

## **The Port of Casablanca as the Crucial Link of The International Logistics Chains: A Theoretical Review**

Charif El Idrissi My Ahmed-PhD student's.

ChegriBadreddine-PhD professor

*Department of Economics and Management Sciences, Faculty of Law and Economics, Mohammed V University, Rabat, Morocco*

*Corresponding Author: Charif El Idrissi My Ahmed*

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**Abstract:** *The objective of this article is to identify the factors contributing to make the port of Casablanca a crucial link in the logistics chains. It concerns accessibility, sharing of information, connectivity, the reliability of the port institutional framework, the management of interactions between port stakeholders and finally, the inter-port and intra-port proximity. Conducting semi-structured interviews with all the actors of the port logistics chain (port area, economic actors, port authorities) helps to achieve our goal.*

**Key words:** *Port, Port actors, supply chain, crucial link, containerization, port community.*

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### **I. Introduction**

During the last two decades, globalisation, logistics integration and the notable growth of containerisation have reshaped the seaport and shipping industry. Seaports and port community, in particular, maritime companies are challenged to redefine their functional role in the value chain and creating value for the supply chain actors. For instance, ports have transformed their role from the traditional regional gateways to the place where essential value adding, and logistics activities are taking place. Accordingly, ports became integral part of a complex supply chains, serve as a logistics centers and influence the supply chain patterns and processes (Host and al. 2018).

Furthermore, according to Host and al. (2018), ports have played, and will continue to play, much more decisive roles in the sustainability of logistics and supply chains. Out of the numerous nodes in global supply chains, ports play an essential role in enabling the continuous flow of shipments between supply chain entities. An increasing volume of research focuses on port integration into supply chains and its impact on port performance and competitiveness.

Moreover, ports are operating today, in an increasingly competitive environment and they are no longer designed as interfaces between the various modes of transport whose competitiveness is assessed in terms of infrastructures and equipment, but they now represent spaces for managing physical and informational flows in the context of international supply and distribution logistics chain structures (Naciri, 2014). They respond more to the demands of trade than strictly maritime and port functions by seeking supply and management of space through transport and logistics connections (Laxe, 2008).

This paper aims to make a contribution in port economics and port logistics studies by reviewing the relevant literature on port integration in the supply chain. It aims also, to identify the factors contributing to make the port of Casablanca a crucial link in the logistics chains. these factors concerns the port accessibility, the sharing of information between port community actors, the port connectivity, the reliability of the port institutional framework, the management of interactions between port stakeholders and finally, the inter-port and intra-port proximity.

This will be carried out by presenting the concepts, definitions and thorough analyses of the factors contributing. In that respect, the paper is divided into three main sections. The first one presents the external and The internal factors influence the development of port. The second one outlines the analyses and the conceptual model for port scm. Finally, the third one discusses the research methodology choice.

#### **• Context of research :**

According to Notteboom & Rodrigue, (2008), globalization of economy is a process that promotes international trade with respect to high volume of goods for which warehousing costs too much. Global logistics promotes physical aspects and real application of multi aspects of various communication networks. This process does require a series of operations that must be done at final stages of logistic chain. Moreover, logistics

accelerates trend of competition among manufacturers and suppliers of services, ports in particular. From this point of view, competition of port is based on estimation of international capability of ports over hinterlands. Through this trend the port can access goods, market and globalized services.

Seaports are key elements for a country's economy. For instance, more than 95% of all foreign trade passes in transit by sea route in Morocco. This demonstrates that port performance must be measuring and improving in order to facilitate integration of Moroccan port into international supply chain, in particular port of Casablanca.

In the global supply chain era, the integration of seaports into supply chains has emerged as a critical strategy in the development of port operations, and the changing role of ports in logistics and supply chains has been a focus for research. Recent literature shows evidence of distinctive trends towards the integration of ports into logistics and supply chains (Woo et al., 2011b, 2012). Carbone and De Martino (2003) discussed the involvement and roles which ports play in the supply chain

Our paper is interested to study how making the port of Casablanca a crucial link of the international logistic chains. The choice of this port is due to the fact that it concentrates a large part of the Moroccan traffic (about 37,1% according to the report of the National Agency of Ports published in 2017). This port has all its relevance in a sector which, despite the reforms undertaken by public authority in 2006, cannot become an establishment involved in the organizational improvement of logistics chains with as a consequence a commitment in terrestrial services (Ouazzani , CF, 2009).

