

Pardali, Angeliki; Kounoupas, Evangelos; Lainos, Iasonas

Conference Paper

Regional Development through port-maritime cluster formulation in the wider Piraeus area: Innovation and extroversion as an antidote to crisis

53rd Congress of the European Regional Science Association: "Regional Integration: Europe, the Mediterranean and the World Economy", 27-31 August 2013, Palermo, Italy

Provided in Cooperation with:

European Regional Science Association (ERSA)

Suggested Citation: Pardali, Angeliki; Kounoupas, Evangelos; Lainos, Iasonas (2013) : Regional Development through port-maritime cluster formulation in the wider Piraeus area: Innovation and extroversion as an antidote to crisis, 53rd Congress of the European Regional Science Association: "Regional Integration: Europe, the Mediterranean and the World Economy", 27-31 August 2013, Palermo, Italy, European Regional Science Association (ERSA), Louvain-la-Neuve

This Version is available at:

<https://hdl.handle.net/10419/123986>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.

Regional Development through port-maritime cluster formulation in the wider Piraeus area: Innovation and extroversion as an antidote to crisis

Pardali A., Kounoupas E., Lainos I.

Department of Maritime Studies - University of Piraeus - Greece, apardali@unipi.gr

Abstract

Further to being the country's most important port, Piraeus has been a traditional centre attracting organisations related directly or indirectly with port or shipping activities. The geographical concentration of enterprises in the wider Piraeus area is attributed not just to port operations, but also to a wide complex of companies and institution engaged in ocean going shipping. Shipping and port related activities constitute a fundamental pillar of the tormented Greek Economy. Regional development literature has already indicated the benefits deriving from companies' adjacency and agglomeration economies which are maximized when companies are organized in the form of business clusters.

This paper investigates the existence of the necessary preconditions to formulate a competitive port - maritime business cluster in the wider Piraeus area. Based on a thorough review of cluster theory, the basic characteristics of business clusters were identified, followed by an analysis of the main elements of geographical concentration and economic specialisation of Piraeus. Responses were collected through an extensive set of structured interviews with leading shipping and port related businesses representatives, sectoral and institutional representative bodies. The evidence collected reveal that necessary preconditions for a successful cluster formulation in Piraeus are being met despite the inexistence of a formally recognized cluster. However, since business clusters need to be institutionalized and organized, the research concludes with proposals regarding the Piraeus cluster structure and governance.

Keywords: Regional development, Port - maritime cluster, Competitiveness, Greek economy.

1. Introduction: Business cluster role and characteristics

According to Porter (1990) business clusters are defined as a geographic concentration of inter-connected companies and institutions working in a common industry. Clusters encompass an array of collaborating and competing services that create a specialised infrastructure, which supports the cluster's industry. Rosenfeld (1995) suggests that clusters

are a geographically defined collection of similar or relatively similar (based on their economic activities) companies that commonly create a comparative advantage for themselves as well as for the economy in which they operate. De Langen (2003) defines clusters as a population of interconnected business units, organisations and public or private entities that operate around a distinctive economic specialisation and are characterised by geographic concentration and mutual relationships. Interconnection refers to sharing strong linkages of cooperation and setting up communication systems that ensure connection and information exchange.

Most definitions though (Padmore and Gibson 1998, Lyon and Atherton 2000), stress the importance of spatial agglomeration of business units, associations, organisations and institutions operating in a particular area and enjoying the benefits of adjacency. As Marshall (1920) initially indicated, the main reasons encouraging such adjacency is knowledge sharing, constant competition and shared costs. Adjacency also leads to cooperation, transport cost minimization, the opportunity to develop interpersonal relationships which in turn create the potential for better understanding and creation of a climate of mutual trust. The European Commission defines clusters “...by the co-location of producers, services providers, educational and research institutions, financial institutions and other private and government institutions related through linkages of different types”. Colgan and Baker (2003) stress the need for a clear definition of what a business cluster refers to, since there is no unified definition or method of empirical evaluation to assess whether a geographical concentration of companies can be defined as a cluster. Doeringer and Terkla (1995), state that “*there is no correct definition of a business cluster*”.

Clustering has been a populated terminology associated with economic development and quite often state funding, leading many to declare a cluster just as a mechanism to ensure short term financial support. Clusters usually appear as sums of networks and promote the development of internal economies of scope and scale with multiplying effects on business and social level to the geographical area where they emerge. In this perspective, clusters refer not just to the geographical concentration of companies, but rather to the adoption of a common culture and a centrally authorised institutional - regulatory framework. Based on the above definitions we can trace the main elements of business clusters.

1.1. Business Clusters characteristics

Economic specialisation and population of cluster members: The **core** of the cluster refers to the geographic concentration of companies belonging in the same industry or the

ones that constitute a significant segment (in terms of market share). However, adjacency by itself does not guarantee the potential development of a cluster, since *mutual dependence* with companies from similar economic fields plays a decisive role. If such dependence occurs, then the companies creating it can act as the cluster core. Therefore, the basic economic specialisation of the cluster must be of *primary nature* as concentration of companies should not be based on accidental agglomeration of activities but rather on the specific characteristics of the area which make the area attractive due to expected utilization occurring from operations in the particular place. Associated with this is the investigation of *mutual relationships strength* with other companies and institutions (size of in-core transactions, common use of shared resources, participation in associations and peripheral educational systems). De Langen (2002, 2004) postulates that the mix of different individual company characteristics can offer a variety of potential measures to enhance employment and local or regional development. *Heterogeneity* increases cluster performance as it decreases transaction costs, increase diffusion of information, while barriers to entry reduce competition (by constraining flows of capital, labour) and barriers to exit act in reverse by reducing uncertainty, increase innovation, promote cooperation and defence against external threats.

Participation of Public Institutions and Independent Associations: Further to business units, cluster formulation is based on the presence of Unions, Associations and public or private institutions, offering services and facilitating communication between companies. Their role becomes significant as far as they are related to the economic specialisation and the gather the majority of active cluster members (*ibid*).

Geographical Concentration: Defining the geographical concentration can be challenging, as companies established in an area can maintain strong relationships with companies based outside the cluster. This needs to take into consideration the range of economic transactions, information diffusion and the area within which mutual relationships are being developed. Concentration leads to agglomeration economies (common labour market, simultaneous presence of customers and suppliers, knowledge spillover) and according to Colgan and Baker (2003) can be based on availability of natural resources and previously accumulated experience due to the interaction of companies and institutions. Today, the term geographic concentration refers to an expanded spatial area, as contemporary evolution in telecommunication facilitates access to remote areas (Cairncross 1997).

