5 Co-evolution of the strategic reorientation of port actors: insights from the Port of Rotterdam and the Port of Barcelona.


**Abstract**
This chapter explores changes in the strategic orientation of PAs and terminal operators towards the hinterland network in the Ports of Rotterdam and Barcelona. PAs and terminal operators are economically, institutionally and geographically related organizations. The argument here is that such organizations experience a mutually influential and interactive effect in their strategy over time. The research explores the evolution of the market, institutional and governance forces behind these organizations’ strategic orientation, while acknowledging their interdependence and interrelationship. To that end, it builds a conceptual framework analysing these organizations’ strategies in different points in time. It draws upon firms and port theories to design a co-evolutionary framework, which is later refined with insights gained from an empirical study of the port context.

Keywords: co-evolution, institutions, governance, strategy, interdependency, ports, port authority, terminal operators.
5.1 Introduction

This chapter’s goal is to comprehend the evolution of port actors’ strategies in the context of pressures for engagement in the port’s hinterland network. Port authorities [PAs], who have been traditionally responsible for the port area’s development, management and infrastructure, are currently reconsidering their territorial domain beyond the confines of the port area (Notteboom and Winkelmans, 2001; De Langen, 2004; Heaver et al., 2010; Verhoeven, 2010). They are changing their roles and strategic orientation from being merely a regulator and facilitator into becoming an entrepreneurial developer, involved in the development of inland multimodal connections (Van den Berg and De Langen, 2011; Verhoeven, 2010; Song and Panayides, 2008). In parallel, terminal operators [TOCs], who have traditionally focused on the seaside, are also showing awareness of the advantages of looking beyond their traditional geographical domains. These new developments have encouraged a fair amount of research contributions on how ports integrate in hinterland networks from both a geographical and logistic perspective (f.e. Notteboom and Rodrigue, 2005; and see for an overview, Pallis et al., 2011). Questions remain as to the specific roles actors play within these developments (Heaver et al., 2010) - in particular concerning the functional division between PAs and terminal operators - and to its impact on the spatial development of economic activities. This is an issue of particular relevance in the hinterland of ports (see also Rodrigue et al., 2010). The development of both PA’s and terminal operators’ strategic reorientation beyond their traditional geographical domains demands, therefore, a deeper analysis. This research fills this gap by exploring two case studies of two ports and how their key actors evolve in their intent to expand their hinterland networks in distinct institutional and governance contexts. The ports studied are the Port of Rotterdam and the Port of Barcelona, in which both PA and TOC showed reorientation towards a hinterland strategy. The research aims to understand the nature and drivers lying beneath the key actors’ strategic reorientation, while specifically addressing the institutional and market relationships between them.

We start from the assumption that PA’s and terminal operators’ strategic reorientation beyond their traditional geographical domain, led on by institutional and market pressures, influences and are influenced by each other’s strategic reorientation. This argument builds on one hand on the specific role governance plays in ports (see Brooks and Cullinane, eds., 2006; Baird 1997; 2000; Brooks, 2004; Ng and Pallis, 2010): ports being complexes, integrating into physical transport networks, and in which a multitude of actors – public and private – are located or active, jointly providing services and products.

The research contributes to ports’ governance and strategic management theory by applying a co-evolutionary perspective. This offers the possibility of considering how the two interdependent actors’ strategic orientation evolves over time within different institutional and governance settings. By addressing the role of geographic proximity in the process, the researchers recognize geography as a relevant factor in the study of strategic reorientation of port’s actors. In order to accomplish this complex task, the chapter consists of the following steps. First, it sets out the basis for a conceptual tool to guide case description and analysis. The initial framework draws upon distinctive theoretical strands to explain how market and
institutional forces may interplay to facilitate and/or hinder actors’ strategic reorientation. Following a research method description and based on the initial framework, we explore the strategic co-evolution between the core port actors - the PA and TOC - in the Ports of Rotterdam and Barcelona. In light of information provided by the case studies, we present a model for the analysis of the co-evolution between port actors in their strategy orientation. Finally, we state this chapter’s main contributions and lay out lines for future investigation.

5.2 Building a basis for a conceptual framework

Strategy is one of the most dominant themes in management. The ever-increasing interest in this field has resulted in myriad definitions of strategy and models. This diversity has stimulated attempts to synthesize and to understand the dynamics, which give rise to firms’ strategy (e.g. Mintzberg et al., 2005; Pettigrew et al., 2001; De Wit and Meyer, 2010). Since the seventies, when Mintzberg challenged conventional views on strategy making as a rational plan and defined it as a historical and unstructured process (Mintzberg et al., 1976; Mintzberg, 1977), researchers have concerned themselves with strategy’s underpinnings. Much debate has developed around the question of whether strategy originates from strict implementation plans, ad hoc managers’ actions or a combination of both (Morgan and Strong, 2003). Rather than delving into this debate, our intention is to analyse port actors’ at the firm and inter-firm levels. We define strategy in terms of actors’ strategic orientation - “a pattern in a stream of decisions” (Mintzberg, 1977:28) which results from changes in the firm interaction with its environment (Hakanson and Shenota, 1989).

Unravelling such question within the ports’ complex environments fits a co-evolutionary approach. As a theoretical device, this approach offers the right tools for identifying the dynamic behind strategic actors’ interactions as they unfold under external and internal pressures. As Lewin and Volberda (1999) suggest, this approach considers strategy as a joint outcome of managerial intentionality, environment and institutional effects (Rodrigues and Child, 2003; Levin and Volberda, 1999). In their view, understanding the complexity of an evolutionary process’s requires both multilevel and interdisciplinary analyses. Following Peng (2002), we unpack such complexity by first analysing theories, which explain strategy drivers: market pressures - industry competitive forces and unique competencies of port actors and institutional pressures; changes in regulations and in governance and implications for interdependence between port actors. Accordingly, our framework builds on contributions from organization and port theories, which help to understand market, institutional and governance pressures and how these are likely affect core port actors’ strategy and behaviour.

5.2.1 Market-based theories

The leading theories of organizations - industrial economics, organization economics, and resource-based-view [RBV] - assume that firms develop strategies in marketplaces rather than within institutions (e.g., Burgelman, 2002). These market-based theories concern with defining the characteristics of competition in a given industry, levels of competition, how firms can improve their competitive advantage and adjust to variations in market uncertainties. Such theories have a limited scope, but if used in combination, have the potential to explain strategic
behaviour for gaining competitive advantage, (Langlois and Foss, 1999). In general, the literature divides into strands that look at factors external to the firm and those focusing on the firm characteristics as drivers of strategic behaviour. The former concerns with industry attributes such as barriers to entry, degree of product differentiation, demand elasticity, the number and size of firms, and how these constrain strategy through threats and opportunities (Porter, 1985). The latter focuses on how firm are unique resources and capabilities constitute a competitive edge (Barney, 1991; Teece et al., 1997).