#### • **INTEREST OF THE RESEARCH**

The main points of this article are to have a deep view in the development of container shipping industry of Casablanca and figure out some plans to develop Casablanca Port. To show the importance of the container transport chain is the other goal of this article. What factors can influence the development of port as the crucial link of the international logistics chains, is one academic question that the authors want to get answer. And to work out one model to analyze the development of different container ports is another academic goal.

#### • **PROBLEMATIC OF RESEARCH**

Recent literature shows evidence of distinctive trends towards the integration of ports into logistics and supply chains (De Langen and Chouly 2009; Pettit and Beresford 2009). Some researchers, based on such studies, have also attempted to expand and apply the issues of port integration in supply chains to other traditional research areas (Bichou and Gray 2004; 2005; Mangan et al. 2008; Notteboom and Rodrigue 2005; Pettit and Beresford 2009).

This one is interested to make the port of Casablanca a crucial link of the international logistic chains. The choice of this port is due to the fact that it concentrates a large part of the Moroccan traffic (about 30,7% according to the report of the National Agency of Ports published in 2016). This port has all its relevance in a sector which, despite the reforms undertaken by public actors in 2006, cannot become an establishment involved in the organizational improvement of logistics chains with as a consequence a commitment in terrestrial services (Ouazzani , CF, 2009).... This article intends to answer the following questions:

- What are the main factors influence the port's development?
- How to contribute to make a port of Casablanca as crucial link of supply chain?
- What advantages and disadvantages does Casablanca Port have?

The main aim of the research is to explore the role of ports within supply chains

### **II. Hypothesis Of Research**

To answer this problem, a literature review leads to a theoretical and conceptual framework studying the evolution of seaports from traditional to modern design. In doing so, the analysis of the literature makes it possible to deduce a series of research hypotheses and a series of factors influencing the international logistics chain in Morocco. It concerns accessibility, connectivity, the reliability of the port's institutional framework, the management of interactions between the actors of the port, the inter-port and intra-port proximity and the sharing of information.

However, an exploratory qualitative study, based on semi-directive interviews conducted with the different actors of the port community within the port of Casablanca allows us to report the results of verification of our hypotheses.

### **III. Literature Review**

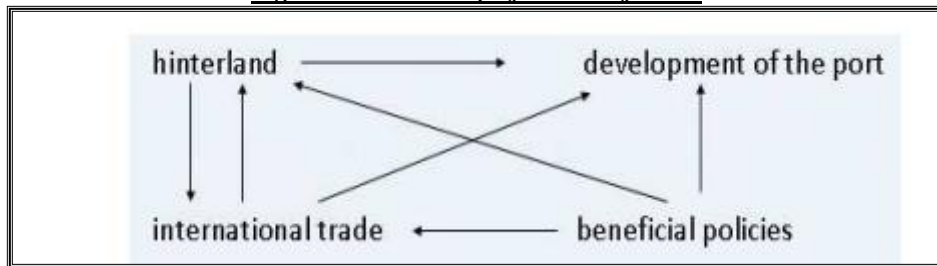
There are several previous studies to analyze the place of port in supply chain in international journals. Although ports are not considered simple transport nodes since long time, only in last year's an increasing number of studies have addressed the new role of ports as part of supply chains.

• **The external and The internal factors influence the development of port**

The port should improve all the relevant things to adjust itself to fulfill the increasing amount of requirements by the customers and to attract more cargo to get the further Development.

To predict the trend of the Shipping Industry of Casablanca Port, many factors outside this industry should be studied such as the hinterland, international trade and policies. The hinterland means the inland area where abundant of the export and import cargo goes through the port. (Ferrari, Parola and Gattorna, 2011). The international trade brings the demand of the shipping industry all the time. And the policies of the government for the export area and port area affect the port's shipping industry. However, the competition between different ports is getting fiercer than before, to survive in the market, what factors can influence the choice of ports by the customer should be realized.

