relationships will be developed by port actors for the control and sharing of resources leading to customer's satisfaction, such as the assets for the provision of supplementary services, such as road or railways transport. In particular, the development of new rail connections, while it represents a first strategic objective for the integration of seaports with the market (especially in the contestable hinterland), it is however complex and requires substantial investments. Rail operators are reluctant to start new connections unless risks are limited; in this respect, the Port Authority can play a strategic role, by making direct investments in the hinterland or by developing partnerships with the main local railways operators for the acquisition of know-how and competences to guarantee the sustainability of these services.

Finally, port can further extend its influence beyond the traditional boundaries towards the hinterland, including activities, resources and actors of the local economic context (figure 3). A great number of interactions develop (or potentially can be developed) among port actors and others actors of local economic system (manufacturing firm A), in the process of production of: core (maritime transport and handling) and complementary services (inland transport and warehousing; value added logistics, manufacturing and distribution).

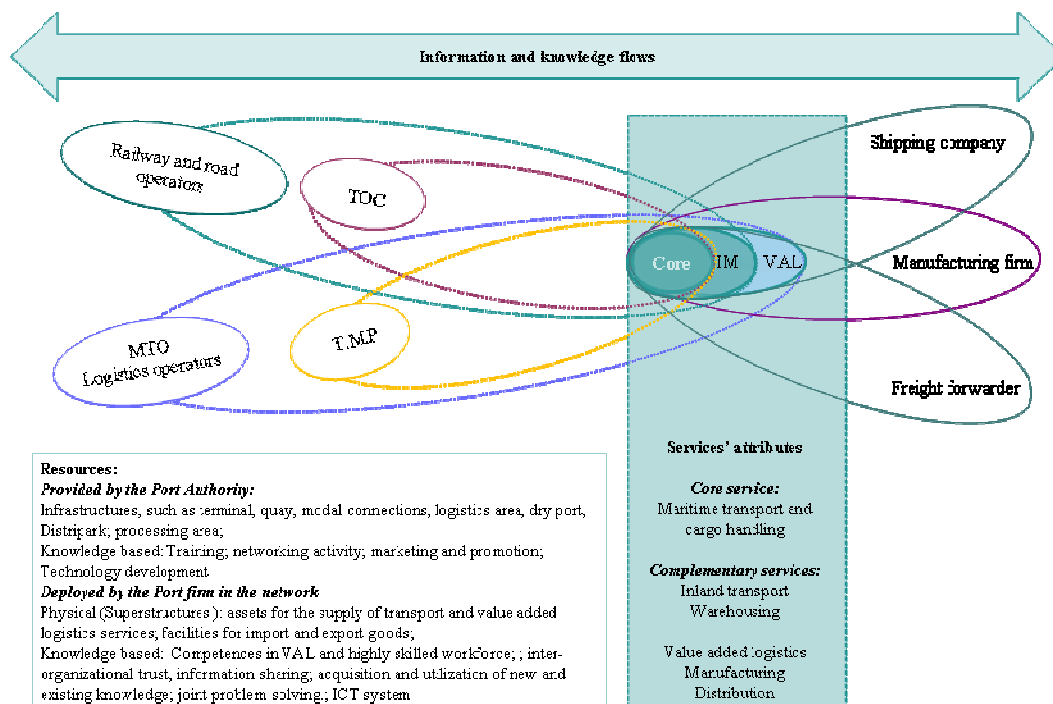


Figure 3. Port value creation γ: the value added logistics

This network of interactions is made possible thanks to a bundle of resources allocated and developed by the Port Authority: physical - infrastructures, such as terminal, quay, modal connections, logistics area, dry port, distripark; processing area - and knowledge based: Training and networking activity; marketing and promotion; technology development. The presence of these “public” resources is not enough to generate customer' value without resources deployed by the Port firm in the network: physical (superstructures) - assets for the supply of transport and value added logistics services; facilities for import and export goods - and knowledge based resources: competences in logistics and highly skilled workforce; inter-

organizational trust, information sharing; acquisition and utilization of new and existing knowledge; joint problem solving; ICT system. In this case, a port represents the springboard for economic development of the hinterland and Port Authority's strategic options are oriented to strengthen the integration with those business actors of its territory that can perform their supply chain activities more conveniently in the port environment.

As discussed, these examples show a growing extension and complexity of the web of actors, activity patterns and resource constellations. The dyad between the shipping company (SC) and the terminal operator (TOC) is a key linkage within the port network but the higher shared port value stems from port actors' interactions in the supply of further services such as intermodality and value added logistics. This is in line with recent researches that apply RBV in the study of strategic alliances (Das & Teng, 2000; Dyer & Singh, 1998). According to this view, firms gain competitive advantage by combining their resources with those of other firms interconnected through relationships (Lavie, 2006). Relationships across port business actors facilitate access to, and the use of, both internal and external resources.