Industrial economics suggests that firms’ competitive advantage depends on the industry’s characteristics. It is relevant to our analysis to the extent to which it draws attention to the characteristics of the competition in the port environment and the movements of actors (firms and other organizations engaged on ports central activities) to gain market power, while other actors, such as PAs may take initiatives to prevent power concentration (Cardell, et al., 1997). Organization economics and transaction cost economics are central to this argument to the extent to which they explain market failures (e.g. voids in the supply-chain connections and hinterland network) that interfere with ports deliveries. It explains the conditions under which institutions might intervene or firms may decide to internalize their activities rather than maintain market or arms-length exchanges (Williamson, 1998). Under this theory, port actors’ orientate their strategies motivated by the need to control uncertainties and opportunities found in purely market relations. PAs may rely on ownership contracts, which extend geographically into the hinterland when the costs and risks of coordinating infrastructural inland facilities are greater than under integrated ownership (Van der Horst and De Langen, 2008). A reason for TOCs to extend operations inland might be existing operational coordination problems that hamper optimal allocation of resources for an efficient hinterland transport operation (Panayides, 2002).

RBV is relevant to our analysis to the extent to which it explains how factors internal to the firms, such as resources creation and deployment are sources of competitive advantages. RBV, which roots its tenets in Penrose’s (1959) work, holds that top management makes strategic choices based on a firm’s unique endowments of strategic resources. If firms possess capabilities, which exploit unique, valuable and hard-to-imitate resources (Barney, 1991, 2002), firms may decide to expand and develop new strategic activities (Teece et al., 1997). Thus, companies grow in directions set by their capabilities as these slowly expand and change (Penrose, 1959). As we will argue below, institutional changes that empower a previously high institutionalized organization, such as a PA, to operate with greater freedom, (e.g to adjust as well as shape markets), are likely to stimulate creation of new competencies which allow them to fill for market voids and also encourage competition in the port (De Langen, 2008). Terminal operators for example, can exploit their container handling and processing capabilities offering customers in their network a unique service (Franc and Van der Horst, 2010).

5.2.2 Institutional and governance theories

Institutional theory rejects strategy concepts’ rational-actor model. Instead, it affirms that strategy is the outcome of institutions’ influence upon firms’ choice (North, 1991; Williamson, 1985). Institutions are ‘the rules of the game’ reflecting formal regulations and rules, informal
norms, and cultural based cognitions that guide actors’ perceptions and strategies in the economic environment (North, 1991; Scott 2001; DiMaggio, 1998; Strambach, 2010). Institutions can impose constraints on share participation; constrain the degree of autonomy in decision-making and of management control of other organizations’ (Greif, 2005; Saka and Geppert, 2011). Conversely, institutions also enables actors’ choice and actions by lifting existing barriers, by creating opportunities and facilitating access to material and relational resources (Carney and Child 2013). In their roles to establish property rights, institutions define several aspects relevant to the way competition installs between firms, thus modifying their mission, domain, functions and territory (Fligstein and Freeland, 1995; Thorelli, 1986).

Institutions are relevant to our analysis to the extent to which they impose limits and/or facilitate strategic behavior and firm performance (Rodrigues 2013; Greif, 2005). Rather than delving into a discussion about different dimensions of institutions (e.g. Scott, 2001), this paper’s central argument is that strategies by port actors are institutionally embedded (Peng, 2002), and so are the relationships which develop between these actors. As institutions differ between geographical places, processes and outcomes also differ, which stresses the relevance of geography in such analysis. Within a port context, PAs can be highly institutionalized organizations (Child et al., 2012; Notteboom et al., 2013; Van der Lugt et al., 2013), locked in national regulations and local structures and values, influencing both their behavior and it’s’ outcomes (Hall 2003, Ng et.al, 2013, Debie 2013). Thereby, PAs themselves can be institutions to other actors, if they have a mandate from public authorities to issue regulations and norms for actors within the port’s jurisdiction (Hall, 2002). Potentially, they can facilitate or hinder strategic choices in the port area. Because institutions are not always coherent, they may simultaneously facilitate and impede actors’ strategy (Rodrigues 2010, 2013).

Moreover, governance theories focus on public and private agents’ participation in an economic or organizational activity and their accountability to owners and stakeholders (Stoker, 1998; Rodrigues and Child, 2003). Differences in ownership arrangements for a set of assets constituting an economic activity alter the trade-offs and opportunities for those who control and deploy these resources (Demsetz, 2002). PAs and terminal operators share an interest in a well-performing port and thus have overlapping strategic goals. However, they are clearly different types of organizations with different property rights. Terminal operators are in general, private firms, which seek return on investments and profits. PAs exist across different institutional models, often in public ownership, pursuing both private and public goals like contributing to regional economic growth and enhancing sustainability. Governance theories also address market failure, noting that market transactions provide no safeguards against market failure. In several instances, markets require institutions’ intervention to control for opportunism or under investments (Bator, 1985).

Within the institutional economics and inter-firm governance field of research, there is abundant literature on how the choice of governance affects the interdependence between actors and the relationship that consequently develops (Foss, 1999; Larson, 1992; Leiblein and Miller, 2003). In particular, research indicates whether these are likely more competitive or cooperative in nature (Stoker, 1998; Mahoney, 1992) and based on trust or transactional relations (Larson, 1992). From
an organizational perspective, ports have been territorially bound institutions in which proximity, local arrangements and the committed costs of infrastructure collude in defining a local institutional logic, including market players (Notteboom et al., 2012). Some studies view organizational proximity as a factor, which promotes of innovation and new routines (Hall and Jacobs, 2010). Where port terminal companies as part of a shipper's transport and supply chains have natural incentives for network integration (Song and Panayides, 2008; Carbone and De Martino, 2003; Notteboom, 2007; Veenstra et al., 2012), changes in port governance have provided greater autonomy and delegated managerial power to PAs. Likewise, it opens windows of opportunity for extending their role in shaping the port product by extension into the hinterland (Notteboom et al., 2013). As a result, organizational proximity between PA and TOC, which naturally exists within port areas, extends into the hinterland. This has a potential impact on the development of new routines.

5.2.3 Integrative evolutionary perspective

The inputs deriving from the above theoretical sources help setting out a framework that takes into account the complexity between (port) actors' interaction within distinct environments over time (Anderson et al, 1994). It proposes that shifts in regulation and governance regimes trigger changes capable to alter the basis for competition and the ability of actors to obtain profits (Teece, 1986).

Lewin and Volberda (1999) recognize that the changes in the institutional environment of firms affect the non-institutional one through laws, regulations, and policies affecting markets. In the nineties, several ports around the world suffered governance re-structuring after legislation change (Notteboom et al., 2013). Re-structuring of government agencies and enterprises usually has the purpose to bestow them with greater management autonomy and improve accountability (Gomez-Ibanez, 2007). Corporatization, because they imply creation of a statutory authority, with a distinct legal entity with separate accounts and own board of directors (Vagliasindi, 2004) has been viewed by institutions as a way to achieve greater efficiency in government agencies and enterprises management (Irwin and Yamamoto, 2004; Gronnegard and Pallesen, 2001). For PAs, corporatization is an instrument to improve management and accountability by extending their role in the port environment. The intention behind these changes was to provide PAs with what Notteboom et al. (2013) call “institutional plasticity” - the flexibility “to stretch existing institutional arrangements without (necessarily) breaking out the dominant development path”.