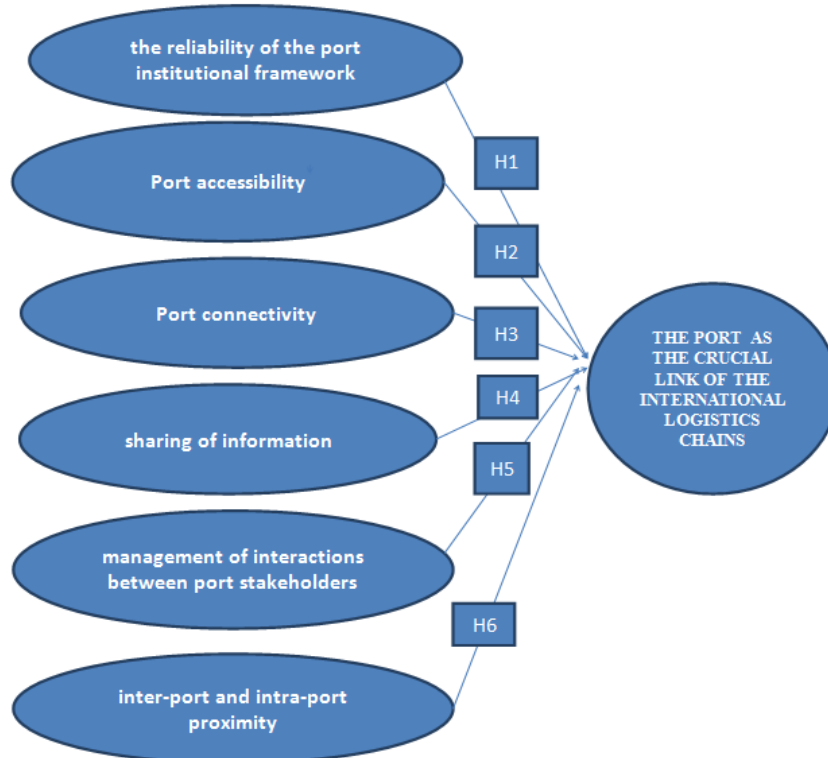
**Figure 1. Relationship of external factors**



Here the customers include shippers, consignees, forwarding companies, liner companies and other companies related to the shipping industry. The choice of the port can influence their companies' development and profits. In the first part, the elements of the port's capability are divided into many parts includes frequency that the ships call at the port, the level of the port operation efficiency, quality of logistics infrastructures, the efficiency of information system, accessibility of intermodal transportation for the cargo, management of the port and other related factors. The cooperation between different ports can enhance the competitiveness on the other side.

• **A conceptual model for port SCM**

**Figure 2: Proposed conceptual PORT SUPPLY CHAIN model**



From the above discussions with many experts and port logistics professionals, literature review and logical reasoning, the various variables are portrayed by means of descriptive models as shown in Figure 2.

The model also indicates the relationship between the independent 6 variables and the role of port supply chain (PSC), as expressed in the model. The model is summarized from literature, case study and analysis.

### **1. Reliability of the port's institutional and regulatory framework:**

Changing logistics strategies, revolution of land and maritime transport, intermodality and the evolving role of ports in supply chains to improve the port's institutional framework despite the process of institutional reform which is complex and faces many difficulties and resistance.

In the last two decades, a number of countries have undertaken or considered institutional reform in the port sub-sector as a means to improve performance and to reduce the government's financial and administrative responsibility. (MWASINAGO, 2006)

In the 1990s and the beginning of the 2000s, the ports in the third world countries suffered from bureaucracy, increasing inefficiency, rising container dwell time, and leading to long turn-around times for ships. Moreover, there was an overstaffed and unproductive labour force, increased insecurity of cargo, corrupt practices and excessive port-related charges. Furthermore, the Ports generally required financial support from the Government, especially for its capital investments.

Before the reform, the ports system was generally highly centralized that led to inefficiency and lengthy decision-making process in the Ports Sector. Moreover, the public sector was responsible for both regulatory and operational functions of the ports. This was clearly a major "bottleneck" to developing efficiency in the port sector. The interface between the governments and the ports was too heavy and managers were unable to manage the ports commercially.

Nowadays, Technological change has helped to set the stage for reform because of the massive increases in labour productivity and in the increased capital requirements of the port. This has entailed the rethinking of national port development strategies, as well as far-reaching reforms in the legislative, regulatory, and managerial environment within which commercial ports have to operate. (MWASINAGO, 2006)

In addition, changes and major trends in the administration in the maritime transport industry can be attributed to two major technological changes during the last decade; containerization which influenced construction of mega ships and liberalization of world economies. These transformations have led to some new requirements for seaports to modernize their infrastructures and to buy new equipment in order to continue to be able to provide services to shipping companies.

Institutional reforms in ports basically involve two steps; identifying the critical basic public functions and responsibilities that will define the role of the national and local public authorities in charge of the public sector; and secondly, identifying the assets needed to support each function and category of services, assessing the adequacy of these assets, and determining which among these to tender to private operators/investors in to allow contestability. Ports and governments have been adjusting to these realities to sustain port competitiveness through fundamental regulatory and institutional reforms.

Port reform often involves the participation of the private sector with the objective of reducing bureaucracy and enhancing efficiency (Beresford et al., 2004; World Bank, 2007). Given this trend, for the last two decades, the impacts of organizational structures and management systems on port efficiency had gradually become a topic which had interested transport economists.