4. PORT VALUE CREATION: THE CASE OF GAROFALO SRL

The aim of this section is to propose a preliminary analysis of the contribution of resources to the customer value creation process in the port of Naples respect to a manufacturing firm of its hinterland. The assumption is that by keeping a focus on the traditional port customer's (i.e. the shipping company) requirements, the port - meant as a dynamic network of actors in the process of service production - hampers and reduces its potentiality to represent a springboard for the local economy and a dynamic contest of services that span from the traditional to the value added logistics. To this end, a case study has been carried out on a manufacturing firm of the Campania Region, the pasta maker Garofalo, which represents an export-oriented firm, with an internationally known brand and that possess internally logistics competences.

As pasta is distributed by containers, the analysis focuses on resources provided by the Port Authority that determine the integration of container terminals with the hinterland. In particular, in combination with a document analysis, a semi-structured questionnaire has been administered to the Port Authority of Naples. In the second step, the top logistics manager of the Garofalo has been interviewed, through a semi-structured questionnaire, in order to define the characteristics of the specific supply chain and to identify port operators with whom the focal firm shares business processes and has relationships. Through the identification of the port operators, the further step of the research is the analysis resources and relationships that these operators have strategically implemented in order to satisfy Garofalo's logistics needs. The aim of the interviews is to understand the current company's business in the port of Naples in terms of supplied services, especially related to "agri-food logistics", and the future perspective in relation to the integration of the port of Naples with the hinterland. The structure of the questionnaires for the Port Authority, the manufacturing firm and port operators present a similar general structure: the current and future strategic orientation, the supplied services and the resources used and shared in the port network.

4.1. The port of Naples: general characteristics and functions

In 2011, the Port of Naples handled a total of almost 21 million tons of cargo, of which 5 million tons in international and European Union traffic and 16 million tons of cabotage.

Cargoes handled at the Port of Napoli include: 6 million tons of roll-on/roll-off cargo, 4.2 million tons of solid bulk, 5.4 million tons of liquid bulk and 4.2 million tons of containerized cargo (in 526 thousand TEUs). Liquid bulk cargoes were dominated by refined products (3.0 million tons) and gas (2. million tons).

In particular, the Port Authority has decided to be part of the cooperation agreement with the Managing Authority of the Interporto Campano in order to promote the integration of terminal facilities of the Port of Naples and Interporto Campano. Within the Interporto an intermodal terminal made up of 7 tracks, covering an area of 225.000 m², is currently managed by T.I.N (Terminal Intermodale Nola) and directly linked to “Nola Interporto” and national railways. In 1996, the Port Authority created, together with Serfer Servizi Ferroviari S.r.l. (holding 51% of the capital share) and Interporto Campano di Nola (owning 15% of the capital share), a company called Ferport Naples. Among various activities, this company carries out the planning and management of all activities and services, including complementary activities and accessories that are exclusively related to the railway business in the ports, auto-ports, inter-ports, intermodal terminals and industrial connections.

With the aim of further enhancing the development of intermodal transport, another new rail shuttle service was launched in 2010, with daily connections to the Port of Naples and Interporto Campano. The new service is managed by Interporto Servizi Cargo (I.S.C.), the new private freight transport rail company, owned by Interporto Campano. At the moment it covers the connections between Nola - Milan, Nola - Bologna – Verona but it has already scheduled to launch 13 new national connections in the next three years. The development of the combined “rail-road” transport is an essential element to enhance the handling of goods between the North and the South of the Country, thus giving a contribution to the economic growth of the Southern regions, especially the Campania area