There is plenty of evidence supporting the argument that institutional changes, which imply more market and less hierarchy are likely to empower management, encourage innovation and create cost-efficiency (Kole and Lehn, 1997; Smith and Grimm, 1987). However, although a greater flexibility in a PA’s role could increase its autonomy to enact in situations of market failures or institutional voids, it can also introduce greater uncertainty for private actors (Delmas and Tokat, 2005). In particular, if such changes are likely to influence market conditions under which incumbents act (Gomez-Ibanez, 2007; D’Aunno et al., 2000). Accordingly, an important notion in our framework is interdependence between actors, deriving from geographical, institutional, transactional or regulatory interrelationship. Changes that affect one actor may have a direct or indirect effect on conditions and ways others operate. A strategic movement by one
actor is likely to stimulate adjustment from others and vice-versa. When firms perceive that their capacity to capture profits is jeopardized, they may develop divergent change (D’Annno et al., 2000) or in turn try to influence institutions in a way favourable to them (Gronnegard and Pallensen, 2001). Or rather, institutional organizations, which PAs are, can promote strategic reorientation to other actors by providing incentives and resources (D’Annou et al, 2000).

Co-evolutionary approaches have the potential to capture interdependency and its recursive effects (Carney and Gedajlovic, 2001). This approach conveys the idea that firms and environments evolve together. It advocates the joint outcome of managerial intentionality, environment and institutional effects (Rodrigues and Child, 2009; Lewin and Volberda, 1999). This means that not only the external environment - defined in terms of demand and competition on the one hand and, institutional characteristics on the other - shape firms' behaviour. Thus, our framework also considers the reciprocal effects between the different forces that affect ports strategic action. Figure 8 summarizes the main tenets of the initial framework applied here to explore two major players’ strategic re-orientation in seaports within the context of institutional/governance forces and market forces in place. Interdependence implies that “firms are influenced by, and use, the same environments to shape their own” (Carney and Gedajlovic, 2000: 6). Accordingly, in our framework market forces are analysed in terms of changes in competition, in the firms’ resource base and in demand, including opportunities opened in the hinterland. Institutional forces include changes in regulations and property rights (e.g. shifts in ownership participation by port actors). Interdependency depicts the sources of mutual dependency between actors while strategic reorientation captures changes in mission, vision, roles and initiatives of port actors. Interactive effects refer to mutual influence in actors’ strategies.

**FIGURE 8: INITIAL FRAMEWORK FOR EXPLORING THE STRATEGIC REORIENTATION OF THE TWO RELATED ACTORS**
5.3 Methodology

The research method applied is an explorative case study research, structured by an initial conceptual framework. The integration of perspectives from both strategic and institutional theory allows for addressing the specific role the interrelationship between the economic actors at hand, the PA and the TOC, plays in this process of strategic reorientation. Instead of pursuing a “variance approach” (Langley, 1999), which requires model testing, we focus on process and a sequence of events which involve and affect two interdependent actors. Evolutionary studies are primarily about understanding change, in which the challenge resides in examining how mutually dependent groups evolve over time and in parallel with events unfolding through time (Garud and Van den Ven; 2002).

The research adopts case studies as the basis for an empirical analysis, which aims to contribute to theory building for analysing actors’ role and strategies within a port network. Case studies in particular permit an analysis of: organizational choices, the factors driving their selection and implementation, and resulting outcomes (Yin, 2003). Case studies constitute a valuable research method, which is appropriate for different research aims. Case studies allow gathering in depth data and detailed understanding of specific processes (Stocker, R. 1991).

The cases selected are Rotterdam and Barcelona. We selected the cases considering a variety-oriented perspective (see Flyvbjerg, 2006) and the need to maximize contextual and institutional differences between port sites. In both selected ports both the PA and the terminal operator showed strategic reorientation towards the hinterland, but differed in the way it was done and their significance for mutual relationships between those actors. And for both ports access to the relevant information was quite easy available, a critical success factor for a good case study. Although these cases may not be considered as typical as they originate only from Europe, as they have specific contexts and considering that not all ports are with the same underlying goals engaged in developing a hinterland strategy, they nonetheless, could provide valuable insights for other ports already engaged in or intending to adopt hinterland strategies.

The data collection involved the analysis of strategy documents of the PAs and TOCs involved media articles in port-related publications (Port Strategy, Containerisation International, and World Cargo News) since 1990. In addition, 20 semi-structured interviews were held with managers of PAs, main terminal operating companies and inland terminal operators. In Rotterdam, due to researchers’ good connections with the PA organization and TOC, several additional short consultations took place to check the validity of information obtained through documentary and interview analysis. In Barcelona, two researchers in two different rounds (2011 and 2012) to check information and interpretations with the interviewees did interviews (10 in total). All researchers involved were part of a research program (2011-2014) in which other scholars and relevant market actors were involved (senior advisor strategy of PA in Rotterdam, head of business development of TOC in Rotterdam, hinterland terminal operators). This gave the opportunity to regularly discuss (every three months) and get feedback on new insights and concrete research results. For data analysis, we pursued 'process analysis' in contrast to 'variance analysis’ (Mohr, 1982) in order to detect connections between actors and how these related to contextual events.
5.4 Empirical analysis

This section applies the strategic and institutional perspectives to the Rotterdam and Barcelona cases with the aim of exploring the drivers behind their strategic (re) orientation in the ports’ hinterland.

5.4.1 Port of Rotterdam

Rotterdam is the largest multipurpose port in Europe, and has the largest container port on the European continent. Over time, it has developed a focus not only on its traditional, captive customers, but also on more contested markets further inland. ECT (hereafter called TOC) is Rotterdam’s oldest and the larger of the two major container terminal operators active in the port. It has a market share of about 65%. The other major deep-sea terminal is APMT, a dedicated terminal for Maersk Lines that also handles other shipping lines. This research focuses on ECT as it has long been the key player in container transhipment in Rotterdam and has actively developed an inland strategy. The other TOC (APMT), up to now, has not developed a clear approach to hinterland networking (information derived from interview with former director of this TOC).

Institutional forces

The port actors in Rotterdam have been exposed to institutional pressures over the last two decades mainly due to changes in regulation and ownership structures. Up to corporatization in 2004, the PA in Rotterdam had been an autonomous municipal body, controlled by the Municipal Board of Rotterdam. Due to external pressures, port users’ changing requirements and globalisation of private port actors, the PA had already started attempting to gain more autonomy in the nineties. It was partly successful (Notteboom et al., 2013). In 2004, the PA became a public corporation with both municipal and national governments holding shares. With that step, the PA gained more autonomy. At the same time, its focus on its economic performance increased (for a more detailed overview, see Notteboom et al., 2013).