Mutual relationships - cooperation and competition: According to Porter (2000) cluster member operation within the cluster can create cooperative (customer - supplier) or competitive (in developing and maintaining a clientele) relationships, which can flow either

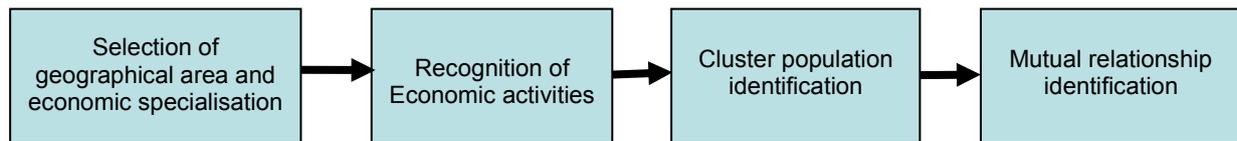
vertically or horizontally. These relationships are based on expected benefits again regarding information sharing, access to financial resources, raw materials and specialised labour, marketing and promotion campaigns, guidance and training by associations and collective representation. The coexistence of cooperation and competition may lie in different levels and constitutes the foundations of productivity, innovation and new company development, exploitation of opportunities, satisfying common needs and improvement of competitiveness for existing companies.

1.2. Prerequisites to the development of business clusters

As noted before, the key success factors in cluster development are mutual trust among cluster members, information diffusion and access to financial resources. The pre-existence of an established cooperation network can be vital for small scale businesses and can act as a basis for cluster development. Networking, labour force skill enhancement and a constant effort for incorporating knowhow and experience are crucial (EOMMEX). Further to the securing of financial resources, it is imperative that cluster participants share a common understanding of their mutual needs, collectively define them and proceed in pursuing common benefits. State Support, cooperation with educational - academic institutes and attraction of interested parties, especially at the stage of formulation is important in order to increase synergies. Next, at the development phase, well targeted actions promoting companies involved in the economic specialisation are also imperative.

Lord Sainsbury's report (2008) stresses the importance of the existence networking, innovation, and labour skills, access to finance, natural resources, natural infrastructure, leading firms, leadership and entrepreneurial culture. Colgan and Baker (2003) also comment on the importance of business goals, outsourcing potential, local competitive advantage, market characteristics and potential, while Pardali (2007) postulates the significance of good timing in setting up a cluster. Rosenfeld (2002) distinguishes 3 sets of success factors ("notions" as imitation, competition, innovation and entrepreneurial skill, "connections" such as networking and intermediaries, and "competences" such as specialized workforce, leading firms, talent and tacit knowledge and obstacles that need to be addressed (infrastructure deficiencies, restricted access to remote areas, lack of skills and opportunities to enhance them). Based on the above we can define the basic elements necessary to identify a business cluster as depicted in figure 1.

Figure 1: Stages in identifying cluster formulation preconditions



2. The Greek Paradox: A leading Maritime Nation in Crisis

Not many needs to be said for the debt and overall economic crisis that Mediterranean countries and especially Greece has been facing since 2008. In a country where state finance is being controlled by a consecutive set of MOUs signed with the European Commission, the IMF and the European Central Bank, public investments have been reduced by 18,5% since 2010/2011 (constraining €1,6 billion from the market), Investment climate is negative (with recession and bureaucratic procedures not favouring the process), and the Financial System has been severely harmed by the PSI and the depreciation of property value (Institute of Economic and Industrial Research). In such a negative financial and social climate, the need to develop new form of enhancing already established competitive advantages is imperative. When it comes to the case of Greece, there is nothing more profound than tourism and the shipping industry¹. In this paper, we focus on the later.

Greece is considered as one of the leading shipping nations on a global scale. According to the latest UNCTAD report, in 2012 about 16, 10% of the global merchant fleet is under Greek management with Shipping and Sea transportation directly contributing about 4% of national GDP in 2009. Out of this sum, €5, 4 billions refer to corporate profit, €2, 2 bil. to depreciation, €680 million to wages and taxation or social security payments and despite the peculiar tax system, shipping contributed more than €800 million in taxes. The majority of the added value of the shipping sector derives from Ocean going Shipping. Greek shipping scores the second highest productivity degree in terms of added value per employee in the Greek economy and accounts for €13, 3 billion in direct or indirect added value services and 192 thousand jobs (Eurostat).

Despite the above plethora of activities taking place within the broader Piraeus area based on a globally leading merchant fleet, as noted in a report by Harvard University (2009),

¹ Maria Damanaki , EU Commissioner for Maritime Affairs & Fisheries, Presentation on the 12th FEMIP Conference, “Mediterranean blue economy: enhancing marine and maritime cooperation”, Athens 19.04.2013

there is a limited local demand for these services, weak links with associated industries (with the existing ones being focused mainly in the existence of specialised labour) and low degrees of innovation. As indicated in the report, despite the heterogeneity, the dynamism and the success of Greek shipping, the sector's contribution to Greek added value is relatively low, especially in comparison with other Shipping countries (Norway, Germany). This could be explained by the fact that the Greek Shipping industry is focusing mainly on sea transportation processes, while Nordic countries create value from complementary - cluster related activities (ship building, port operations, ship repairs etc). There is where the paradox lies. Because as we will show in the next sections, there is an already established network of similar activities related to ocean going shipping within the port-city of Piraeus.

2.1. The Port of Piraeus: The Cradle of Greek maritime industry

The port-city complex of Piraeus has been a historical landmark in the development of the wider Piraeus region and the Greek national economy. Although in the past Piraeus had been an important pole attracting commerce and industry, after the 70's Greek national road networks at the edge of major rural areas became the new poles attracting the nation's industrial units (Pardali 2007). That led to a deindustrialization of the Piraeus region and many traditional sectors to recession and decline, perhaps favouring the development of the tertiary (service) sector in the city. Piraeus today stands as one of the world's biggest passenger ports, with an annual traffic of approximately 20 million coastal shipping and 2.5 million of cruise passengers per year. Piraeus is of the biggest Mediterranean container ports, handling 2.734 TEUs in 2012 and rises up as a major transshipment centre for automobiles, with 2012 figures reaching about 500.000 cars.