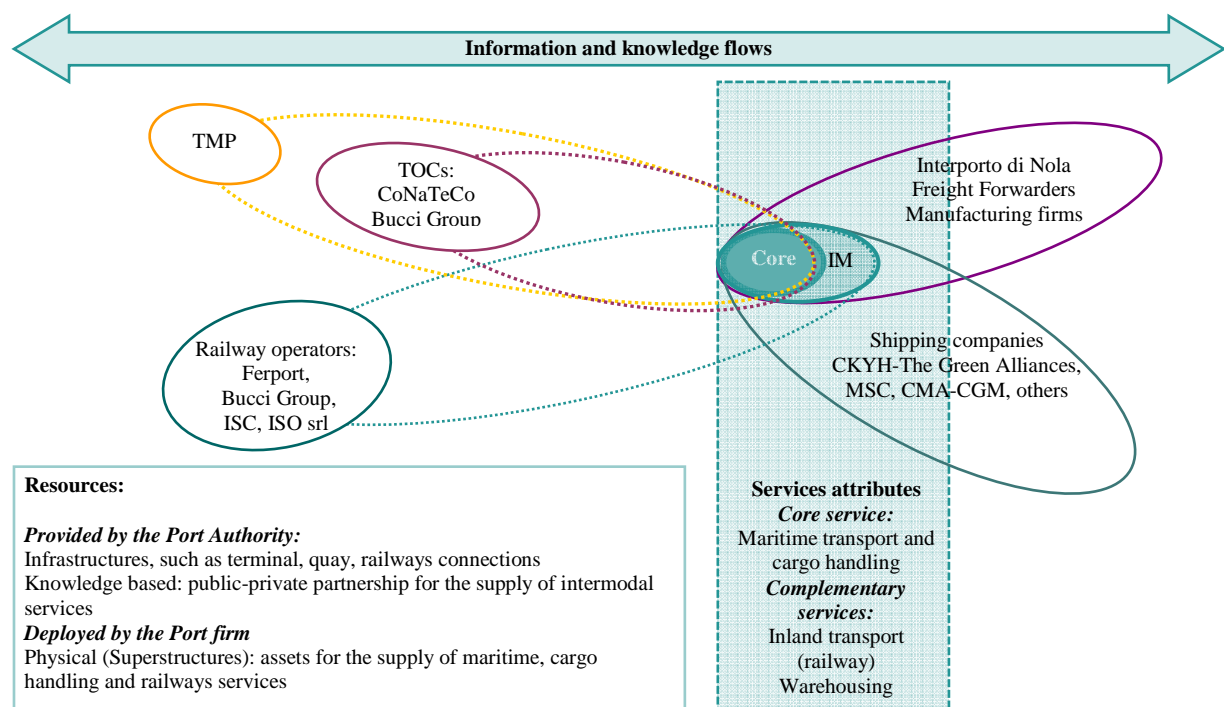


Figure 4. Port value creation in Naples: the intermodality

The private operators that supply intermodal services are: the Bucci Group and Intermodal System Organization (ISO) srl. Bucci Group has recently made a contract with Trenitalia and the result was the set-up of a railway containers service running three times a week from Gioia Tauro to Naples and viceversa. Bucci Group's strategy is to boost quality service and supply customers with a great alternative by forging commercial and technical agreements with Trenitalia Divisione Cargo. Divisione Cargo is the cargo transport department of Italy's largest railway company, Trenitalia s.p.a., formerly Ferrovie dello Stato s.p.a., specialized in both traditional and combined transport. Intermodal System Organization srl (I.S.O.) was founded in Naples in 1995 as a logistic and strategic support to some of the most important Shipping companies calling the Port of Naples and especially for the ones represented by Fratelli Cosulich Group. The most important among these companies is COSCO, one of the 5 biggest Shipping companies all over the world that represents the principal ISO shareholder. Indeed, I.S.O. operates as Cosco's intermodal carrier and logistic operator in Southern Italy. Finally, the Port Authority has signed with the Regione Campania and Interporto Campano, a cooperation agreement for the set up of "NA.P.L.E.S.", Naples Port Logistics Extended System enabling the full organizational and functional integration between the activities of the Port of Naples and Interporto Campano as terminal and intermodal operator. The operational partnership "NA.P.L.E.S." has been encouraged by Campania Region, traditionally engaged in the support of logistics integration among regional hubs, in order to enhance the optimization of logistics activities in the integrated regional transport system.

4.2. The Garofalo's supply chain

The Garofalo srl, with a turnover of € 93 million of euros, a total production of 100,000 tons of pasta and about 130 employees in 2012, is one of the most important representative of the Made in Italy in the world.

The Garofalo's supply chain presents a simple structure in the procurement, as the company is vertically integrated, while it is characterized by a greater complexity in the outbound logistics, given the internationalisation strategy of the company (Figure 5). Inventory management is centralized and managed in-house, and the main warehouse is located inside the plant. Logistics management has an enormous impact on the company's competitiveness, especially for the relevance that the downstream activities have both on the price (the incidence of transport costs is about 15-20%) and the level of customer satisfaction. In this context, in order to manage effectively and efficiently the transport, the firm has created a logistics department in charge of: the analysis of the prices' evolution; the selection of logistics operators respect to target markets; the monitoring of performance in terms of degree of customer satisfaction, frequency of deliveries, and quality of service flexibility to the needs of the company. In particular, the company chooses DHL and UPS for small shipments in Italy and in Europe. For the deliveries of great volume of products to national and European GDO, the services were managed by two carriers: Euro Italy and Sprint Service. In 2011, the company has signed a new contract with Number 1 Logistics¹ for the distribution of pasta to GDO and retailers; this logistics operator manages a specialised warehouse for dry food in Caserta, close to the Interporto of Nola-Marcianise.

¹ Number 1 Logistics Group, born in 1998 as a spin-off of Barilla S.p.A., is a leader logistic operator working on grocery sector. The national distribution network is composed by central stocking poles and regional platforms constituting the diffused national network. The company has 3 Central warehouses located in Milan, Parma and Caserta; 18 Regional platforms, Means of transport: 2.600 trucks and 1 train, and 60 Partners the transport and distribution.