The TOC’s ownership structure has undergone significant changes since its founding. It started as a company with five private shareholders and tightly related to the PA. During the 1990s the relationship with the PA can be characterized as one of trust, based on a contractual agreement for leasing land. In 1999, the PA acquired 35% of the TOC’s equity shares, acting on its intention to secure Rotterdam/Dutch interests in the company’s future strategy. At the time, Hutchison Port Holdings [HPH] was interested in taking a majority share. In 2004, the PA stepped out of the TOC, when HPH acquired 98% of the shares. One of the results of the takeover by the global terminal operating company was a loss in autonomy for TOC’s executive management in Rotterdam. The corporate headquarters in Hong Kong take most strategic decisions, where not only local interests, but also global corporate interests play a role in decision-making. Generating a return, a key target for a private company, gained even more importance. Since 2009, institutional pressure has also come from the PA – through its concessionary power – putting performance-related conditions in new concession contracts.
Market forces
Since the 1990s, inter-port competition between Rotterdam and the Hamburg-Le Havre Range ports has increased sharply and their position relative to the hinterland has gained importance. Intermodal connectivity has increased the contestability of hinterlands, while port users increasingly consider the whole transport chain’s performance instead of just the port’s performance. For the TOC, another factor has increased pressure on its performance, namely the introduction of substantial competition within the port. Up to 2000, the TOC in Rotterdam acted as a monopoly, being the only provider of large-scale deep sea terminal operations. In 2000, a concession was given to a former client of the TOC to exploit a dedicated terminal (currently the APMT terminal). This has increased competitive pressure on the incumbent TOC. With the construction and development of a large port expansion area (Maasvlakte 2), additional competition has been deliberately introduced by the PA, which gave a concession to a new player, DP World, in addition to the existing APMT. For the TOC, this represents the threat of increasing competition within the port, which will effectively take place in 2014 when the new port expansion, Maasvlakte 2, is scheduled to be ready to operate. For the PA, market pressure came not only from port users, but also in the form of market failure by port operators. The hesitation of the joint port operators to invest in hinterland accessibility and solve coordination problems there puts pressure on the PA to get actively involved in the hinterland (De Langen, 2008).

The combination of increased autonomy, more financial means and increased awareness to act as a port network manager rather than a port manager, changed the PAs resource base for acting in the hinterland. The TOC was during a period restricted in its resources to expand its activity into the hinterland. From about 2005 this changed, with HPH headquarters approving an extended gate strategy, building on already existing stakes of the TOC in inland terminals (Venlo, Duisburg).

Interdependence
The PA and TOC are geographically related by acting in the same geographically bound place: the port and its physical hinterland. As is common in ports organised according to the landlord principle, there is and has been a transactional interdependence between the two actors in Rotterdam because the PA gives out the concession to the TOC to exploit the terminal site in the port. This provides the PA with concessionary power over the TOC. In general, the PA’s power is limited because influence can only be exerted during contract negotiations and those have a very long duration (between 20 and 50 years is quite common). During the period from 1999 to 2004, there was also a hierarchical power relationship between PA and TOC because of the PA’s equity share enabled it to exert some influential power over the TOC’s strategic direction. Thus over the period of analysis, transactional interdependence changed from contractual to partly hierarchical to contractual again (see Williamson, 1985). Apart from their transactional relationship, there is also an economic interdependence between TOC and PA: both individually influence the port’s attractiveness by their performance while both depend on the port’s attractiveness for their revenues. There is a regulatory interdependence between the PA and the TOC to a certain extent as the PA has some regulatory power over the TOC. In the case of Rotterdam, however, this is limited to issues of environmental impact and safety; from an economic perspective, the PA in Rotterdam has hardly any real regulatory power.
Strategic reorientation of PA

The mission of the PA in Rotterdam is to develop and manage the port complex. This has been so since its constitution in the early 20th century. Its particular roles as a landlord PA include investment in basic port infrastructure and making it easier for private companies located in the port to deliver port services. Its two revenue drivers are port dues and land rent. Over the last two decades, it can be observed that the PA’s role has changed from a pure landlord role to a landlord plus role in which it develops additional activities. The PA’s aim is to make it easier for private companies and to avoid that these companies fail in the market (see Port of Rotterdam Business Plans 2001-2005, 2006-2010, 2011-2015). It has maintained its ‘Hanseatic’ approach (see also Verhoeven, 2010; Notteboom et al., 2012) by pursuing a more public goal of enabling port development together with regional economic growth, but it does so based increasingly on commercial and even entrepreneurial principles. The PA is still not a real for-profit organization, but it feels the need to return dividends to its shareholders and be accountable for its economic performance. The changing perception of its role as landlord, towards a landlord plus, also includes the hinterland transport network domain. The PA’s port vision document (Port Compass, 2011) and the last two business plans (2006-2010 and 2011-2015) clearly address the necessity to get actively involved in the port’s transport networks development. Motives indicated that other market or government actors were unable to solve potential bottlenecks. Concrete examples of PoR investments in the hinterland are:

- Investment in 2003 in an inland terminal in Wanssum to overcome local hesitation that initially hampered its development.

- Investment in 2009 in a barge terminal in Alphen a/d Rijn, to overcome start-up barriers for a large shipper considering switching to barge transport between its production facility and the Rotterdam and Antwerp ports.

- In 2011 the PoR invested in a barge terminal close to the port area in Alblasserdam with the aim to make it easier for joint port operators to solve congestion problems on the main roads in the port area.

- Over the last decade, the PA also influenced the actions of port-related actors, with the aim to improve sustainable hinterland accessibility.

- In 2010, the PA introduced modal split clauses in the new concession contracts with the terminal operators for Maasvlakte 2, enforcing a more sustainable use of the port’s hinterland transport network.

- In 2011, the PA set up a website with information on inland terminals within the network of the Port of Rotterdam with a view to further promote and stimulate intermodal transport.

- In 2011, the PA started negotiations to invest in a stake in Duisburg, a strategically located inland terminal. It would eventually do that together with its neighbouring port and competitor Antwerp, but negotiations the German government suspended negotiations. At the moment of this paper’s writing, the PA is considering extending its stakes in other inland terminals, still on an individual basis and not necessarily together with the private port actors.
It is also considering setting up rail shuttles to destinations in the hinterland where market actors hesitate to invest.

**Strategic reorientation of TOC**

From about 1980 to 2004, the mission for the TOC was to provide an excellent transhipment product in the port of Rotterdam and therefore contribute to the position of Rotterdam in the container industry. Up to 1980, the TOC’s main focus was on their main clients: deep-sea container carriers. The move around 1980 to Maasvlakte 1, a more outward-located new port area, implied a longer distance to the market compared to its nearest competitor, Antwerp. This gave development of the TOC’s hinterland orientation impulse. An inland terminal in Venlo was developed followed by one in Duisburg (1982 and 1983 respectively). In 1998, the TOC joined the PA in taking shares in rail terminals in the Czech Republic via intermodal company CSKD. At the time, its aim was to extend the inland terminals network (Hungary, Spain, and the Baltic). The (partial) takeover by Hutchison Port Holding (HPH) in 2001 resulted in greater emphasis on achieving high return on investment for its shareholders. From that time on, inland activities were reduced. In 2002, shares in intermodal company CSKD were sold again, partly under HPH pressure. As an investment company, HPH does not readily permit investments outside its deep-sea terminal operating company core business. However, in 2005, after intensive lobbying at the Hong Kong-based HQ of HPH, the TOC became more actively engaged in the development of the inland terminal network. Their goal was to achieve a greater control over the dwell time of containers at its terminal and thus better control of its terminal capacity. They aimed to increase the TOC competitiveness by offering customers a more attractive inland transport product and to get access to new customer segments (the customer domain of TOCs is limited to container carriers, while the customers of inland terminals are shippers and forwarders). They also intended to optimize inland transport in terms of utilization and intermodality to achieve higher levels of sustainability. Concrete strategic initiatives of the TOC related to the hinterland network included vertical integration of its investments. The TOC invested additionally in its existing terminals in Venlo, Duisburg and Willebroek and obtained commercial involvement in the rail connections between Rotterdam and Venlo. It also extended the network of terminals. With the development of its extended gate concept, the TOC changed its value proposition to customers by offering an integrated transhipment and transport product covering the inland leg from deep-sea terminal to inland terminal. The TOC acted on this individually. The TOC abstained a little from engaging in existing community-based information systems and decided to use its own management information system to support inland activities.