Institutions are here defined as social rule structures (for example, regulations, constitutions, values and cultural traits) that facilitate the maintenance and adjustment of social, economic and commercial processes. notably, well developed institutions reduce transaction costs and thereby facilitate commerce and trade. However, when institutional systems become too extensive they may create undue transaction costs (diseconomies of scale and scope) and thus hinder commerce and trade.

### **2. Accessibility:**

Accessibility is a key element to transport geography and to geography in general since it is a direct expression of mobility either in terms of people, freight or information. Well developed and efficient transportation systems offer high levels of accessibility (if the impacts of congestion are excluded), while less-developed ones have lower levels of accessibility. Thus accessibility is linked with an array of economic and social opportunities. Accessibility is defined as the measure of the capacity of a location to be reached by, or to reach different, locations. Therefore, the capacity and the arrangement of transport infrastructure are key elements in the determination of accessibility.

The hinterland and maritime accessibility have received increasing attention in port literature recently. then, It is argued that hinterland accessibility has been one of the most influential factors of seaport competition (Heaver, 2006; Zhang, 2008; Talley and Ng, 2013).

The concept of accessibility is traditionally interpreted as the accessibility to a region rather than in terms of accessibility to the potential economic actors. [Vickerman, 1999].

Indeed, this concept refers to the rapid movement of people and goods between different sites. In addition, the accessibility between places increases when the economies of scale and time in the transportation sector are performed (vorgelegt and al.,2001).

Moreover, the concept of accessibility means not only the exploitation of the two important functions of transport and distribution. During the last decade, the main ports tried to acquire the new logistics functions, in order to attract the economic activities that are related to the maritime sector and can generate added value at the seaport site (vorgelegt and al.,2001).

Actually, The new concept of accessibility embraces also the access to the logistics organization and the quality of the services offered at the port location.

Furthermore, the location of ports and terminals is driven by the accessibility to spatially dispersed markets. accessibility has generally been defined as the ease with which activities may be reached from a given location using a particular transportation system (morris and al.1979).

Also, accessibility has generally been defined as some measure of spatial separation of human activities. Essentially it denotes the ease with which activities may be reached from a given location using a particular transportation system. Several broad applications of accessibility indicators may be identified, including evaluation of the transport/land-use system, modelling travel choice situations, modelling urban development, and summarising spatial structure (Wachs 1978). Currently, It is a measure for the quality of access of a certain location

Above all, accessibility becomes more and more essential in land use and transport decisions, thus having significant economic, social and environmental implications (Geurs and Ritsema van Eck, 2001). In the general context of accessibility, researchers have often related accessibility to economic growth and to welfare of individuals.

So, many definitions are used in the literature but generally, it depends on the purpose of the study.

Usually, accessibility is more commonly defined as the ease with which activities can be reached from a certain place and with a certain system of transport (Morris et al., 1979 ; Johnston et al., 2000).

In other reviews, accessibility is considered as a combination of two elements : the location on a surface relative to suitable destinations, and the characteristics of the transport network (Vickerman, 1974). A few decades later, (Handy and Niemeier 1997) state that accessibility is determined by the spatial distribution of potential destinations, the ease of reaching each destination, as well as the magnitude, quality, and character of the activities found there

Another definition is given by (Cauvin, 2005) : “Accessibility is the measurable quantity of spatial distance between the place where one wishes to go and the place where one is, depending on the chosen means of transport. It is the minimal time distance necessary to link together two places thanks to a means of transport, via a given itinerary and taking into account the notion of comfort”.

Theoretical works discussing the interplay between ports and their landside accessibility are emerging (De Borger and Proost, 2012). One stream of the literature studies a single intermodal chain. Yuen et al. (2008) models a gateway port and a local road connecting the port to the hinterland and investigates the effects of congestion pricing implemented at the port on the hinterland’s optimal road pricing, road congestion and social welfare.

Finally, Accessibility studies may be useful while determining the competitive position of the sea ports in relations to other similar objects by means of presenting the coverage of their natural hinterland, a precise specification of the market’s significance. The hinterland accessibility can be improved by an increase of efficiency because it creates new possibilities such as increased frequencies, optimal utilization of trains and faster handling of administrative work that causes fewer delays.

In Morocco, Casablanca seaport development is strictly dependent on his hinterland, and thus, the accessibility in land transport. Casablanca port hinterland has changed after Moroccan port reform.