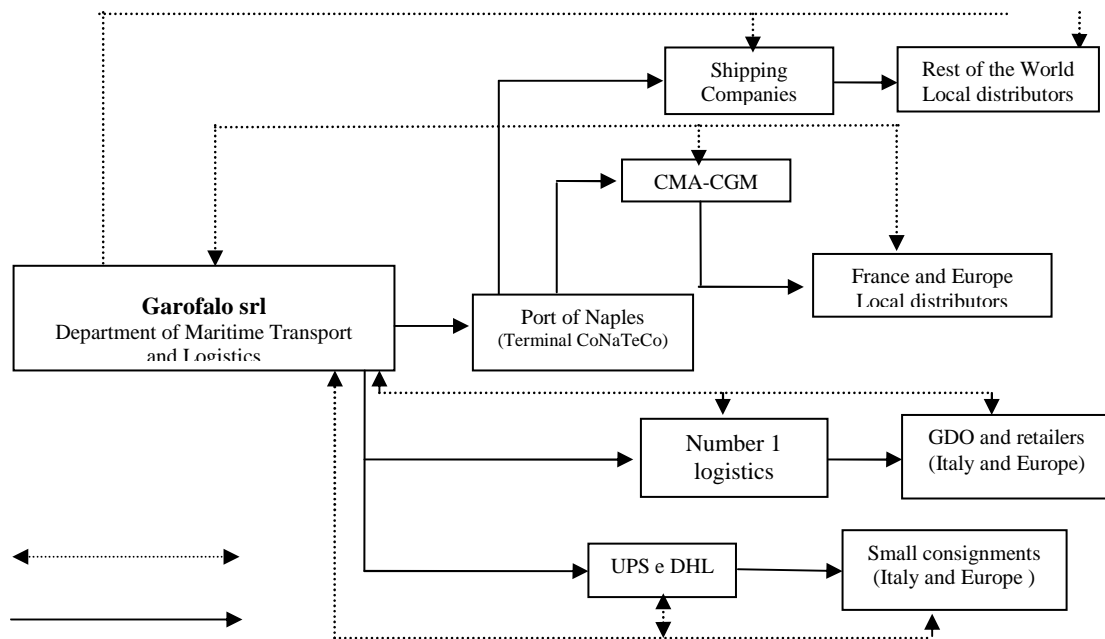


Figure 5 – The outbound logistics chain of Garofalo srl

The contracts with these operators last one year and concern primarily the price for destinations per ton of pasta transported. The repeated collaboration brings the company to the recognition of occasional price increases, in case of unpredictable market changes, as well as joint purchase of new vehicles when an increase in the production is foreseen. The synergy established over time has also led to a shared growth and to an increase in the service efficiency. For these reasons, the price is not particularly relevant for the choice of logistics operators; on the contrary, service quality, reputation and know-how are key performance indicators in keeping stable the relationships between Garofalo and the service providers.

The port of Naples is involved in the international and European deliveries (about 30% of the total production); in particular, the Garofalo's Department of Maritime Transport and Logistics contacts directly shipping companies or maritime agents for defining the service attributes. Containers are stuffed at the company's warehouse but the custom clearance is carried out by the maritime agent or shipping company. For each destination, the Department checks the best freight rate and scheduled time; for example CMA-CGM is involved in the delivery of cargoes in France and north Europe. At the port of destination (for example, the port of Marseille), the final distribution is organised by Garofalo through a local distributor. The company has spot contract with the shipping company as the intra-port competition brings the shipping companies to lower freight rate and to keep the delivery time of container. Moreover, the low volume of tons per international destinations doesn't allow Garofalo to set up conveniently a contract with a shipping company. From the Garofalo's perspective, the port of Naples is "a transit point of cargoes" and therefore the company is not going to implement relationships with port operators. This issue is well explained by the top logistics manager who doesn't see current advantages in outsourcing logistics activities, especially due to the lack of specialization of the local port operators.

4.3. The role of the port of Naples in the Garofalo's supply chain

In order to further investigate the role of the port of Naples in the outbound logistics, the COMAG srl - the maritime agent of CMA-CGM in Naples - and the CoNaTeCo - the main container terminal - have been interviewed. In particular, the CMA-CGM is one of the global shipping operators to have control over the whole logistics chain offering a door-to-door service that integrates both inland waterway transport (River Shuttle Containers) and railways (CMA Rail), as well as port handling facilities and logistics on land. Given such competencies, the aim of the interview was to understand the current company's business in the port of Naples in terms of supplied services, especially related to "agri-food logistics", and the future perspective in relation to the integration of the port of Naples with the hinterland. The company supplies only maritime transport services in the port of Naples; this port is included in the Far-East route, representing a port of call for the distribution of container from China. Not surprisingly, the Company doesn't consider Garofalo as client because the products transported by containers are not known by the shipping company. With reference to intermodal services in the port of Naples, the agency highlights two issues, one global and the other local: (1) Due to the world crisis, the Company is disinvesting in intermodality and logistics and is focussing on its traditional core business, the maritime transport; (2) The intermodal connections between the port of Naples and its hinterland are now available, given the strong investment of the Port Authority and the Region of Campania. Nevertheless, the provided services are very expensive. Moreover, the demand for intermodal service is very low; as a consequence, there is not enough cargo to make advantageous the provision of these services in Campania.