Table 13 summarizes the case of Rotterdam Port. It shows institutional and market forces in operation at different points in time and changes in interdependence between actors. It

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**Notes:**

12 Deep-sea terminals have much higher profit levels than inland terminals.

13 In 2008, ECT almost reached its terminal’s capacity limits. Two main measures taken were removal of empty containers from the terminal and reduction of containers’ dwell times.
subsequently describes in detail the changes in strategic reorientation by the PA and TOC and implications in the way they interacted and relational outcomes.
### Table 13: Co-evolutionary Drivers of Strategic Reorientation and Relational Outcomes in the Port of Rotterdam

<table>
<thead>
<tr>
<th>Institutional/governance forces</th>
<th>Market forces and resource base</th>
<th>Interdependence</th>
<th>Strategic reorientation</th>
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<tbody>
<tr>
<td><strong>Institutional</strong></td>
<td><strong>Transactional interdependence</strong></td>
<td><strong>Mission and vision</strong></td>
<td><strong>Interactive effects and Relational outcomes</strong></td>
</tr>
<tr>
<td>The PA changed from an autonomous municipal body to corporatized organization (in 2004) which resulted in greater autonomy, greater professionalization of senior executives and independence of the board from political interests. The TOC-ownership was up to 1999 a joint shareholdership by local companies. From 1999 – 2004 the PA had a share of 35%, HPH (global terminal operating company) had a share of 60%. After 2004: full ownership by HPH.</td>
<td>PA has as landlord concessionary power over TOC. PA gives out concession for terminal site to TOC.</td>
<td>Since 2000 new mission values: more active role for PA as partner of private port companies, port as node in networks of logistics and industrial clusters. Mission remains to be “world class developer and manager of the port complex”.</td>
<td>Before 2000: teaming up, joint activities inland</td>
</tr>
<tr>
<td><strong>Governance</strong></td>
<td><strong>Economic interdependence</strong></td>
<td><strong>Changes in role</strong></td>
<td><strong>PA</strong></td>
</tr>
<tr>
<td>- The PA has traditionally followed the landlord model, being responsible for port infrastructure and monitoring and, as landlord, leasing out facilities to private actors</td>
<td>Mutual influence on economic outcome for both actors.</td>
<td>Change from leaving everything to private market actors to actively making it easier for and stimulating market actors to increase port performance.</td>
<td>To become first class container terminal operator in the Rotterdam Port. Increased focus on ROI after take over by HPH</td>
</tr>
<tr>
<td>- As port authority, the PA sets conditions and regulations for the lessees</td>
<td><strong>Regulatory interdependence</strong></td>
<td>- Increasingly extending its active role outside the borders of the port.</td>
<td><strong>TOC</strong></td>
</tr>
<tr>
<td>- Formal and informal ties between PA and TOC changed over time</td>
<td>Concerning environmental issues and safety issues; some regulatory power with PA over TOC.</td>
<td><strong>Geographical or location bound interdependence</strong> PA tied to port location. TOC also due to sunk costs.</td>
<td><strong>Changes in role</strong></td>
</tr>
<tr>
<td><strong>Market failures</strong></td>
<td></td>
<td>Both actors were part of local community or cluster that set codes of conduct.</td>
<td>- After takeover by HPH in 2004, the TOC had to comply with the group’s global strategies. Result: loss of autonomy and additional pressure for ROI at relative short term and focus on core activities.</td>
</tr>
<tr>
<td>- Around 2000 pressures for PA to fill in market voids: port operators including TOC showed reluctance to invest in hinterland network and solve coordination problems.</td>
<td></td>
<td>- From monopolistic terminal operator acting in strong coordination with PA to competitive terminal operator within Rotterdam, differentiating from competitors by providing inland transport and terminal handling services.</td>
<td>To become first class container terminal operator</td>
</tr>
<tr>
<td><strong>Port user requirements</strong></td>
<td><strong>Intra port competition</strong></td>
<td><strong>Strategic initiatives</strong></td>
<td><strong>Strategic initiatives</strong></td>
</tr>
<tr>
<td>Increased focus on hinterland connectivity by port customers changing the requirements for PA and TOC.</td>
<td>Increased competition for TOC due to introduction of intra-port competition alongside decrease in demand: additional pressure to differ from competitors and more distance to PA</td>
<td>- 1998 joint investment with TOC in rail terminals in Czech and Slovak Republic (first investment of PA outside Rotterdam).</td>
<td>- In the nineties, development of European terminal network with investments in Duisburg and Trieste, intentions for more terminals and cooperation with PA for investment in rail terminals in Czech Republic.</td>
</tr>
<tr>
<td><strong>Resource base</strong></td>
<td><strong>Resource base</strong></td>
<td><strong>Changes in role</strong></td>
<td><strong>Changes in role</strong></td>
</tr>
<tr>
<td>For PA increase in autonomy, financial means and changed identity from port manager to port network manager. For TOC increased investment possibilities, reinforcing the use of existing shares in inland network</td>
<td></td>
<td>- From 2000 withdrawal from active inland developments.</td>
<td>- Opposition of TOC towards position and role of PA in hinterland</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- In 2009 renewal of inland network for customized solutions</td>
<td>- Less willingness to exchange information</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Investment in more inland terminals and rail connections within concept of extended gateway services.</td>
<td>- Distrust between the two actors</td>
</tr>
</tbody>
</table>
Synthesis on the case: drivers and interactive effects

The institutional position of the terminal operator in relation to the PA changed over the period of analysis. The relation between the two actors has evolved from a close internal interrelationship to a market one characterized by client-supplier, operator-regulator and co-creator relations. The increased organisational distance between PA and TOC, together with the deliberate introduction of additional competition for the terminal operator by the PA, has led the terminal operator to position itself conflictingly to the PA rather than beside it. A sense of distrust has seemingly arisen from this positioning and the TOC has become increasingly hesitant to exchange strategic and operational information with the PA. An even clearer sign is the claim of “broken agreements” that the TOC laid on the PA in 2011 for an amount of more than 1 billion Euros.

By developing a strategic orientation from institutional area manager to entrepreneurial port developer, with a strong focus on the hinterland network, the PA has further entered the domain of the terminal operator. It has influenced its behaviour through incentives (one example is modal split targets in concessions, see Van den Berg and De Langen, in press) and has started to develop a governing role in the hinterland by obtaining stakes in inland terminals as landlord. Modal split targets have impacted the TOC’s focus hinterland connectivity. According to a TOC senior manager:

“Although not the first argument, the targets as set by the PA have contributed to our changed orientation towards hinterland network development”

The PA’s initiative to acquire stakes in the hinterland has engendered concern in the TOC over changed market conditions, potentially in favor of competitors. The attitude of the TOC towards the PA on this issue has become quite critical as pointed out by another senior manager:

“We have worked hard on acquiring a position in the hinterland; if this were provided by the PA to our competitors on an easy basis, perhaps also at better conditions, this would disturb market conditions”

The terminal operator’s focus and perceived responsibility has fluctuated over the period of analysis from developing additional inland activities via putting this on hold for a time, to actively developing inland activities again. The PA was, for a substantial period, confronted with a terminal operator doing little to improve hinterland accessibility through changes in strategic and operational structure. During that period, the PA developed a stronger inland orientation as a senior PA’s manager mentioned:

