Original article

Cluster Policy: Perspectives on Practices in the Maritime Sector

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Abstract

In most of the developing countries, the performance indicators of industry clusters have outpaced the nation's economic development indicators. Clusters as an instrument for economic growth is turning out to be an acceptable choice among policymakers globally. Establishment and execution of cluster policies can be classified in to different models based on approaches to the creation and promotion of clusters followed in different geographies. Potential constituents of a cluster need to be motivated to participate in more common action. Cluster policy is about consistently paving the way for environments that are encouraging to the distinct businesses and organizations those are the key actors in cluster activities. There should be definitive benefits facilitated by the policy measures to encourage the constituent firms to participate in the cluster activities. The attempt was to facilitate policy makers by identifying the characteristics of cluster policies, which are fundamentally critical to be considered within many of the approaches being practiced, especially in the maritime industry.

Keywords: Industrial Cluster, Cluster policy, Maritime Cluster, Agglomeration, Port Cluster, Cluster Development.

1. Introduction

The regional growth and competitiveness are influenced by the development of clusters and the development and performance of clusters are triggered by appropriate policy activities (Porter, 2008, p.33). A Cluster policy can be apprehended as a measure that supports clusters in-order to increase their competitiveness (Ketels, 2009, p.12). Existence of resources in specified geography augmented formation of clusters in the earlier era. In the current business environment, the cluster development can be inspired by an appropriate cluster policy. The present work aims to facilitate policy makers by identifying the characteristics within many of the approaches being practiced, which are critical to be considered for development of an exclusive cluster policy especially in the maritime sector.

Economies world over, especially Asian countries, are promoting cluster formation. The cluster policies inspire the firms to take part in the formation of clusters. As Raines (2001, p.4) pointed out, these policies are formed with the objective of enhancing the competitive advantages of the cluster and thereby improving the performance of the constituent firms. He further opined that these policies could be a combination of different domain policies which in turn support various business networks of small businesses associated with a particular industry. Such varied policies contributing to a comprehensive cluster policy addresses the inclusiveness of the concept of a cluster in different views of domain and value to the economy and its competitiveness (Enright, 2000, p.4). Also, it is important that unco-ordinated policy initiatives will lead to inefficiencies and resource wastages (Coniglio et al., 2011, p32).

In most of the developing countries, the performance indicators of industry clusters have outpaced the nation's economic development indicators. The contributions of industrial clusters have been recognised as the advancement of regional trade and the shrinking of economic and social outlays (Yu, H., Jiang, M., & Li, C., 2016, p.6). Many researchers have indicated that the businesses whose actions and performances have the most substantial influence on the economy are the foundations of a cluster. Also, it had been found that the clusters have significant progressive impacts on the way the business performs.

The establishment of clusters of related industries, organisations and institutions, helps the constituent units to obtain regional competitive advantage (Porter 2003, p.14). Clusters as an instrument for economic growth is turning out to be an acceptable choice among policymakers globally. The purpose of cluster policy is to facilitate the cluster initiatives and functioning of clusters to strengthen the regional economy and thereby contribute to the national economy. The type of industry and geography influences the decision to choose the type of policy instruments. A general trend in policymaking had shown a progressive movement from small and medium industries networking support to a national level focus for regional clusters to develop competitiveness and then to the promotion of innovation clusters. Policymakers and cluster originators having a clear perception of the cluster concept would overlay the way toward the establishment of schemes that will help toward the creation of a cluster and also will warrant a sustainable and growth-oriented performance.

2. Cluster: Definition

Literature defines clusters as non-random geographical agglomerations of firms with similar or strictly complementary capabilities (Richardson, 1972, p.4) (Ellison, Glaeser, and Kerr, 2010, p.2). After Marshall (1890), the concept of agglomeration was discussed as a theory of industrial Clustering by Porter (1994). It can be observed that Marshall related agglomeration explicitly to the role of location, but Porter related his theory to the context of economic development. According to Porter (2000, p.2), clusters are a strong presence of associated business units to create synergies and enhance overall value in the product then value delivered as a sum of consisting population. Other than Porter, many authors have also tried to put define a cluster. Coulander, (2010) observed that a cluster is a concentration of related or complimenting businesses and should be existing in a specific geography and are not mere networks of connected actors of the business.