The terminal CoNaTeCo is controlled by two shipping companies: Cosco (50%) and Mediterranean Shipping Company (50%). It is the main container terminal of the port of Naples; with 320 employees and approximately 146,000 squared metres, the terminal has handled about 470,000 Teus in 2011 (80% of the total throughput). In 2006, through an international tender, CoNaTeCo won the fifty-year concession of the terminal Darsena di Levante, an area of 260 thousand square meters, whose value is approximately € 400 million of public and private investment (of which 218 million financed by CoNaTeCo). The terminal should start working in the short run. The questionnaire was administered to a logistics manager of the terminal², with the aim of further investigating the services provided, especially intermodality and agri-food logistics. In particular, intermodal services are mainly provided by Intermodal System Organization srl (ISO) and Interporto Servizi Cargo (ISC) (figure 6). The Intermodal System Organization srl (ISO) is controlled by Cosco (as main shareholder) and Trenitalia. ISO's basic activities are: the transportation by truck (including over-sized transportation, dangerous cargo, reefer containers, tank containers and satellite equipment), multimodal truck-train³ (including possibility to load 40' High Cubes on special platforms) and multimodal truck-ferry, linking Naples Port with the biggest Italian islands, Sicily and Sardinia. With reference to the intermodal connection between the terminal and the Interporto Campano of Nola, this service is provided by Interporto Servizi Cargo (I.S.C.), the new private freight transport rail company, owned by Interporto Campano.

² Since 2007, CoNaTeCo has acquired new competencies in logistics by creating a new profession- the technician of integrated logistics, whose job is to regulate the flow of goods storage and transport and support the shipper and the shipping agency in choosing the type of transport to be adopted (rail or road) in relationship to costs and distance.

³ Intermodal services truck-train concern: Bari-Napoli (4 weekly departures in double direction); Foligno-Napoli (1 weekly departure in double direction); Napoli-Marcianise (3 weekly departure in double direction).