“To improve the competitive position of our port we need to strengthen the hinterland network; if private companies show reluctance to do so, we might have to step in on this”

Over the last five years, however, the situation has changed. The terminal operator has demonstrated a concrete strategic reorientation towards the hinterland network, initiating and implementing significant organisational innovation via its extended gateway services concept by investing concretely in inland terminals. However, this has not led to a clear adaptation of the PA’s inland orientation (e.g. stepping back or teaming up).
5.4.2 Port of Barcelona

Barcelona is the third largest container port in Spain and the fourteenth largest container port in Europe. Barcelona’s direct hinterland and most important market is Catalonia. The TOCs as well as the PA have traditionally had their focus on this region. Since about 2000, however, Barcelona has been trying to gain market share in central Spain and southern France. This has brought it into competition with ports such as Valencia and Marseille. Two container terminal operating companies are active in the port of Barcelona: Terminal de Contenidor de Barcelona (TCB) and Terminal Catalunya (TERCAT). Each terminal handles approximately half the total traffic and both operators are expanding their capacity in the Barcelona port. This research focuses on TCB as this TOC has been more active in hinterland development. TERCAT has been owned by Hutchison Port Holdings (HPH) since 2006. TERCAT only recently (last two years) started orienting inland, induced by incentives given by the PA through new concession negotiations.

Institutional forces

In Spain, seaports’ organization and management laws and regulations have changed drastically in the last two decades. Before 1992, Spanish ports were subject to tight regulations of the basic conditions under which port actors could act. By a law of 1992 (Law 27/1992 on State Ports and Merchant Navy, Jefatura del Estado, 1992), the Barcelona PA (Autoridad Portuaria de Barcelona – APB) is the PA of a so-called General Interest Port and is owned by the national government of Spain with local government representation on the board. As such, the PA is an autonomous legal body, under a landlord model responsible for the port’s organization and management under the State’s Ports Organization coordination and control. Since then, new laws have been introduced in several rounds, aiming to enhance Spanish ports’ efficiency and competitiveness (Laxe, 2011). The most recent law of 2011 enacts that infrastructure investments as well as operating and capital expenditure costs must be funded entirely through internal resources. The investments made in ports need to have a net present value over zero and an equity level of at least 6%. Furthermore, Spanish port law requires a minimum return on assets of 2.5% yearly. Under the law, PAs have full freedom to decide port dues and concession fees. In summary, the evolution of Spanish port law since 1992 has made the Barcelona PA an increasingly autonomous local body, as a landlord responsible for the port’s management and development with an increased focus on financial performance.

The TOC TCB has undergone a change in ownership structure since its constitution. TCB started in 1992 through a merger between Marítima Layetana and Tersaco who operated on one wharf in Barcelona. The TOC’s focus was entirely on its activity in Barcelona until 1998 when it secured managerial concession of Terminal de Contêineres de Paranaguá (TCP) in Brazil and became a shareholder in the company. The company’s horizons widened further in 2000 with the formation of Grup TCB. The changing ownership structure has not induced major institutional pressure. The terminal in Barcelona is still the most important terminal within the Grup TCB. Since the merger with Marítima Layetana, the TOC has had a concessionary relationship with the PA. In the last decades, the PA has exerted its concessionary power by putting stricter performance and hinterland strategy requirements in concession contracts.
Market forces and resource base
Before 2000, the Port of Barcelona mostly served its captive, domestic hinterland: the larger metropolitan area around the city. From 2000 onward, the PA expanded its competitive area to other parts of Spain and southern France. That brought the Barcelona Port into inter-port competition with Valencia and Marseille ports and also Taragona for its wider hinterland. Like any other port, Barcelona faces pressures from changing user’s requirements looking more at chain performance than only port performance. The two container terminal operators in Barcelona, however, maintained their traditional seaside focus – in that respect not complying with user’s changing requirements. The PA considered this a market void.
Within the port there is intra-port competition between the two container terminal operators CB and TERCAT. They have roughly equal shares in transhipment operations. A fierce competition has developed over the last decade. Expansion concessions were awarded to both terminal operators, which led to serious discussions, even lawsuits, over equal market conditions. In 2004, TERCAT was acquired by HPH, the same shareholder of ECT. The impact of this ownership change on the competitive situation in Barcelona Port is that the potential financial strength and quality of TERCAT has increased, resulting in an ever more serious competitor to TCB.

Resource base of the PA did not change significantly, except for an increased autonomy and awareness of financial self-sustainability, changing the commercial attitude of the organisation. The initiative of the PA to acquire a stake in the inland site of Zaragoza, provided the TOC with an easy access to become the inland terminal operator at Zaragoza and develop a rail service between the port and this inland terminal.

Interdependency
Apart from a territory bound relationship, the main interrelationship between APB (PA) and TCB (TOC) is transactional interdependence, originally inhered in the PA’s lease of the terminal area to TCB. Since 1972, the TOC has been a private company acting under a concession agreement with the PA. The PA has concessionary power over the TOC, which it exerts especially during renegotiations or when the tenant asks for changes/renewals. The landlord-tenant interdependence status even expanded into the hinterland from the moment the PA invited the TOC to become a joint investor in the inland terminal area in Zaragoza (2002) and be a shareholder of the private operator there. As in Rotterdam – and in general in landlord seaports – there is also economic interdependence: The PA benefits from a well-performing terminal operator, while the TOC is supported in its operations by a well-performing port management. The PA holds some regulatory power over the TOC, especially in the fields of environmental impact and safety.

Strategic reorientation of PA
Until 1998, the PA acted as a traditional landlord PA, with its first responsibility being to make easier the port’s economic and social development while safeguarding public interests. In 2003, the PA’s mission was “to contribute to the competitiveness of the port’s customers by providing efficient services that respond to their needs for maritime transport, land distribution and logistics services.” As of 2009, the mission is “to lead the development of the Port of Barcelona, generate and manage infrastructures and guarantee reliable services to contribute to the competitiveness of its customers and create value for society.” The latest mission statement
reflects the PA’s changing role from a reactive position: “contribute to the competitiveness”, into a proactive one: “to lead the development” (Van den Berg and de Langen, 2011). The gradual shift in focus as reflected in the changing mission statements is made explicit in the PA’s three subsequent strategic plans (1998, 2003, 2009). In 1998, the PA developed its first strategic plan together with the port community “to become the leading logistics hub for the European continent in the Mediterranean.” With the plan’s implementation, the PA became more actively involved in the business community. The PA also developed the idea that Barcelona could attract cargo outside Catalonia. Therefore, the second plan focused on the hinterland connection. The third strategic plan proposed a clear role for the PA in the total supply chain, based on the notion that “the port is not mainly there for earning money with port operations and processing cargo through its area, but rather a crucial economic activity for enabling economic development in the region” (quote executive APB, 2011).

In line with the strategic plans described above, the PA invested in intermodal connections quality. It started with promotional activities and customer services, followed by investments in logistics facilities (i.e., container depot, rail terminal and logistics zones in Zaragoza and Toulouse). A third step is investment in rail tracks compatible with the European rail system as well as investment in new rail shuttles (e.g. Barcelona – Lyon shuttle). In implementing its strategy, the PA clearly insisted on the port’s container terminal operator’s participation in this development and exerted concessionary power to convince the TOC to collaborate in the hinterland.