### **3. Seaport connectivity:**

Maritime transport and seaports plays a vital role in global supply chains. The most recent Review of Maritime Transport published by United Nations Conference on Trade and Development (UNCTAD) in 2018, notes that global port activity and cargo handling expanded rapidly in 2017. According to 2017 estimates, the top 20 global ports handled 9.3 billion tons, up from 8.9 billion tons in 2016, an amount nearly equivalent to global seaborne trade volumes. UNCTAD estimates that 752.2 million TEUs were moved at container ports worldwide in 2017. This total reflects the addition of some 42.3 million TEUs in 2017, an amount comparable to total container volumes handled that year by the world busiest container port, Shanghai, China.

However, actually, shipping companies and maritime transport are facing major challenges including soaring bunker fuel prices in the hand, and low freight rates for containers flow and bulk cargoes in the other hand.

In the last two decades, shipping companies, port operators, freight forwarders and shippers, as the main players in maritime logistics, have tried to take different steps to meet these challenges. For instance, shipping companies and container shipping lines are increasingly forming alliances to add ports to routes while reducing ports of call for alliance members by using larger vessels and reducing call frequencies to benefit from scale efficiencies that provide new technology.

Port operators and containers operating terminal, today, handles increasingly large loading and unloading of container ships by adopting advanced soft and hard technologies to achieve efficiency. They provide intermodal connections and solutions to further improve connectivity with the hinterland.

Also, freight forwarders are committed to providing door-to-door intermodal transportation services to their customers. These changes in maritime logistics challenge ports to develop several ways to attract shipping companies.

In addition, as a node in the global supply 'chain' (Heaver, 2002), a port connects its hinterland –both the local and interior (inland) regions –to the rest of the world by an intermodal transport network. As it is the intermodal chains rather than individual ports that compete (Suykens and Van De Voorde, 1998)

The latest scientific studies show that interest in seaport connectivity arises for the entire logistics chain of maritime transport, as well as the need to identify a cost efficient way to facilitate international trade (Wang and al., 2016).

The literature commonly uses origin and destination pairs to quantify port connectivity (Tang and al., 2011; Low and al., 2009).

Although the introduction of the maritime connectivity concept is relatively recent in the literature, it has rapidly gained popularity. An increasing number of studies analyze the influence of maritime connectivity on different aspects such as maritime transport cost (Wilmsmeier and al., 2006; Martinez and Hoffmann., 2007; Márquez-Ramos and al., 2011; Duval and Utoktham, 2011), logistics connectivity (Notteboom, 2004; Kronbak and Cullinane, 2011).

(Tang and al. 2011) established the connectivity index to capture elements of port service networks, including number of port calls, trade volume, cargo traffic, port charge, and other quality attributes, such as turnaround time, operating hours, and inter-modal transport capabilities.

(Lam and Yap 2011) investigated the calling patterns of container shipping services in four major ports in East Asia for understanding generally, the dynamics of port connectivity in supply chains.

(Jiang and al. 2015) provided a theoretical foundation for port connectivity to measure minimum transportation time and maximum transportation capacity.

(Wang and al., 2016) shows that the impact on transportation network performance was discussed from the viewpoint of the global shipping networks. The above studies can be categorized as port selection and port choice, focusing on the efficiency of liner shipping and its implications for ports. However, important information, such as the frequency of international trade services/feeder services and the total capacity of onshore logistics connectivity to the hinterland may have been underestimated.

However, (Notteboom and de Langen, 2016) shows that with the rapidly emerging transport networks, the choice of a chain, rather than a port, becomes more critical for liner shipping companies, logistics service providers and shippers. Therefore, port-hinterland relations are missing only if the international aspect of the liner shipping market is considered when evaluating overall port connectivity.

In a complete port system, ports serve as a node in the chain rather than as the end of the shipping route. Our paper, aims to study the importance of Casablanca port connectivity in port supply chain.

Theoretical works discussing the interplay between ports and their landside accessibility are emerging (Borger and Proost, 2012). Moreover, Yuen et al. (2008) models a gateway port and a local road connecting the port to the hinterland and investigates the effects of congestion. There are today, several ports around the world that need to pay a particular attention to the land-side infrastructure (roads, rail) that connect them to their hinterlands (NOTTEBOOM and RODRIGUE, 2005).