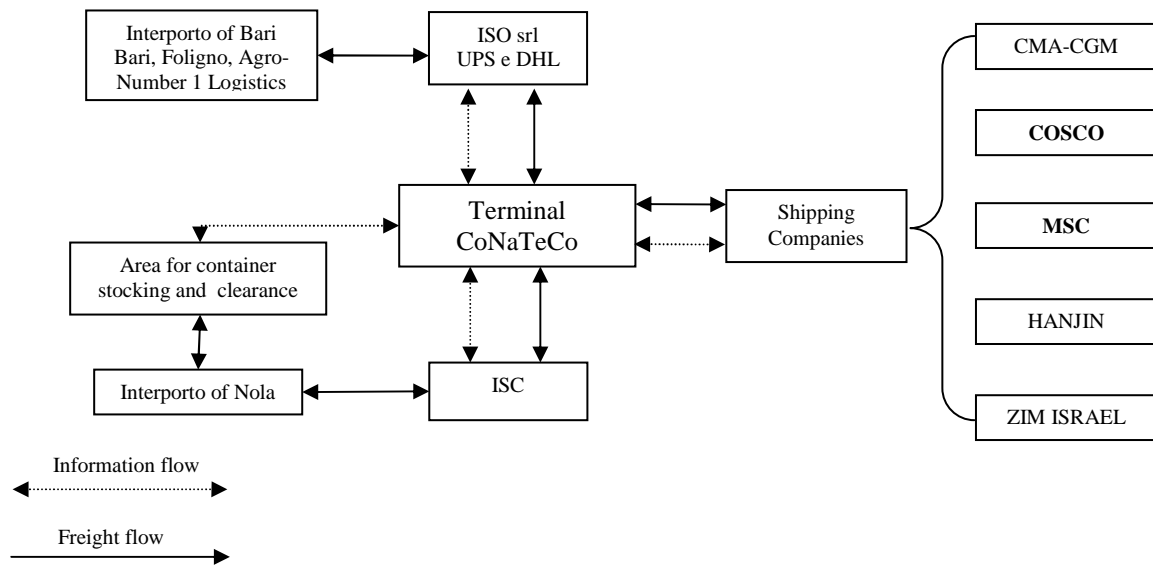


Figure 6 – Intermodal services provided by CoNaTeCo

Within the cooperation agreement among the Port Authority of Naples, the Regione Campania and Interporto Campano of Nola (the so called “NA.P.L.E.S.”, Naples Port Logistics Extended System), in 2010 CoNaTeCo has acquired an area of 200 thousand square meters in the Interporto of Nola, for the stocking and clearance of container while daily shuttle services are provided by ISC. This strategic choice will bring an increase of container (about 200.000 Teus) and employment (about 100 specialised operators) in the next three years, as well as a more efficient terminal management in the port of Naples since this will be dedicated to the transshipment of containers. With reference to the agri-food logistics, currently there are no services provided in Campania. But the manager has stated that the company is involved in the export of pasta Divella, located in Apulia. In particular, ISO has a spot contract with ASCO Bari - the main freight forwarder of Divella’s pasta - for the supply of intermodal services between the Interporto of Bari and the port of Naples. The pasta is then exported to North America and other destinations by Cosco. In 2011, ISO has transported 210 container of pasta but the situation is going to change, given the increase of price defined by Trenitalia.

In conclusion, the Port Authority clearly took the initiative to improve the integration between the port and its hinterland, with the aim of enlarging the market area. From one side, the strategic choices of the Port Authority to expand and develop activities in the hinterland can be explained by the need to develop unique resources that can increasingly ensure port competitiveness. On the other side, these choices have implication on the port business actors’ behaviours. In particular, the Port Authority has entered in the business of intermodality by (potentially) changing the market conditions under which others business operators, such as Bucci Group and ISO srl, can act in the hinterland. The situation clearly affects intra-port competition and raises critical issues on the role - institutional or entrepreneurial - of the Port Authority.

With reference to Garofalo srl, the new partnership with the Number 1 Logistics Group can represent an opportunity (or a threat) for the Port of Naples. In particular, the group is currently involved in the distribution of pasta in the national market (mainly road transport) but given its specialization in the agri-food logistics and in the distribution of the food and

grocery, Garofalo could find greater advantage in outsourcing logistics activities⁴. The company already provides shipping and logistics services to others food producers located in North Italy, such as Barilla, by using the port of Leghorn's service network. In the case that the port of Naples doesn't evolve in a logistics platform for the distribution of food products, there is a potential risk that Number 1 Logistics Group will shift the container traffic towards the port of Leghorn, where it already carries out value added logistics for pasta makers. Indeed, the advantages coming from the proximity of Garofalo to the port of Naples could be neutralised by the quality of services provided by Number 1 Logistics through the port of Leghorn for what concerns the logistics distribution. At this regard, the PA can have an even further pro-active role by investing in those resources that foster the value creation of the port in the food supply chains. Finally, it is clear that the railways market is having a great impact on the port competitiveness. From one side, the increase in the price of intermodal services provided by ISO between Bari and Napoli has had an effect on the container throughput of the port of Naples as the pasta maker Divella has decided to export its products from other ports: Taranto for the Far-East and Salerno for the North Africa. From the other side, the privatization of the railways market will increase the competition among private operators, with effects on the efficiency of intermodal services. In 2012, a new operator called Mediterranean Railways srl has entered in the market by providing three couples of weekly trains on the route from Naples to Foggia and Bari. The service is in partnership with a Foggia company, Lotras, using trains purchased from Trenitalia (Porto e Diporto magazine, 2012).

6. CONCLUSIONS

Ports are heterogeneous and dynamic networks in which public and private undertakings interact motivated by different and often conflicting interests, where the availability of resources determine the competitiveness and the ability to create value, and finally where the range of services can span from the handling of cargo to the more sophisticated and "new" value added logistics services. The strong interdependence among firms within the port itself and those of the local economic system (hinterland) increases the importance of the research field of the inter-organizational relationships. At this regard, the paper provides a framework of analysis of the port value creation building on the RBV of the firm. The proposed framework can contribute to the scientific debate on port competitiveness, as it addresses resource allocation and interaction, generally overlooked in port studies, as sources of value creation in the seaport. In particular, what emerges from this study is that to allocate and to interact are two crucial issues in the value creation process.

From the Port Authority's perspective, to allocate means to invest in those resources that increase the potentiality of value creation of the port meant as a network of actors, whose boundaries expand towards its productive hinterland; and to interact means to foster forms of collaborative relationships among the port actors aimed at distributing the value generating form the resources allocation. The recognition of the crucial role played by resources and the interactive nature of relationships among port actors in the customer value creation process represents a fundamental issue in spreading value in the port, especially from a cultural perspective, as it allows the interpretation and the consideration of collaboration as a means of value creation. Collaborative spirit and mutual trust are fundamental in order to create reciprocal benefits and a higher level of involvement of the port actors in the network. In contrast, port complexity remains a major problematic issue to which neither the academic literature nor the business world has found a persuasive and effective solution. Only based

⁴ This is a personal consideration emerged during the last meeting with the top manager.

on a proper understanding of the features and rationale for the formation of relationships among actors of port community and all actors involved in the process of value creation for the final client, Port Authority can foster new and more effective form of interaction, especially in β and γ . These inter-organizational networks should be characterized by the development of collaboration among all port community's actors including manufacturing companies in its own hinterland.