**Strategic reorientation of TOC**
The responsibilities of terminal operators lie in providing a good transhipment product for their clients while generating sufficient profit. During the last decade, the TOC showed strategic reorientation by providing clients with inland transport – by rail – and inland terminal handling. Terminal operators in Barcelona did not pro-actively choose investment in the hinterland, but fell in line with the PA. Each took a minority share in tmZ, initially a container depot adjacent to a logistics area. Later, the TOC was “seduced” into taking a substantial share in the inland terminal operating company on the same site. In 2006, TCB Railway Company, a TOC sister company, was started and provided inland rail connections. In 2010, the TOC decided to team up with Renfe, a Spanish railway company, with the ambition to develop into an intermodal logistics operator. The strategic choices of the deep-sea terminal operating companies in Barcelona with regard to the hinterland have been, and continue to be, in accordance with the strategic choices of the PA. If appropriate, strategic initiatives are taken in cooperation. This is illustrated by the initiative in 2010 of the TOC to invest jointly with the PA in rail infrastructure: adapting rail track gauge, from the port to the French border, to continental standards. In the present situation the TOC acts as an integrated company, looking for opportunities in seaports and to extend its hinterland presence in and outside Spain.

Table 14 summarizes the case of the Port of Barcelona. It shows institutional and market pressures in operation at different points in time and changes in actors’ interdependence. It subsequently describes in detail changes in the PA’s and TOC’s strategic reorientation and implications in the way they interacted and relational outcomes.
TABLE 14: CO-EVOLUTIONARY DRIVERS OF STRATEGIC REORIENTATION AND RELATIONAL OUTCOMES IN THE PORT OF BARCELONA

<table>
<thead>
<tr>
<th>Institutional and governance forces</th>
<th>Developments in market forces and resource base</th>
<th>Interdependency</th>
<th>Changes in strategic reorientation</th>
<th>Interactive effects and Relational outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Institutional</strong></td>
<td></td>
<td></td>
<td><strong>PA</strong></td>
<td><strong>TOC</strong></td>
</tr>
<tr>
<td>- Up to the 1990s, Spanish ports were subject to tight regulation and the PA is owned by the national government.</td>
<td><strong>Inter-port competition</strong> Between 1990 and 2000 mainly captive hinterland. From 2000 developing competition with Valencia, Marseille, for larger market area</td>
<td><strong>Transactional interdependence</strong>  - PA since 1972 concessionaire to TOC of rights for land use. - From 2004 additional transactional interdependence through joint investment inland - From 2005 the PA has put stronger pressure upon the TOC for performance-linked concession contracts</td>
<td><strong>Changes in mission statement</strong> Since 1998 the latest mission statement has become much broader and includes the PA's changing role from a reactive into a proactive position and from a port focus to a supply chain focus.</td>
<td>Up to 2005: no initiative of TOC towards hinterland, giving the PA the impulse for taking initiatives: PA as ‘enforcer’ towards TOC, enabled by TOC request for terminal expansion.</td>
</tr>
<tr>
<td>- Since 1992 the PA is an autonomous legal body under the coordination of the State Ports’ Organisation with local government representation on the board.</td>
<td><strong>Port user requirements</strong> Increased port customer focus on hinterland connectivity changing requirements for both PA and TOC.</td>
<td><strong>Economic interdependence</strong> Mutual influence on the economic outcome for both actors.</td>
<td><strong>Changes in role</strong> From 2000 on the PA's role has developed into a landlord plus role, with a more commercial attitude responsible for the competitive position of the port and its integration in the hinterland.</td>
<td>From 2005: TOC followed PA in hinterland initiative, which has led to a convergence in pursued strategies. A cooperative attitude between PA and TOC regarding hinterland development developed.</td>
</tr>
<tr>
<td><strong>Governance</strong></td>
<td></td>
<td></td>
<td></td>
<td>From 2011: Continuation of cooperative setting: recent joint strategic initiatives for further development of hinterland network are an example of the cooperative attitude towards hinterland development, with a seemingly rather successful outcome.</td>
</tr>
<tr>
<td>- The PA has traditionally followed the landlord model, being responsible for port infrastructure and monitoring</td>
<td><strong>Market failures</strong> Around 2000 underinvestment by private sector: port operators including TOC showed no intention to invest in hinterland network which was seen as necessary by PA.</td>
<td><strong>Regulatory interdependence</strong> The PA has some regulatory power over TOC concerning environmental and safety issues</td>
<td><strong>Strategic initiatives in the hinterland</strong> Up to 2000: No real activities in the hinterland.</td>
<td></td>
</tr>
<tr>
<td>- PA had no involvement in services, leaving this to the private sector.</td>
<td><strong>Intra port competition</strong> Increased competition for TOC due to development of other TOC and its takeover by a global terminal operator</td>
<td><strong>Geographical or location bound interdependence</strong> PA tied to port location, TOC is also constrained by sunk costs. Both actors part of local community or cluster that set codes of conduct.</td>
<td><strong>- Before 2000 the focus was at its first terminal in Barcelona</strong></td>
<td></td>
</tr>
<tr>
<td>- In 2003, new legislation that stimulates efficiency and competitiveness is approved.</td>
<td><strong>Resource base</strong> More autonomy, financial freedom of PA. Extension of the TOC's resource base by the PA's provision of easy access to invest in the inland site and by the PA's provision of teaming up in further inland investments</td>
<td></td>
<td><strong>- Since 2000 the TOC Group's mission is based on providing good quality services in the Mediterranean and to other Latin countries</strong></td>
<td></td>
</tr>
<tr>
<td>- In 2010, new port law formally increases the PA's economic accountability with clear requirements for return on investment.</td>
<td></td>
<td></td>
<td><strong>Changes in mission statement</strong></td>
<td></td>
</tr>
<tr>
<td>- There has been little pressure from TOC’s changing shareholders structure</td>
<td></td>
<td></td>
<td><strong>- Since 2000 the TOC Group's mission is based on providing good quality services in the Mediterranean and to other Latin countries</strong></td>
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</tr>
<tr>
<td>- The two TOCs port expansion requirements in Barcelona enabled the PA to force strategic activities into the hinterland by the TOCs</td>
<td></td>
<td></td>
<td><strong>Changes in role</strong> The role of TOC in Barcelona changed from provider container terminal operations into provider of an integrated transport product up to the inland terminal.</td>
<td></td>
</tr>
</tbody>
</table>

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Synthesis on the case: drivers and interactive effects

In Barcelona, the economic interdependence between PA and TOC, together with the fact that the TOC did not show any intention of making necessary investments in the hinterland, forced the PA to take the initiative to develop the hinterland network. The transactional relationship enabled the PA to require the TOC to join its investments there. The relatively stable and clear interrelationship between the PA and the TOC for a longer period enabled a convergence of both actors’ strategies.

The strategic choice of the PA to include requirements for a hinterland strategy in the concessionary contract with the TOC and compliance enforcement resulted in the latter’s investment in the hinterland facility and becoming the operating company there. The PA clearly took the initiative to improve links between port and its wider hinterland. Motives included the need to enlarge market area, while private actors, i.e., the terminal operators, failed to show any desire to invest in hinterland terminal facilities. An executive manager of the PA indicated the will to develop hinterland activities was related market share gains in that market. As he posited:

“If we want to enlarge our market area we need to develop concrete facilities and activities in the hinterland.”