#### **4. interactions between the actors of the port:**

Ports are networking sites that can bring together various members of the supply chain (Bichou and Gray 2004). The Supply Chain Management (SCM) approach has been applied in port environment. As known, SCM, as managerial philosophy, supports the development of partnerships between actors of the supply chain and considers the integration of activities and resources of these actors along business processes as potential sources of competitive advantage. According to this perspective, ports are considered part of networks of organizations involved, through upstream and downstream linkages, in various processes and activities that create value to the final client (De Martino and al., 2010)

Within the port sector several important decision makers are active in port system so-called port community system: shipping companies, port authorities, terminal operating companies, agents, industrial and producing companies

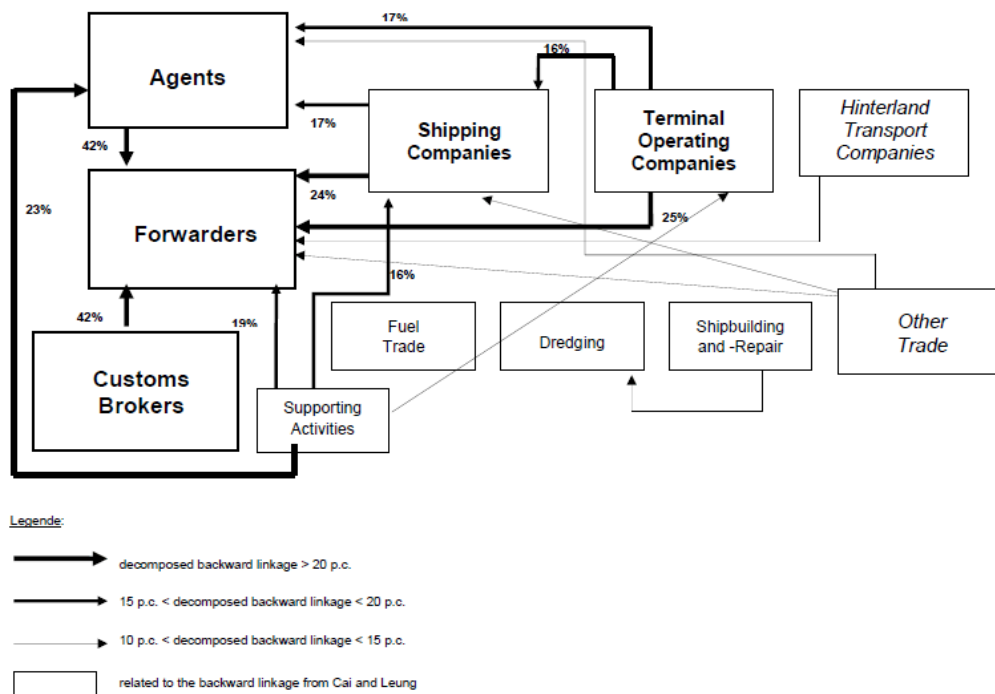
In this study, the relations and interactions between the different port actors will be examined firstly, and the relations between port actors and other sectors will be formally determined secondly

The present paper aims at deepening the contribution of relationship networks to value creation in port, given the multiple interdependencies within the port community and with the hinterland.

seaport at present, plays an important role in the management and coordination of materials and information flows, as the transport is an integral part of the entire supply chain. The objectives thus become to create synergies, as well as converging interests, between the players of port community in order to guarantee reliability, continuous service and a good productivity level. It is a fact that in the area of maritime transport, reliability and productivity are collective concepts stemming from a multiplicity of contributors (Carrone and al 2003)

(Meersman, and al, 2012) and (Coppens, et al, 2007) use input-output analysis in combination with detailed business accounts to quantify the relationships between port actors and the percentages effect of deliveries to each sub sector. the relationship between port actors based on forward and backward linkages respectively.

**FIGURE 3: RELATIONS BETWEEN PORT ACTORS, COMMODITY-FLOW POINT OF VIEW**



Source: (Coppens, et al 2007)

Within port supply chain, port business operators exchange resources, share knowledge and invest in technology in the pursuit of productivity, efficiency and customer satisfaction in general, leading to larger profits. Clearly, this tension creates the need for different governance models depending on the existence of collaborative practices within the port community.

**5. Inter-port and intra-port proximity**

In this which proximities are most salient to the actors that seek innovation and upgrading in maritime ports, and in their relationship to the value chains in which they embedded. It considers each dimension identified by BOSCHMA (2005) in turn, with a summary provided in Table 1. One danger in presenting the material in this way is that one may create the impression that proximities are static and unrelated; this is not the intention. The next subsection begins to trace out the consequences of one important shift in organizational proximity, namely, the increasing horizontal and vertical integration of global supply chains. This shift is highlighted in the last two rows of Table 1.