In particular, the case study highlights some important issues for the Port Authority' policy actions. The concession of terminal, inland terminal and other logistics resources to private operators has become one of the most important tool for Port Authority to attract private investments and to affect port competitiveness. In the European context, Port Authority can retain some control of the organization and structure of the supply side of the port market, while optimizing the use of scarce resources such as land through concession policy. This should be aimed at promoting free and fair competition in the cargo handling industry, increasing efficiency in port operations and land use, and enhancing actor's interactions in the port network. The case study of the port of Naples showed that the strategic decision of the Port Authority to provide intermodal services was taken at institutional and political levels without involving business operators. In some successful cases - such as Barcelona, Rotterdam, Le Havre, Antwerp - policy formulation and implementation has been increasingly the result of intensive communication, close interaction and consensus building between all local stakeholders in port network, especially in the case of innovation involving the integration port/hinterland. Port Authority is just one actor amongst others in the network. Key role that Port Authority plays in encouraging collaboration and cooperation should be directed towards stimulation, intermediation, promotion of regional dialogue and building up of social capital. In this respect, Public-Private Partnerships can be used to share these risks and develop the networks. These partnerships allow the pooling of resources and combining of skills. An appropriate legislative framework needs to be put in place to allow the balance between the management of physical resources to the private sector and the sustainability of these resources for all the local stakeholders in the economic, social and environmental perspective.

REFERENCES

- Acedo, F.J., Barroso, C., Galan, J.L. 2006. The resource-based theory: Dissemination and main trends. *Strategic Management Journal*, 27: 621-636.
- Baltacioglu T. A. E., Kaplan M. D., Yurt O. and Kaplan Y. C., 2007. A New Framework for Service Supply Chains. *The Service Industries Journal*, Vol.27, No.2, 105–124.
- Baraldi E, Gressetvold E, Harrison D. 2012. Resource interaction in inter-organizational networks: foundations, comparison, and a research agenda. *Journal of Business Research*, 65, 266–276
- Bichou K. and Gray, R., 2005. A logistics and Supply Chain Approach to Seaport Efficiency. An Inquiry Based on Action Research Methodology. In Kotzab, H., Seuring, S., Muller, M., Reiner, G. (Eds.). *Research Methodologies in Supply Chain Management*, Heidelberg: Physica-Verlag.
- Bichou K., and Gray R., 2004. A logistics and supply chain management approach to port performance measurement. *Maritime Policy & Management*, 31 (1), 47-67.
- Brooks M.R. and Pallis A.A., 2008. Assessing port governance models: process and performance components. *Maritime Policy and Management*, vol 35, N° 4, 411-432.
- Carbone V. and De Martino M., 2003. The changing role of ports in supply chain management: an empirical analysis. *Maritime Policy and Management*, Vol 30, n. 4, 305–320.

- Cetin C.K. and Cerit A.G., 2010. Organizational effectiveness at seaports: a system approach. *Maritime Policy and Management*, vol 37, issue 3, 195-219.
- Compés Lòpez R. and Poole N., 1998. Quality assurance in the maritime port logistics chain: the case of Valencia, Spain. *Supply Chain Management*, vol 3, n 1, 33-44.
- Cox G.W., 1997. *Making Votes Count: Strategic Coordination in the World's Electoral Systems*. Cambridge University Press.
- Das S, Teng B-S. 2000. A resource-based theory of strategic alliances. *Journal of Management*, (26), pp 31–61.
- De Langen P. W., 2002. Clustering and performance: the case of maritime clustering in The Netherlands. *Maritime Policy and Management*, Vol. 29, No. 3, 209-221.
- De Martino M. and Morvillo A., 2008. Activities, resources and inter-organisational relationships: key factors in the Port competitiveness. *Maritime Policy and Management*, Vol. 35, Issue 6, 571-589
- De Martino M., Errichiello L, Marasco A. and Morvillo A., 2013, (*Forthcoming*), *Logistics innovation in Seaports: an inter-organizational perspective*, *Research in Transportation Business and Management*.
- Dyer JH, Singh H. 1998. The relational view: Cooperative strategies and sources of nterorganizational competitive advantage. *Academic Management Review* (23), pp 660–79.
- Håkansson H, Waluszewski A. 2002. *Managing technological development—IKEA, the environment and technology*. London: Routledge.
- Hakansson H. and Snehota, I., 1995. *Developing Relationships in Business Networks*. Routledge, London.
- Håkansson H. 1987. *Industrial technological development: a network approach*. London: Croom Helm.
- Harrison D., and Håkansson H., 2006. Activation in resource networks: a comparative study of ports. *Journal of Business & Industrial Marketing*, 21 (4), 231 – 238.
- Heaver T.D., 1995. The implications of increased competition among ports for port policy and management. *Maritime Policy and Management*, vol 22, n° 2, 125-133.
- Heaver T.D., 2006. The Evolution and Challenges of Port Economics. *Research in Transportation Economics*, vol. 16, issue 1, 11-41.
- Heaver T.D., Meersman, H., and Van de Voorde, E., 2001. Co-operation and competition in international container transport: strategies for ports. *Maritime Policy and Management*, 28, n°3, 293-305.
- Helper S., 1991. How much has really changed between U.S. automakers and their suppliers?. *Sloan Management Review* 32 (4), 5-28.
- Larsson, R. and Lubatkin, M., 2001. Achieving acculturation in mergers and acquisitions: An international case survey. *Human Relations*, Vol. 54 No. 12, pp. 1573-1607.
- Lavie D. 2006. The competitive advantage of interconnected firms: An extension of the resource-based view. *Academic Management Review* (31), pp. 638–58
- Mangan J. and Lalwani C., 2008. Port-centric logistics. *The international Journal of Logistics Management*, vol 19, n° 1, 29-41.
- Meersman H., Van de Voorde E. and Vanelslander T. (eds), 2009, *Future challenges for the port and shipping sector*, Informa, The Grammenos Library, London.