As a result, the PA became more deeply involved in the port community and its participation in the hinterland has reduced distance between the PA and the terminal operator. The strategic choice of the PA to include requirements for a hinterland strategy in the concessionary contract with the TOC, together with its active insistence on participation, resulted in the latter’s investment in the hinterland facility and becoming the operating company there. The PA clearly took the initiative to improve links between port and its wider hinterland. Motives included the need to enlarge market area, while private actors, i.e., the terminal operators, failed to show any desire to invest in hinterland terminal facilities. An executive manager of the PA indicated the will to develop hinterland activities was related market share gains in that market. As he posited:

“It was because of the active connivence, almost enforcement of the PA, that we developed activities in the hinterland by taking shares in the inland terminal.”

This only came later in 2011 when competitor TERCAT also acquired a new concession and developed an interest in expanding its scope in the hinterland. Competition may have provided an extra incentive for TOC to develop a greater commitment in this market. In securing a position in the hinterland by its stake in the inland terminal, the PA has created potential to influence the hinterland network’s further development and market structure. The fact that TOC2 has turned into a competitor of equal size, while TOC1 already had a position in the hinterland, has driven the PA to discuss its role in the hinterland from this perspective:

“We are present there also to make sure that market conditions are right and to avoid destructive opportunistic behaviour of one TOC over the other.”

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5.5 Discussion and conclusions

The analysis of institutional and market factors at both the Rotterdam and Barcelona ports suggests that changes in institutional structures, changes in competition factors and changes in demand, offered clear incentives for both the PA and TOC to go beyond their traditional functions and geographical domains. In addition, the case studies in Rotterdam and Barcelona, have revealed the interactive nature of such a strategic reorientation process of the two different actors studied, albeit in different relational settings and development paths. While strategic orientation and its implementation path between PA and TOC is defined as cooperative in the case of Barcelona, in Rotterdam relationships between these two actors could be viewed as individualistic and competitive. Initially, in Barcelona, the hinterland strategy was characterised by a closer strategic relationship between PA and TOC. In Rotterdam, the institutional and market reform that took place simultaneously to the PA and TOC developing hinterland strategies resulted in an absence of cooperative or integrative processes between PA and TOC.

The research indicates that the analysis of port actors’ strategic reorientation in a context of pressures for engagement in overlapping strategic domains requires an interdisciplinary evolutionary approach that integrates knowledge on market dynamics (positioning, transaction costs, resources and competencies) with institutional pressures and inter-organizational effects. In ports, key players’ strategic orientation, can be characterized by a type of interdependence, which is territorially based and commercially and institutionally bound. Changes in actors’ strategic orientation are influenced, not only by external pressures laid on each actor individually, but also by the specific nature of their interrelationship and interdependence.

The processes observed in the cases underline the “too little - too much” perspective on organizational proximity as brought forward by Hall and Jacobs (2010). As the authors state “it makes no sense to speak of a single general optimal level of cognitive, organizational, institutional, social or geographic proximity in a world where things change continuously” (Hall and Jacobs, 2010: 1107). Finding the right proximity is a continuous and dynamic game (Nooteboom, 2004). We argue here that, from the perspective of strategic reorientation, this balancing task is challenged not only by changes in formal and informal interrelationships, but also by market and institutional pressures. In Rotterdam, the institutional interrelationship seems to have been subject to significant shifts, resulting in an organizational distance between PA and TOC that was not too effective for a well-coordinated hinterland strategy.

Our study concurs with the views that pinpoint the relevance of geography in strategic management. As illustrated by the two cases geographical proximity is important for the construction and continuity of local structures and institutions as it encourages path dependency and enhances interdependence between the actors (Hall, 2003; Ng et. al., 2013, Debreie et al., 2013). Thus, geographical proximity matters for strategic management. However, the study also shows that co-evolution of institutions, market forces and firm strategies also changes spatial developments in a port context.

Contribution to research and theory

Based on our theoretical elaboration and our empirical analysis, we propose a model that fits the challenge of analysing main actors’ evolving strategies in the context of overlapping geographical,
institutional and economic strategic domains. Specific contribution is the role that interdependence and interrelationship play. Interdependence between the actors affects their strategic reorientation through mutual influences of their strategic initiatives. One of the outcomes of the process of the strategic reorientation of both actors is a changed interrelationship; in our cases respectively following a conflict or rather a cooperation model. Figure 9 illustrates the model.

FIGURE 9: AN EXPLANATORY MODEL FOR THE ANALYSIS OF THE CO-EVOLUTION BETWEEN PORT ACTORS IN THEIR STRATEGY ORIENTATION

Key to the model is the key port actors’ strategic reorientation and the role interdependence plays. The interdependence evokes the relevance of taking both a firm and an inter-firm level perspective on the strategic reorientation process and results. The firm level perspective relates to the outcomes of both managerial intentionality and pressures from the environment, including reverse effects (Lewin and Volberda, 1999)\(^\text{14}\). The inter-firm perspective accounts for the interdependence, mutual influences of the strategic orientation of each of the actors and subsequent interrelationship dynamic between actors whose outcome may consist of cooperation or conflict. The recursive arrows in the figure indicate the dynamic of this co-evolutionary process.

\(^{14}\) We did not empirically research firm level performance as a result of strategic reorientation as our focus was on actors’ strategic re-orientation processes as a result of changing contexts
process, which occurs at different levels: the firm’s, inter-firm and at the level between these two and their environments.

Thus, this research underlines the relevance of a co-evolutionary approach as a tool to unravel some of the complexity inherent in the relationship between geographically related actors and between these actors and their environment. Rather than being a theory in its own right, the co-evolutionary approach encourages the use of different perspectives to explain the complexity of exchanges between organizations and their environments and the outcomes of such relationships (Dieleman and Sachs, 2008; Rodrigues and Child, 2003). It thus offers the opportunity to integrate relevant theories into an analytical model that takes advantage of insights from several otherwise discrete sources, which, as identified in the research, support the understanding port actors’ strategic reorientation.

Managerial implications
From a managerial perspective, this chapter suggests that an analysis of hinterland strategy needs to consider the strategic intentions of others in the network, including timing and the sequence in which it is implemented. This implies all key port actors, but most especially the PA that in principle has more the role of a facilitator than that of an operator.

Contributions and limitations
The analysis of two interdependent actors’ interactive strategic behaviour has focused on the case of a PA and a terminal operator in the context of hinterland networks. Though they are major actors in this process, others within the network can also exert an influence. For example, deep-sea carriers, which are customers of both terminal operator and PA, have an interest in hinterland accessibility, and sometimes develop hinterland strategies. Additionally, inland terminal owners and operators can actively shape or limit possibilities for developing a hinterland strategy and thus influence contextual factors. Assessing the impact of such actors on processes considered here could enhance insights gained so far. A limitation of this research, but which also made this study feasible, is its reliance on only two cases. We believe we have succeeded in proving the value of applying a specific interdisciplinary approach that builds upon both institutional and strategic theories with a strong emphasis on interdependence and interaction to a particular instance of strategy making. However, further analyses of other cases, across a variety of business sectors, would lend rigour to our findings and conclusions.
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