The definition of clusters as deliberated by different researchers in the domain's literature (Nadabán and Berde, 2009; Malmberg and Power, 2006; Delgado, Porter, & Stern, 2010; Feldman & Francis, 2004; Boja, 2011; Ketels, 2004) can be summarised as key actors who are engaged in similar or related economic activity in the industry, which has proximity among each other creating a spatial agglomeration to enhance the speed and efficiency of achieving a common economic goal and create benefits for the firms and for the region as a whole. The major advantages for firms to be part of the clusters are (a) innovation gain, wherein, the constituent firms

acquire skills indirectly by knowledge spill-over and gain competitiveness being part of the cluster, (b) product gain, as the constituent firms benefit out of the combined efforts in market promotion and collective negotiations with resource suppliers and (c) business gain, as the firms get exposure to national and global business support networks and agencies.

There is a distinction between a cluster, a cluster initiative and a cluster organization. While a cluster refers to an agglomeration of firms and organizations, a cluster initiative refers to an organized effort to support the development of the cluster, and the later is an organization with an office and a cluster facilitator. The distinction between the two categories of clusters lies in focus on the type the cluster initiatives, namely industrial focus or geographic focus. A port cluster is a geographic cluster. As a result of geographic proximity and co-location, the clusters create lower input costs for firms. The Firms facilitate knowledge spillovers through agglomeration economies that enhance productivity and yield innovation. Subsequently, firms in clusters that generate these benefits will be more competitive, and regions with effective clusters will experience more significant growth (Wolman and Hincapie, 2010, p.21).

3. Cluster Policy

3.1 Cluster Policies and cluster formation

A cluster policy often is not a standalone policy, instead, it is a collection of Many policies under different categorizations. Appropriate integration of many interrelated and complimenting policies in a broader economic, strategic agenda is a key factor influencing the effectiveness of cluster policy.

In many cases of established and successful clusters, the cluster policies forced the formation of the clusters. Enright (2000, p.4) noted that there had been a remarkable number of policies designed to promote the development of clusters were formed in recent years' world over.

A review of the literature associating cluster policies indicates that cluster policies are formulated with the assumption that clusters can facilitate enhanced economic growth and development (Raines, 2001, p.4).

Cluster policies hence may be viewed as measures targeting the cluster constituents and cluster as a single entity by the governments to enhance the competitiveness (Ketels, 2009, p.12). Kiese & Hundt

(2014, p.2) on the basis of the work of Fromhold-Eisebith & Eisebith (2005, p.11), formulated a model of cluster policy with multiple features and dimensions taking into consideration coherence and complexity, institutionalisation and orientation of the clusters.

Andersson, Serger, Sorvik & Hansson (2004), observed that the cluster policies foster many economic and social objectives. Different countries in Europe and Asia developed cluster policies with a focus on different segments of businesses and their resource optimization and innovation objectives. Many of the cluster policies in the US and Canada emphasized the ease of developing clusters in their policies.

In almost all cases in all countries, it is observed that the clusters are established around a large-scale industrial activity and then include many firms and stakeholders (Meyer-Stamer, 1998, p.8). The support for anchor companies in establishing clusters was highlighted by Kuchiki & Tsuji (2005, p.14) in his flowchart approach of policy development. Establishment and execution of cluster policies can be classified in to different models based on approaches to the creation and promotion of clusters followed in different geographies. These classifications of the policy models were the offshoot of features of economic development and traditions of such regions. The characteristics and features of these models of policies vary from the relationship between firms, authorities and academics to the active support of governments and authorities in establishing and function of the clusters.

3.2. Regional Differences in Policy

Ketels (2015, p.18) also observed that the cluster policy in regions in the west is market-driven, whereas the Asian and eastern countries are regulatory-driven.