Next to the port, an area of over 300 acres is devoted to ship repairing activities, a sector demonstrating perhaps the highest recession rates especially against nearby competing countries. Piraeus Port Authority owns 4 ship repair tanks which have the capacity to accommodate ships of any type up to 40.000 DWT and accommodate over 170 vessels. Data from the Ship repair zone Administration Organisation note the operation of approximately 450 companies related to ship repairs in the area, occupying about 5.000 employees, as well as 25 small scale shipyards. Moreover, at the nearby island of Salamina up to 60 ships can berth for repairs or conversions in the local shipyards, while Perama Shipyards can built and repair vessels up to 2.500 tns. Despite the prosperous years in the past, all these facilities are today underutilised suffering from a long lasting crisis. *Therefore, it appears that the dominant economic specialization in Piraeus is gathered around two cores: one related to*

Port and Transport & Logistics activities and the other related to the activities of Ocean going Shipping.

Figure 2: Piraeus Port Facilities spatial allocation in Piraeus and Neighbouring municipalities



3. Investigating the existence of Port cluster formulation preconditions in Piraeus

3.1 Research Methodology

The geographical concentration of the particular economic activity around Piraeus is anything but new (Pardali 2012). However, its economic contribution could be further developed through a more effective organization of the activities so as to lead the Piraeus as well as the national economy. Therefore, we decided to explore the existence of those preconditions that theory and previous practice consider as fundamental, before a cluster can be organised and institutionalised, offering a new developmental role to Piraeus and the Greek economy. Due to the absence of secondary published data, we collected primary qualitative evidence through 36 structured interviews with representatives of leading companies, Professional Associations and institutional actors operating in the potential shipping - port related cluster. Based on previous literature (De Langen 2003) the interviews were conducted to allow identification of the:

- Geographical concentration (based on secondary sources) and economic specialisation

- Number as well as the heterogeneity of the companies operating within the economic and geographical area of Piraeus,
- Mutual economic and market relationships of these companies within the Piraeus area as well as their relationships with port and/or maritime activities
- Reasons leading to the establishment of these companies in the broader Piraeus area and the associated benefits
- Entry and Exit barriers that might exist in the Piraeus market
- Sense of belonging to an overall collective entity
- Factors that affect the level of competitive rivalry within the cluster
- Best practices aiming at increasing the competitiveness of individual companies
- Initiatives that can improve the overall competitiveness of the economic specialization
- Most Adequate Cluster governance coordinating body

Prior consultation with academics and Professional associations assisted in identifying key contacts and arranging interviews. Such an approach was chosen to provide responses from people with a holistic approach on the issue and to simplify the research process allowing its completion in due time and in similar conditions for all participants. Therefore, the study combines case study methodology with a structured interview approach and is being both exploratory and descriptive in nature.

The strength of qualitative research is its ability to provide complex textual descriptions of how people experience a given research issue. It provides information about the “human” side of an issue – that is, the often contradictory behaviours, beliefs, opinions, emotions, and relationships of individuals (Mack and Woodsong 2005). In-depth interviews are optimal for collecting data on individuals’ personal histories, perspectives, and experiences, particularly when sensitive topics are being explored. Interviews are particularly useful for getting the story behind a participant’s experiences since the interviewer can pursue in-depth information around the topic. Interviews may be useful as follow-up to certain respondents to questionnaires, e.g., to further investigate their responses (McNamara 1999). Overall, the research adopts a single case study approach referring to the broader Piraeus area, a method utilised in many forms in social studies (Yin, 2003). As noted by Zikmund (2000) and Yin (2003) case studies are particularly suitable when “how and why” questions are being set, when the researcher has little control over the issue under investigation as well as when research examines a phenomenon in the context of contemporary reality. Analysis stages

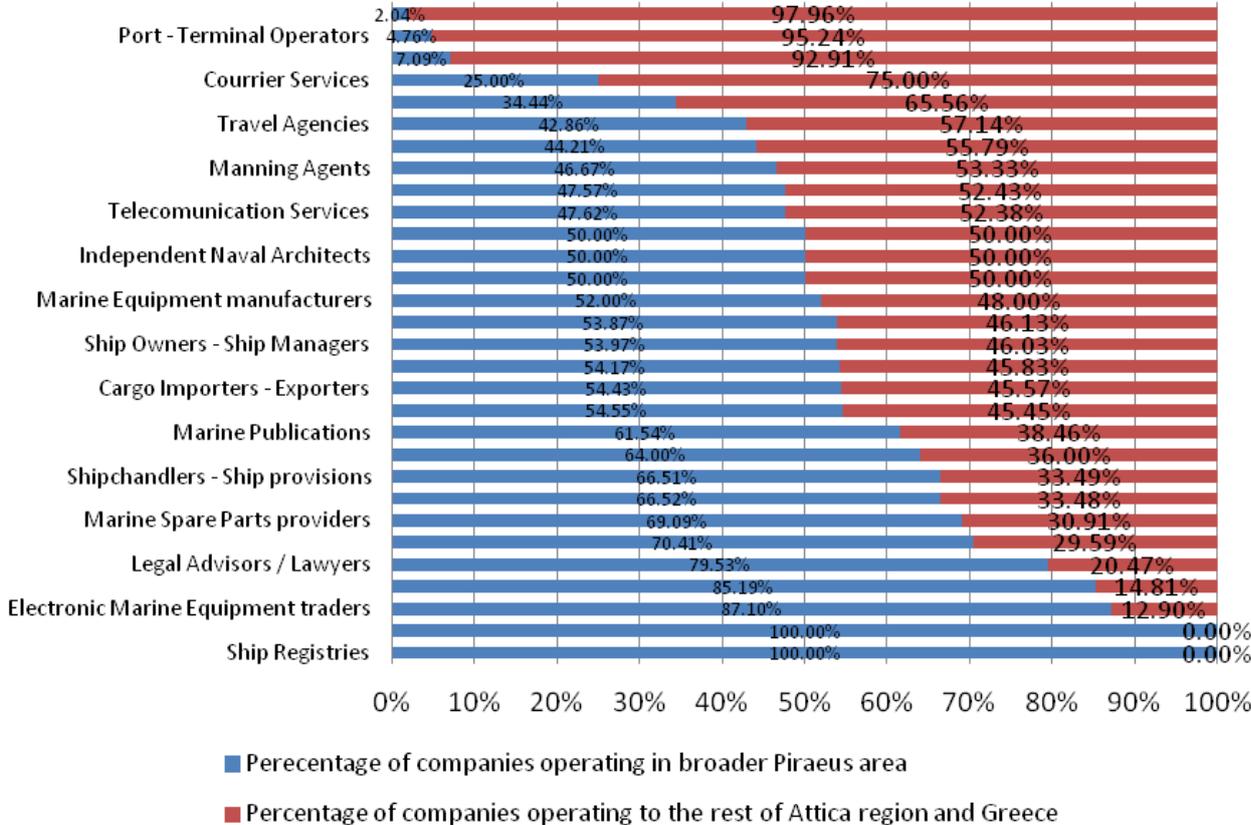
followed Lehmann (1989) 10 stages approach. All interviews were conducted in the period of October - December 2012.