- Musso E., 2009. Future developments in ports. In Meersman H., Van de Voorde E. and Vanellander T. (eds), Future challenges for the port and shipping sector, Informa, The Grammenos Library, London.
- Ng K.Y., 2006. Assessing the Attractiveness of Ports in the North European container Transshipment Market: An agenda for Future Research in Port Competition. *Maritime Economics and Logistics*, 8, 234-250.
- Normann R. and Ramirez R., 1994. *Designing Interactive Strategy. From Value Chain to Value Constellation*. John Wiley & Sons, Chichester.
- Notteboom T.E. and Winkelmans W., 2001. Structural changes in logistics: how will port authorities face the challenge?. *Maritime Policy and Management*, vol 28, n° 1, 71-89
- Olavarrieta S. and Ellinger A.E., 1997. Resource-based theory and strategic logistics research. *International Journal of Physical Distribution & Logistics Management*, 27 (9/10), 559-587.
- Paixao A.C., & Marlow P.B., 2003. Fourth generation ports- a question of agility?. *International Journal of Physical Distribution & Logistics Management*, 33(4), 355-376.
- Penrose ET. 1959. *The Theory of the Growth of the Firm*. Oxford University Press: New York.
- Porter, M. E., 1985. *Competitive Advantage: Creating and Sustaining Superior Performance*. The Free Press, New York.
- Porter M. E., 1990. *The Competitive Advantage of Nations*. The Free Press, New York.
- Robinson, R., 2002. Ports as elements in value-driven chain systems: the new paradigm. *Maritime Policy and Management*, 29 (3), 241-255.
- Song D-W. and Panayides P.M., 2008. Global supply chain and port/terminal: integration and competitiveness. *Maritime Policy and Management*, vol 35, n° 1, 73-87.
- Song D-W., 2003. Port co-opetition in concept and practice. *Maritime Policy and Management*, vol 30, n° 1, 29-44
- Tongzon J. and Heng W., 2005. Port privatization, efficiency and competitiveness: some empirical evidence from container ports (terminal). *Transportation Research Part A*, vol 39, 405-424.
- Tongzon J.L, 2009. Port choice and freight forwarders. *Transportation Research Part E*, vol 45, 186-195.
- Tongzon, J., Chang, Y-T, & Lee, S-Y, 2009. How supply chain oriented is the port sector?. *International Journal of Production Economics*, 122, 21-34.
- Van Den Bosch, F.A.J., Hollen, R., Volberda, H.W. and Baaij, M.G., 2012. *The strategic value of the Port of Rotterdam for the international competitiveness of the Netherlands: a first exploration*. Rotterdam: INSCOPE/RSM Erasmus University.
- Vargo S.L, 2008. Customer integration and value creation. Paradigmatic traps and perspective. *Journal of Service Research*. Vol 11 (2) pp. 211-215
- Verhoeven P., 2009. A review of Port Authority functions: towards a renaissance? IAME Conference 2009, FINAL 18/05/09 (Paper 2-34).
- Voss, C., Tsiriktsis, N. Frohlich, M., 2002. Case research in operations management, *International Journal of Operations & Production Management*, 22, (2), pp. 195 - 219.
- Yap W.Y and Lam J.L.L., 2004. An interpretation of inter-container port relationships from demand perspective. *Maritime Policy and Management*, vol 31, n° 4, 337-355.