Based on the observations made by Okamuro and Nishimura (2015, p.15), the cluster policy in Asian countries is low-incentive policies with a full funding scheme. Whereas in western countries, these are high-incentive policies with a matched funding scheme. Mazurek (2014, p.61) observed that the Asian cluster policies are more heterogeneous and as diversified as the Asian economies. However, it is important to note that the Asian cluster policies are more effective in creating and supporting clusters than the cluster policies in the American and European countries (Pessoa, 2012, p.19)

In order to examine the policy effectiveness, the parameters of strategic plans, policy involvement, motivation for the involvement of stakeholders, the extent of applicability to the related to the segments of the industry, location, distinctiveness of the policy and the support instruments are to be considered. It is also important that there is an effective communication system within the cluster and the policy should encourage the same, as active communication within the cluster constituents enables them to achieve better productivity and encourage enhanced innovation activity (Fujita, 2007, p.8).

Finally, there should be an effective evaluation and control system embedded in the policy. The policy parameters should be evaluated by a transparent system (Kind, Meier zu Köcker, 2011, p.2). The cluster evaluation system could enable the cluster selection within the support initiatives (Fontagne et al., 2013, p.7).

Regional cluster policies are a culmination of all endeavors of the policymakers to support establishing and sustaining clusters in specific regions (Hospers and Beugelsdijk 2002, p.12). Thus the Cluster policy often viewed as a kind of industrial policy aimed at the development of regional entities with similar or complementing business objectives into clusters, (Enright 2003, p.21). Cluster policies emerge at the convergence of domains such as industrial, science and technology and innovation policies, besides the economic development policy of the region (Nauwelaers, 2001, p.13). Employing the idea of clusters in the science and technology policy might differ prominently from the way it is made use in local economic development.

3.3. Regional Approaches to Cluster Policy

The concept of cluster policy is different from the concept of cluster initiative, in which the constituent firms take the lead role, facilitated by statutory agencies (Lindqvist et al. 2013, p.16). In this larger view, cluster policy may be viewed as a set of schemes and regulations exemplified by considerable participation of regulators by way of facilitating creation, control and governance. Cluster policies should be drawn by the public policymakers and should be understood separately from the non-governmental initiatives in cluster creation, sustenance, control and governance.

The policy for clusters could be one through an intervention role to couple the regional and local participants of a business to facilitate clustering, orienting several policies towards important clusters, facilitating cluster's opportunities through prioritized projects or addressing framework conditions most important to the prioritized clusters.

The cluster approach facilitates innovation and the cluster policy complement the innovation policy. Thus the cluster approach can serve as a useful framework for synchronizing various policies.

The major benefits are the basic networking advantages (scale and scope), labour market pooling, greater levels of specialization and thus access to higher-order services, and knowledge spillovers, Porter's Diamond factors instigating greater innovation, namely, demanding customers, internal competition and complementarity, along with other established innovation methods and processes. These benefits lead to greater firm efficiency, innovation and specialization. Also, several innovation-centric policies include platforms to promote entrepreneurship and new business formation.

Potential constituents of a cluster need to be motivated to participate in more common action. Schemes that bring the members of the cluster together usually start with some form of study. Usually, these studies can be a mapping of constituent linkages within the cluster, analyzing competitiveness – firm-level and cluster level, and the development of strategic action plans. Once the actors are brought to a common platform, for a mutually beneficial cause, to work together, their common interests articulate the nature of collective activities to support participants. Such collective activities involve a substantial degree of unanimity and require the active participation of the constituents. It is harder to assess the results of collective activities than those by single enterprises.

Distinct businesses and organizations which are collectively identified as constituents of the cluster are the key actors in cluster activities, and cluster policy is about consistently paving the way for environments that are encouraging to their engagement in common activities aimed at building mutual benefits. These latent benefits from cluster initiatives do not serve as justification for policy intervention in clustering processes. Usually, the governments consider positive interventions on the requirements for clustering in its policies contemplating what can be gained by the cluster initiatives and cluster activities. As for direct policy intervention, the important question is whether and how the policy will to add value beyond what other influencers contribute independently.

The level of policymakers to initiate, implement or support a policy depends on the governance mechanisms as well as the nature of the policy. In the case of regional specialization and clusters, there is an economic rationale for all levels of governing agencies (local, regional, national and in some cases international) to support such policies (Competitiveness of regional clusters, OECD)

A strong skill base is often considered as a critical success factor for the clusters, and as the key determinant for the geographic location of the business, most of the cluster policies did not characteristically highlight any importance to human resource development. It is evident that several clusters did not take the opportunity to work together with a local educational institution for skill development.