4. Findings

4.1. Identification of the Geographical concentration and the Population of the economic specialization in Piraeus

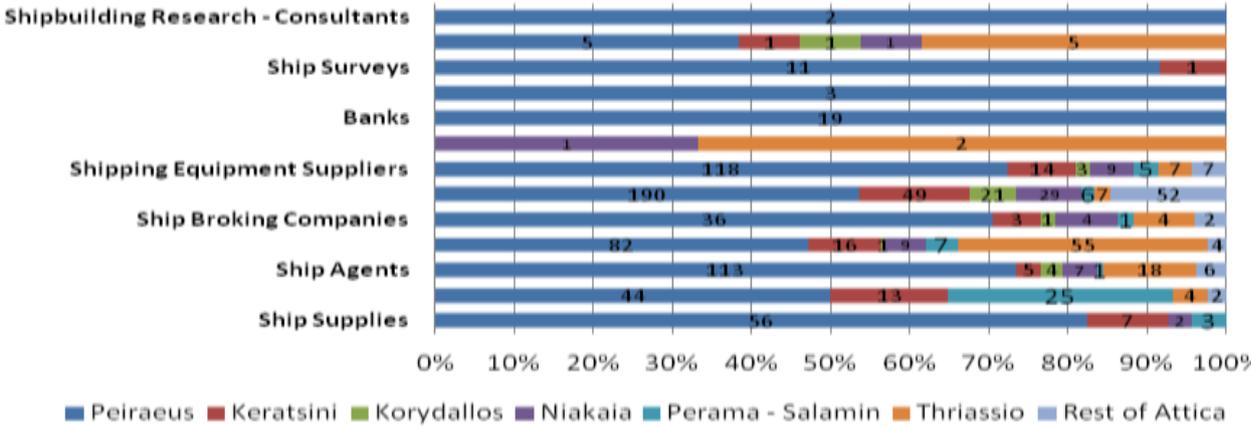
In order to trace the population of the enterprises attracted towards the bipolar system (port - ocean going shipping) as well as to define its spatial concentration, we used already published data available from Skolarikos 2012 market catalogue (Figure 4) and the Registry of the Piraeus Commercial and Industrial Chamber (Figure 5). These two sources are based on different data and provide different numbers; therefore comparing the two figures leads to some interesting initial observations: First, there is no single official record enlisting companies established in Piraeus and secondly there are differences in the distinction criteria among company activities.

Figure 4: Distribution of Port - Shipping related companies in Piraeus and rest of Greece



Source: Skolarikos 2012 Report

Figure 5: Geographical Distribution of Port - Ocean going shipping related companies in Piraeus, neighbouring municipalities and rest of Attica



Source: Piraeus Chamber of Industry and Commerce

This initial observation further came up during the interview process of the field research from various sector representatives. However, results from both sources are highly proportionate revealing a significant concentration of both poles within the municipality of Piraeus as well as within municipalities next to the port.

As can be seen in the following figures, all economic activities under research cover a wide geographical area centred around Piraeus (port neighbouring area and neighbouring municipalities) but also exceeds these narrow settings, due to the development of logistics systems, which require specific geographical features (space and connection to transportation infrastructure) and the evolution of communication technology. Sectors spatially located beyond the Piraeus city-port area, but in close geographical proximity are these of Multimodal carriers, Logistics providers and Waste Management companies which present a higher concentration density at Thriassio area due to the availability of land and direct connection to national road/rail networks. Nearby operation of Elefsis and Skaramagas Shipyards create another form of company and labour force agglomeration. Customs Clearance Agents are mainly based on the western suburbs of Athens, while shipping companies and ship brokers also expand to areas such Eastern or Northern Attica.

Population heterogeneity regarding company size: Responses indicate that the majority of companies are of small or medium size. Respondents also highlight the fact that although all sizes do exist, only a small majority maintain relationships with companies outside the Piraeus area limits, stressing the previously noted introversion and the tendency to limit customer - supplier network development only within Piraeus established companies.

Indeed, seeking clientele outside the Piraeus area is greater among companies engaged in international transport and logistics providers, Port Service providers, large size Ship repairers, Marine Equipment Manufacturers and Ship Surveys - Classification Societies. Companies that depend on the number of ships calling at Piraeus or the number of Shipping business operating in the area are much more dependent to the internal market and demonstrate a low degree of extroversion (agents, financial institutions, ship insurance, arbitration and legal services, Cargo Exporters Association and Towage Companies). As stated by the President of “Schisto Industrial Park “Management company “*...in the past, internal orientation and seeking of state commissions and orders did not provide expected results, leading to a shrinkage of economic activity and loss of employment*”. In such cases, increasing extroversion and customer seeking outside of the cluster’s economic and geographical borders can offer a developmental prospect.