### **Geographic proximity**

It is important to draw a distinction between intra- and inter-port geographic proximity. The former refers to the relationship between actors that share the same port complex, while the latter refers to the relationship between actors that share the same coastal range and compete for the same hinterland. Being located within one and the same port implies by rule a high degree of geographic proximity in the form of co-location. This co-location implies that port actors experience the same physical conditions of the port in terms of accessibility and infrastructure such as sufficient depths of port channels or modal split. Sometimes physical conditions differ within a single port

On the other hand, too little geographic proximity within a port might result in the lack of positive localization externalities such as limits to inter-firm labour transfer or increased transaction costs. With regards to inter-port geographic proximity, ports in close geographic proximity are effectively in competition with each other for cargo, clients, and private investments. Such competition was undeniably important for the diffusion of container technology.

### **Social proximity:**

Social proximity refers to the extent of trust in the relationships between actors (BOSCHMA, 2005). Social proximity among actors within a port might be beneficial, as the development of novelties (that is, innovations) creates many uncertainties (CAMAGNI, 1991) which can be mitigated by trust (NOOTEBOOM, 1996). Social proximity as such reduces transaction costs and facilitates cooperation and learning. This is essential when investments in potentially risky innovations are required by supply chain partners. Too little social proximity among port actors manifests itself in the lack of trust that, in turn, will constrain advanced collaboration, increase uncertainty, and that can act as a potential source of conflict

### **Institutional proximity**

Institutional proximity refers to the rules, norms, conventions, and regulations that govern relationships between actors (BOSCHMA, 2005). institutional proximity assumes a special significance as a mediating variable for ports in close geographic proximity to other ports. Institutional proximity among neighbouring ports is closest between ports that fall within the same funding, planning, and regulatory regime; typically this occurs when ports are within the same national and local state. As such, actors in institutionally proximate ports have a greater measure of certainty in terms of the outcomes of planning processes, and with regards to rules and expectations about financing for infrastructure improvements.

### **Social proximity**

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### **Cognitive proximity**

Acquisition of new competencies implies a certain degree of cognitive proximity. This type of proximity refers to a shared knowledge base among actors and the capacity of these actors to absorb new knowledge by learning from each other (BOSCHMA, 2005). The integration of ports in global supply chains implies an increasingly global diffusion of knowledge and practices in the port industry

### **Organizational proximity**

Organizational proximity affects inter-port relationships where container operating firms have acquired strategic positions in several ports across a port region.

Organizational proximity refers to the way in which control is exercised between actors through command or contractual means. The two extremes of organizational proximity are 'spot market' transactions which entail no organizational ties (too little), on the one hand, and rigid organizational hierarchy (too much), on the other hand (BOSCHMA, 2005).

Notably, Organizational proximity is much related to the cognitive dimension; organizations can be understood as a 'focusing device' that reduces the cognitive distance amongst actors that are closely related by function, as well as providing a bridge to external sources of knowledge (NOOTEBOOM, 2000, 2004). in particular, within a given seaport, organizational proximity can provide benefits as it creates contractual interdependencies, reduces uncertainty, and lowers transaction costs. However, too much organizational proximity among actors within a port can result in inflexible decision-making structures with the potential of over- or under-investing in infrastructure. (Peter and Wouter 2010)



Too little organizational proximity may result in opportunism among port actors, ‘hold-ups’ in the absorption of new knowledge or unclear responsibilities (NOOTEBOOM, 2004), which in turn may undermine the prospects for addressing collective action problems and the diffusion of new technologies.

**Shifting Proximities: The Maritime Ports Sector in an Era of Global Supply Chains**

**Table 1. Proximity and ports**

	Cognitive	Organizational	Institutional	Social	Geographic
Key dimension	The extent that supply chain actors share a knowledgebase that is a basis for learning, innovation, and upgrading	Integration of port users, structure of global transport firms	Port governance, inter-port relations, and higher-level institutional relations	The extent of trust in the relationships between actors	Intra-port capacity and congestion; inter-port distance and connections
The problems of too much proximity	Free riders, information overload	Capture/dominance by a key actor	Lock-in, for example, rules shaped to favour dominant tenants	An unwillingness to connect to global supply chains; Over-embeddedness	Opportunism, for example, tenant switching
The problems of too little proximity	A lack of understanding	Supply chain integration and efficiency problems; a risk of ‘hold up’ in the adoption of innovations	Variable or unclear rules fail to solve collective action problems in the provision of infrastructure	Opportunism and short-term approaches to supply chains	Spatial monopoly, for example, high tariffs, port-city tension
Key shifts	Increasingly global diffusion of knowledge and practices	Vertical and horizontal integration	Re-scaled institutional arrangements (port regionalization)	Displacement of trust based relationships into organizational governance	Decreasing importance of inter-port competition
Consequences of vertical and horizontal integration	Shift towards ideas and innovations with an extra-local origin; potential limits on the ability to absorb new ideas	Internalization of ‘hold up’ risk; reduction of transaction costs; displacement of other proximities	Increased importance of institutional arrangements, mutual expectation, and shared rules of the game; danger of dominant users rewriting the rules	Increased potential for conflict over the local share of costs and benefits of port activity and investment in innovation and upgrading	Integrated operators engage in a regional division of labour leading to more specialization within and between ports, undermining other local proximities