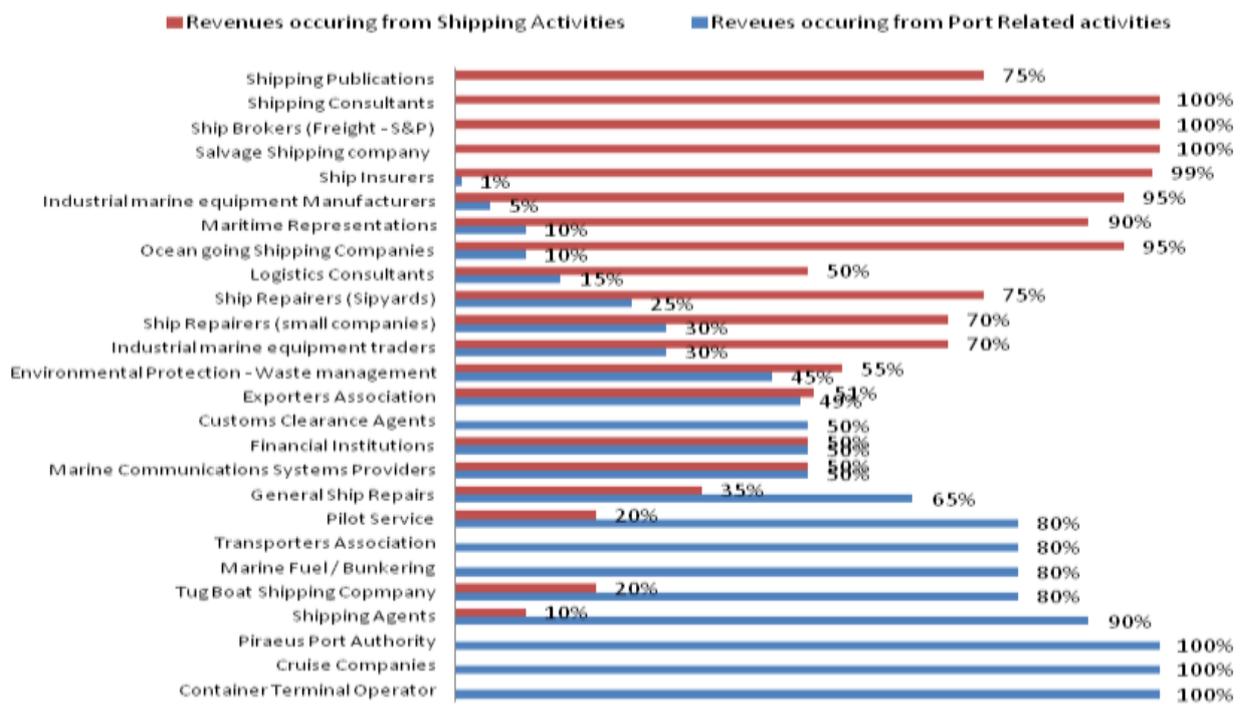
Moreover, 73% of respondents stated their accordance to the belief that competition between Piraeus established companies increases their competitive position even against companies established out of the particular geographical area. Nevertheless, a significant number of interviews stressed that quite often, internal competition rests in an effort to internally distribute (or claim) existing market share, leading to in increased rivalry. This in turn leads to long term oligopolistic situations which favour larger scale companies and force smaller ones to recession. Similarly, a quarter of respondents do not agree with the statement that Innovation is favoured by intra-cluster competition, with the Shipping Chamber and the Intermodal Transporters Association representatives stressing that the area lacks proper structures and a culture that will transform rivalry and vigilance to specific forms of innovation and creative business behaviour.

4.2. Economic specialization and mutual relationships

Years of operations in Piraeus area - source of revenues: Answers from interviewees reveal a significant heterogeneity among population units with some sectors or companies operating for more than a century while others had recently begun their operation. The same heterogeneity appears regarding the distinction between company revenues deriving strictly from the port of Piraeus (port operations related sources) and revenues deriving from operations regarding shipping related activities. The following figures 6,7 depicts that further to terminal operators, the port appears to be the major source generating revenues for cruise companies, ship agencies, ship provisions and bunkering, towage, customs clearance agents,

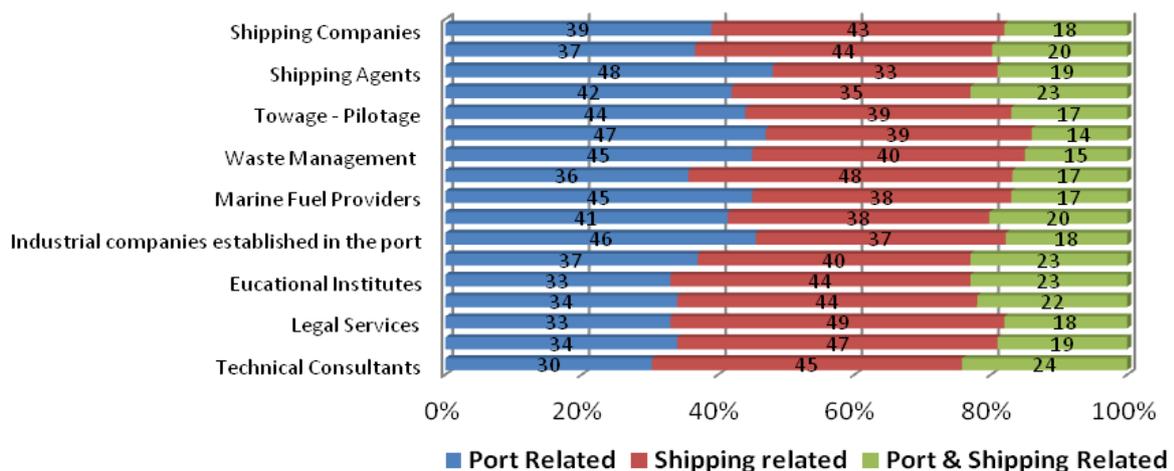
intermodal transportation, ship repairs (not including shipbuilding) and marine equipment providers (traders not manufacturers). On the other side, Shipping is the main revenue source for Ocean going shipping business, ship brokers, ship insurers, Shipping consultants etc, a fact postulating the existence of two cluster cores as previously indicated.

Figure 6: Revenue percentage from Shipping or Port related Activities



Source: Research interviews

Figure 7: Strength of relationships of Cluster participants with each of the Cluster Poles



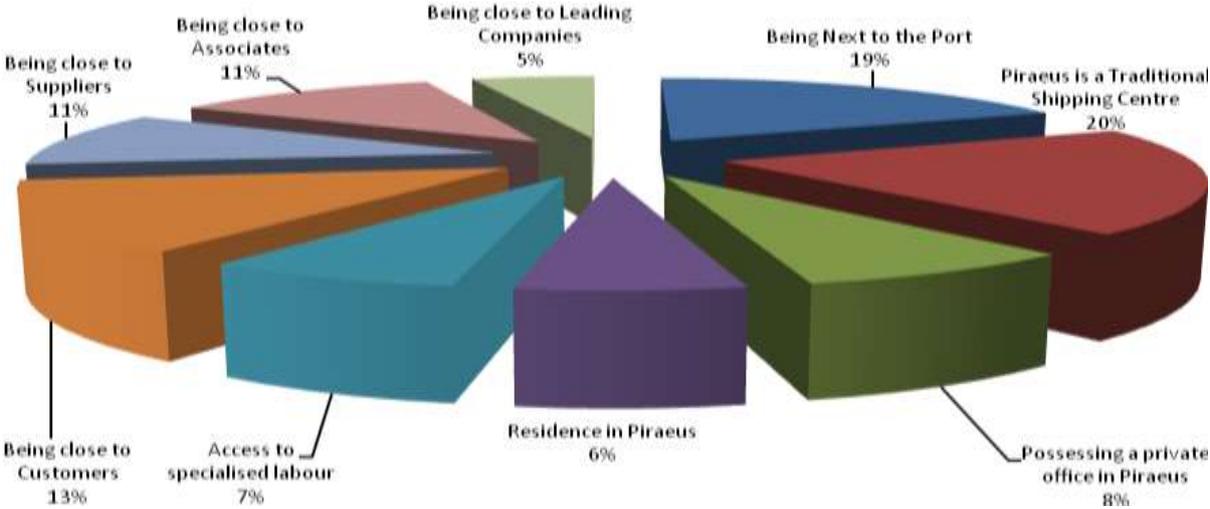
Source: Research interviews

Geographical source of revenues (extroversion): Respondents were asked to rank their geographical sources of income on a scale from 1 (area generating the highest) to 5 (area

generating the lowest percentage of revenues). The rankings were summed so that the area receiving the lowest sum of marks represents the highest geographical source of revenues for companies in the economic specialisation under examination. Responses reveal that activities least dependent on Piraeus are those engaged in marine equipment trading, cruise shipping, ocean going ship management, Ship broking (freight and ship sales & Purchases), Shipping representatives and the members of Exporters Association. For these companies, the most important revenue generating areas are Europe and then the rest of the world. On the contrary, a greater dependence (and consequently lower extroversion and penetration in foreign markets) is demonstrated by companies engaged in general Ship repairs and shipbuilding, pilotage, towage, terminal operations, Shipping Agencies and Waste Management., for which the rest of Greece stands as second most revenue generating area.

Reasons for establishment in the broader Piraeus area and associated benefits: The fact that Piraeus is a traditional (if not historical) Maritime Centre is the main reason why companies chose to set up in the area, with 20% of respondents indicating this. With an overall sum of 18%, the proximity of the companies to the port itself appears as the second most important establishment factor (18%), with proximity to customers (13%), collaborators and suppliers (11%) being the next important but not as decisive reasons (Figure 8). In comparison with a similar research performed by the University of Piraeus in 2001, results indicate stability over time (Pardali 2001, 2012).

Figure 8: Reasons for establishment in the broader Piraeus area

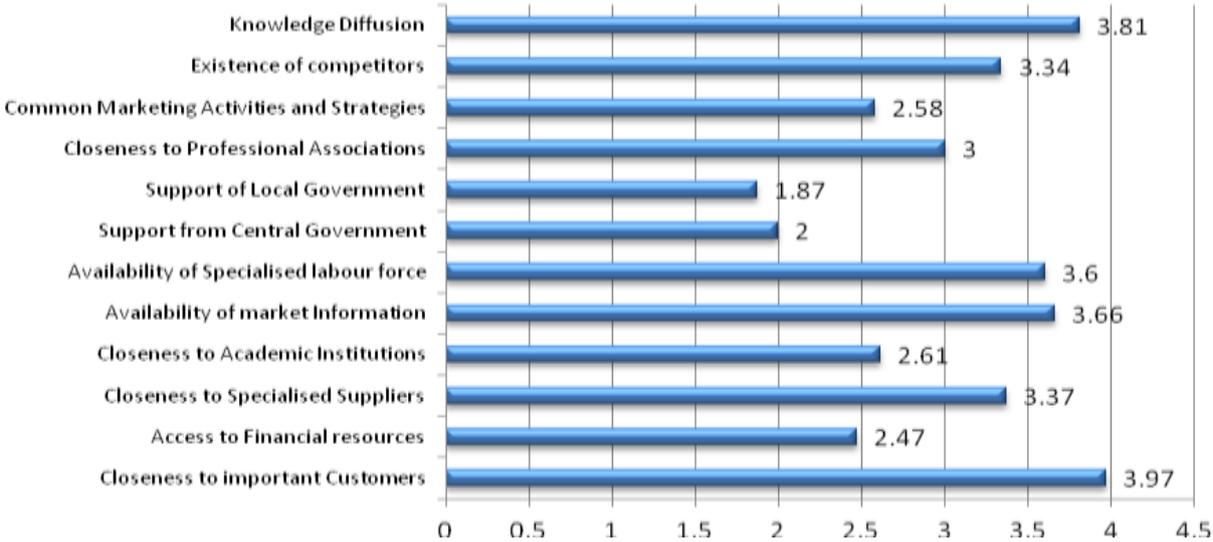


Source: research interviews

With reference to the benefits associated with the establishment in the Piraeus area, respondents were asked to state their level of accordance with a set of statements, measured

on a 5point likert scale (Strongly Agree - Strongly Disagree) (figure 9). Almost all participants replied that *Customer Proximity* is the most desirable outcome, except Industrial Sector representatives who stated their orientation towards exports and identified no benefits related to customer proximity in Piraeus. The availability of *market related information*, especially in the form of informal communication is considered as the main benefit of local establishment. The minority of respondents that attach a lower value to this perspective, accepting its importance but not its decisive importance, highlights the existence of alternative market information resources (internet, professional social networking). *Proximity to specialized suppliers* is an important benefit for the majority of respondents, except those involved in Ship insurance, Brokers and Lawyers and spare parts traders, ie. Companies offering services or products imported from abroad, or operate as agents - distributors of such products/services. The *availability of specialized labour force* is stressed as a very important benefit, especially by companies engaged in ship repair and port activities. The *existence of competitors* is overall considered as a benefit, with objections raised by Piraeus Port Authority, the pilotage service and representatives of small size shipping equipment traders.