Source: (Tang O, 2010)

**6. Information sharing**

Seaports are hubs in the international trade as well as in the supply chain, the links between land and sea transport. Seaports are faced with continuous changes and challenges in the international trade. Information technologies play a vital role in seaport competitiveness, since information is one of the key resources of any seaport. Seaports are faced with strong competition and times of economic stagnation or recession. By investing in information and communication and sharing of information

Most major ports have systems for the exchange of information between clients and national Customs and other authorities

**Role of the system**

A Port Community System handles electronic communication in ports between the private transport operators (shipping lines, agents, freight forwarders, stevedores, terminals, depots), the private hinterland (pre- and on-carriage by road, rail and inland waterways), the importers and exporters, the port authorities, Customs and other authorities.

information exchange between transport operators in the port and for hinterland connections, the port users, Customs, port and other authorities, electronic exchange of Customs declarations and Customs responses, and cargo releases between private parties and Customs, electronic handling of all information regarding import and export of containerized, general and bulk cargo for the port community, status information and control, tracking and tracing goods through the whole logistics chain, and processing declarations of dangerous goods with the responsible authorities.

One of the most useful functions of a Port Community System is to automatically derive, from information exchanges between the private port operators, that information needed by Customs, such as the Customs manifest. This information can then be sent to Customs without further manual intervention. Most Port Community Systems have their own internal standards but communicate with other Port Community Systems or Trade Communities using international standards.

EDI permits the exchange of messages between shipping line and port and the efficient management of information between the freight forwarder/customs agent and consignee.

Finally, from the above review of literature related to port logistics, it is apparent that the importance of ports in supply chains has been increased and seaport functions have become much more and more complex today.

However, the review of literature reveals several key findings and limitations. Firstly, ports have increased their importance to contribute to integration supply chains. Secondly, some factors related to our conceptual model still not enough studied by previous researchers. Thus, Very few studies have investigated the management of port supply chain interactions and the reliability of institutional framework.

Therefore, this paper shall fill the literature gaps by determining how ports can be a crucial link of supply chain and integration port supply chain.

#### **IV. Research Methodology**

After studying some key factors of the container transport chain and the development of the port, we used the database to pick up specific articles with the key words that learnt from the Scientifics books related to maritime and ports and logistics.

Also, we collecting information representative of the range of experiences, perspectives, perceptions and the behaviours of managers relevant to the research were obtained through purposeful sampling. The data for this paper is derived from a literature review of research papers and studies in addition to conducting seven face-to-face and one telephone interviews.

#### **✓ EXPLORATORY QUALITATIVE STUDY**

This research aims to describe and to study the relationships between relevant variables and the port's supply chain in order to preciseterms. The methodological choice is directed towards a qualitative approach (Evrard, Pras,Roux, 2000, p82) and the data base were consulted from primary and secondary data as Newspapers, reviews, books, and also 'forums' and newsgroups' on Internet on the one hand .

on the other hand. 15 directors representing port community in Casablanca port's were selected and interviewed about port supply chain and how it will be involved.

The collected Data was then analyzed and interpreted. The empirical results followed by a discussion will be presented in our next article.

#### **✓ The choice of the sample**

In a qualitative exploratory phase, The goal is not to extrapolate a set of results but to capture the variety of different and possible opinions. Thus, a small size is not problematic since it reflects the diversity of responses possible by the interviewees.

In order to study the problematic, we conducted our semi-structured individual interviews with 15 senior officials representing the various port stakeholders in Casablanca and Tangier, port operators, port authorities, shippers, freight forwarders, freight forwarders, shipping companies. These interviews were conducted either face-to-face at the interviewees' workplace.

#### **V. Conclusion**

The purpose of this contribution was to examine the factors which can be improved directly or indirectly the port supply chain and to identify the factors contributing to make the port of Casablanca a crucial link in the logistics chains. It concerns accessibility, sharing of information, connectivity, the reliability of the port institutional framework, the management of interactions between port stakeholders and finally, the inter-port and intra-port proximity. Globally, the article aims to exam the port development as an element of strategic transport development.

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