Figure 9: Benefits associated from Company (or sector) establishment and operations in Piraeus



Source: research interviews

With reference to *Access to available Capital resources* the majority of respondents does not recognise any substantial potential positive effects (with the only positive remarks to the question coming from the Ministry of Mercantile Marine). The majority also stated its disaccordance with the statement regarding *Local/National government support for Piraeus based companies*, stressing the need for properly designed respective policies. Again, it was

the Ministry of Mercantile Marine that was differentiated, together with Cruise Shipping Companies and Port Operators. *Closeness to institutional and professional associations* is in broad terms attracting positive comments, mainly from ship repairers and spare parts providers, with opposing comments from the side of Industrial Companies and Bunkering (marine fuel) providers. A rather neutral approach is adopted to the case of *proximity to academic institutions* as a benefit deriving from local establishment signifying a gap among Academia and the local economy. Finally, similar neutral or negative statements are associated with the existence of *common marketing policies*, with no apparent idea as to the content and the coordinating body of such efforts.

Participation in a broader economic activity, sense of belonging to an overall entity: In an effort to recognise the main economic activity we came across an explicit sense of involvement and belonging to a greater economic activity, shared by all interviewees. *Their belief is that the primary pole of this activity are Shipping related activities followed by port related activities.* Given this bi-polar structure, and categorizing responses according to this, we can define the main attraction core of each business sector. More specifically, we can conclude that shipping agencies, road transporters, logistics providers, towage and pilotage companies, ship repairers, waste management companies, bunker (marine fuel) and spare parts providers, industrial companies established near the port area, cargo importers and exporters are directly related to Port Activities, constituting an integral part of the Port core. On the other hand, companies directly associated with the Shipping Core, are Ship owning and Ship management companies, Shipping Brokers, Classifications Societies and Ship Surveyors, Shipping Education Institutions, Insurance companies, Legal Service Providers, Financial institutions and technical consultants. As depicted in figure 7, many of the above activities engage in mutual relationships with both polar cores.

4.3. Factors improving competitiveness

The formulation of a business cluster is nothing more than means to an end. The underlying principle for such an entity is its developmental potential through the enhancement of competitiveness of its integral parts as well as the overall cluster level competitiveness. Therefore, participants were requested to state the factors that can **stimulate competitiveness among individual companies**. The majority of interviewees consider unofficial communication (development of personal contacts), a common set of values and the

establishment of trust among suppliers and customers as well as building on previous accumulated experience in the area, can evenly lead to the improvement of companies' competitiveness. According to the Vice President of Passenger Shipping Association, "*the creation of mutual trust and higher confidence climate among companies and institutional agents as well as with employees is a precondition of development*".

With reference to ***Entry and exit barriers***, respondents' remarks on the matter are balanced as 43, 2% considers setting up a new business in the area as relatively easy while 40,5% refers to difficulties hampering the establishment of new market players. Elements identified as facilitators are the "reasonable" or at least lower office rent rates. Nonetheless, no institutional or statutory factors easing the entrance of new companies were indicated during the interviews. About half the respondents do not consider re-allocation costs as an element that would discourage them from moving out from Piraeus, a factor considered important for about 32% of the interviewees. We may therefore conclude that benefits sought by companies establishing operations in Piraeus are not geographically associated and companies could relatively easily relocate with minimum impact on their activities. Obviously this does not refer to the Ship repair, Ship Agencies and Ship waste management activities, which are sectors that due to infrastructure requirements cannot relocate.

In examining initiatives directed at ***increasing Piraeus Shipping - Port Cluster overall competitive position***, the greatest emphasis was attributed to reducing bureaucratic procedures and the modernisation of commercial and institutional framework. Respondents consider the need of a formal institutionalisation of a business cluster which will coordinate all parties engaged in the production of cluster related services. Another important initiative is considered to be the improvement of skills and competences at both a company and an individual employee level so that internal and external stimuli can be comprehended and facilitate innovation either in technological or organisational level. Respondents note that traditional competitive advantages of the Piraeus maritime community (such as knowledge experience and specialisation) tend to fade over time as older employees and entrepreneurs go out of the market leaving behind an irreplaceable lack of skills.

Globalisation of trade and competition imposes a life-long learning approach on communication and foreign language skills, which together with the suggested promotion and attraction of new workers in the area of port and shipping/transport related sectors can bridge the gap with those withdrawing and facilitate innovation, boosting competitiveness. Training in specialised ship construction and ship repair works is promoted as the fundamental factor which together with an extrovert mentality, experience accumulation and synergy creation can

allow companies to survive difficult market conditions and achieve a favourite competitive positioning on a global scale. Investment in knowledge sustainability and creation, labour force skill enhancement and continuous improvement will, according to participants, lead to greater utilization of human resources on an individual and company context.

The same principle is underlined by the President of Hellenic Shipbrokers Association, who notes that the Association is directly involved in continuous training activities towards its members as well as young professionals and graduates through series of organized seminars already since 1999. Respective training sessions on professional and technical issues are also provided by Classification Societies and specialised Training centres operating in Piraeus, creating the potential for constituting Piraeus a major International maritime training centre. It has to be noted though, that training schemes developed by the University of Piraeus either independently or in collaboration with professional training centres are yet receive authorisation by the Ministry of Education.

The cooperation between product and services providers and state or academic institutions is considered as an important initiative, although as the majority of respondents commented, they currently exist as declarations, not developed under a holistic approach, but rather on a company or sector basis. Finally, the last initiative referring to the creation of a business - Logistics Park that would bring together all associated companies on the same site, although receiving positive comments, is a matter of less priority among all participants. Following the directions of literature, participants were also asked to report any other issue not brought up by the interviewers. The factors that came up in this process was the necessity of a broader national shipping - port strategy, policies regarding competition protection and the establishment of common institutional framework for all parties engaged in shipping and port related activities, elements often highlighted as structural defaults of the Greek economy.

4.4. Cluster Coordination and Governance

Respondents were asked to select the most appropriate entity to undertake the coordination and the governance of the port - shipping cluster in the wider Piraeus area. Participants could select from a mutually exclusive list containing: The Port Authority, A Leading Enterprise, an Independent Authority, A State or Public institution, or express their own opinion regarding another choice. In their majority (57%) of respondents stated that an Independent Authority would be most suitable for this task. Second opted choice was a leading Enterprise with the Port Authority being selected by only 8% of the interviewees. It

has to be noted that regarding Leading companies (defined as the ones that have the capability and the motivation to proceed in investments with a positive external impact on the rest of the cluster group), none of the participants explicitly indicated a particular company that could undertake such a responsibility.

On the other hand, a shared belief by all respondents is that whatever the form of the cluster governing body might be, it would have to include persons or companies that sit close to decision making centres in financial, political and regulatory aspects. As an important remark stands the fact that participants believe that current institutionalized private or public agencies (Nautical Chamber, Commercial and Industrial Chamber, Union of Hellenic Shipowners, International Maritime Union) need to be represented as they already possess valuable experience in addressing similar issues and have already established internal information and consultation diffusion mechanisms. The final question examined the willingness of interviewees to participate in such a governing body. Participation was defined as representation and/or financial contribution in the form of a fee contributed by all associations or private entities coordinated by this integrated institution. Almost all respondents (97%) replied positively to these questions, demonstrating their willingness to participate and highlighting the importance of such an institution.

5. Conclusion - Suggestions

The wider Piraeus area constitutes a peculiar type of Cluster around to distinct poles of economic specialization, one referring to activities related to Ocean going Shipping and one to port related services. These are being supported by an important network of supportive and complementary services. As acknowledged by the representatives of these activities that participated in the research, the operation of the port stands as the geographical point of gravity while it is ocean shipping related activities that constitute the main economic specialisation. Moreover, the existence of a highly skilled and specialized labour pool was identified. Mutual relationships are identified, with the strongest being developed with Shipping companies, Port operators, inland transportation and Logistics service providers, shipping suppliers and classification societies. Although these relationships differ in strength depending on the characteristics of each sector, they tend to contribute to knowledge diffusion, informal communication and customer service. On the contrary, some of the fundamental preconditions to competitive cluster operations are absent. Lack of access to financial resources and local or national government support, underdeveloped role of

Academic institutions, lack of stable internal demand, introversion and insufficient links to national transportation networks hamper the competitiveness of the cluster.

Greek Shipping and its historical cradle, the port of Piraeus poses an undoubted dynamic which must not remain unexploited, especially within the context of today's economic crisis. The previous analysis indicates that most necessary preconditions for effective cluster formulation and competitive operation are met. However, this process is not automatic. The proper initiatives towards the formulation of a governing body need to be undertaken to allow synthesising the two core economic specializations. Open consultation and dialogue must be undertaken involving all interested parties. There is a great need to create the necessary culture and structures that will transform the hidden potential to specific actions of innovation and creativity. Concessions of port facilities, entrance of new players and simplification or restructuring of legal framework that distorts competition will assist in this way. The presence of over 30 already established Unions or Professional Associations provides a useful ground to organize public dialogue and ensure a holistic approach towards the creation of a broader cluster based strategy. The creation of an Independent Authority where established associations will be represented will assist information diffusion and build on accumulated experience.

References

- Cairncross R., (1997), *The Death of Distance*, Harvard Business School Press.
- Colgan, C.S. and Baker, C. (2003), A Framework for Assessing Cluster Development, *Economic Development Quarterly*. Vol. 17, No. 4, pp 352-366.
- De Langen P.W., (2002), Clustering and Performance; the Case of Maritime Clustering in the Netherlands, *Maritime Policy and Management*, Vol. 29, No. 3, p. 212.
- De Langen P.W., (2003), *The Performance of SeaPort Cluster*, Erasmus University Rotterdam
- De Langen P.W., (2004), The performance of Port Clusters, *Journal of international logistics and trade*, Vol. 2, No 1, pp. 47-56.
- [DG Enterprise and Industry Report, \(2009\): Innovation Clusters in Europe: A statistical analysis and overview of current policy support](#), access on 10/08/2012
- Doeringer P.B. and Terkla, D.G., (1995), Business Strategy and Cross-industry Clusters, *Economic Development Quarterly*, Vol. 9, pp. 225-37.
- Lord Sainsbury, (2008), *A Practical Guide to Cluster Development*, A Report to the Department of Trade and Industry and the English RDAs by Ecotec Research & Consulting.

Lyon F, Atherton A, (2000), *A Business View of Clustering: Lessons for Cluster Development Policies Foundation for SME Development*, University of Durham, Durham, DH1 3LB.

Mack, N. and Woodson, C., Family Health International, *Qualitative Research Methods: A Data Collector's Field Guide*, Family Health International

Maria Damanaki, EU Commissioner for Maritime Affairs & Fisheries, Presentation on the 12th FEMIP Conference, "Mediterranean blue economy: enhancing marine and maritime cooperation", Athens 19.04.2013

Marshall, A., (1920). *Principles of Economics; An Introductory Volume*. London, U.K.

[McNamara, C. \(1999\) General Guidelines for Conducting Interviews](#) accessed on 09/2012

OECD (2005), *Local Economic and Employment Development: Business Clusters - Promoting Enterprise in Central and Eastern Europe*, OECD Publishing

Padmore T. and Gibson, H., (1998), Modeling Systems of innovation, Part ii A framework for industrial cluster analysis in regions, *Research Policy*, Vol. 26, pp. 625-641.

Porter M., (1990), *The Competitive Advantage of Nations*, Macmillan Press LTD, p. 149.

Porter M., (2000), Location, competition and economic development: Local clusters in a global economy, *Economic development Quarterly*, Vol. 14 , No 1, pp.15-34

Rosenfeld S. A., (2002), Creating Smart Systems, A guide to cluster strategies in less favored regions, *European Union- Regional Innovation Strategies*, pp. 7-9.

[The Greek Shipping Cluster, Harvard Business School, Microeconomics of Competitiveness](#), accessed on 18/12/2012

Yin, R. K. (2003). *Case study research: Design and methods*, Thousand Oaks, CA: Sage

Zikmund, William G. (2000), *Business Research Methods*, Fort Worth: The Dryden Press.

[EOMMEX, \(2009\), Networking & Clustering \(in Greek\)](#), accessed on 11/2012

Pardali, A., (2007), *Port Economics and Policy, Competition and Competitiveness in modern Port Industry*, Stamoulis, Athens, pp. 465-489 (in Greek)

Pardali, A., (2012), *The port of Piraeus, Historical transformation and its developmental contribution*, Stamoulis, Athens, pp. 266 – 274, (in Greek)

Pardali, A., (2001), Ports and their contribution to Regional Development: The Case of Piraeus, *14th National Conference in Operations Research*, Xanthi, Greece (in Greek)

<<http://www.iobe.gr/media/delepen/delepen11b.pdf>>, accessed on 09/2012

<http://epp.eurostat.ec.europa.eu/portal/page/portal/esa95_supply_use_input_tables/introduction> accessed on 09/2012

<<http://www.nazo.gr/images/stories/Various/Binder1nafsolpMay312012.pdf>>, accessed on 12/2012