A cluster leader or an anchor firm which is also a constituent company in the cluster will be mostly concerned about the success in bringing more constituent business and organizations together in collective activities and about enhancing the economic and social relationships among them. There is scope for making a cluster policy to generate benefits, by accelerating the growth of existing clusters and by creating the environment conducive for the development of new clusters.   Various policy approaches are prevailing in the domain of clusters, namely, broker policies, demand-side policies, training policies and framework policies (Festing, Marion et al., 2013, p.3). The broker policies aim at strengthening the framework for dialogue and cooperation by the various relevant stakeholders involved in clusters. Demand-side policies try to increase candidness to new ideas and thereby, the generation of innovative solutions.   And the framework policies, create a domain marked by effective and consistent rules for transactions among various actors. Further, cluster policies are also stimulated by policies in various domains. Regional economic development policy, science & technology policy, innovation policy, industrial and enterprise policy are few of the general policy streams usually promoting cluster policies.

Cluster policy focuses on the type of locations, the nature of the sectors and category of the actors. The engagement of actors, collective services, business linkages, collective research and development and collaborative commercialization is supported by the policy in addition to establishing the framework conditions in terms of the regional environment, regulation and finance. Porter (1998, p.8) pointed out that the concept of clusters brought light to many possible areas beyond the conventional focus of economic policies. The structure and dynamics of the clusters were immensely influenced by globalization (Harrison, 1996, p.6 ; Porter, 1998, p.11).

As observed in Europe INNOVA, (2012, cited in Konstantynova et al., 2014, p.7), the cluster policies had been developed in three phases since the nineties. The early nineties, countries who pioneered in agglomeration took the risk in developing policies for clusters, while in the next decade regional policies were framed taking clues from the successful clusters in the pioneer countries and since mid-2000, policies are being developed by regional and national level with directions on how clusters are to be developed and policy measures to be implemented effectively. Now the question arises as to what constitutes an effective cluster policy. There is no homogeneity for the policy among different countries.

Nature of the support systems, features of tools and methods and evaluation criteria employed at different geographies are different (Anderson et al., 2004, p.150). To comprehend the different approaches in cluster policies among different geographic regions, Borrás (2008, p.16) has suggested categorizing the various comprehensions of cluster policies as in Table 1.

Table 1: Various Approaches to Cluster Policy.

Characteristics of the Policy Approach	Narration	Authors identified the approach
Creationist	The policy implication is the creation of new clusters. Addressing the Governance, Social and Economical interfaces.	Swann, G M P.; Preveyer, M.; Stout, D. (1998)
Narrow	Public Authorities initiate and control cluster dynamics.	Andersson, T et al. (2004)
Top- Down	Policy features developed by the national, regional and cluster level based on circumstances.	Boekholt, P. & Thuriaux, B. (1999); OECD (2007)

Evolutionary	Private constituents are associated in this scenario with the public entities. Provides for upgradation of competitiveness of the firms, clusters as well as the region.	Cooke,P (2001)
Network	Collective decision making involving the participation of the private sector at length, leading to private-public joint initiatives in clusters.	Raines,P (2000); Asheim,B (2001)
Multi-level Governance	Implementation of cluster policy using direct and indirect schemes (what) by private, public or joint actions (who) and using specific measures (how).	Borrás,S & Tsagdis,D (2008)

(Source: Reviewed Literature & as cited in Borrás, 2008, p.16))

There should be definitive benefits facilitated by the policy measures, to encourage the constituent firms to participate in the cluster activities. A typical set of benefits provided by the Industrial Cluster Project instituted by the Ministry of Economy Trade and Industry (METI) of Japan can guide the policymakers to establish the subsidization or networking benefits to the constituent firms of a cluster (Nishimura & Okamuro, 2011, p.4).

The policy should envisage the proper tools for developing and establishing the networks that are the cores of agglomeration and should strategically coordinate the other related policies of the government (METI Japan, 2009). This way, the cluster policy which is developed with a long term view support the constituents of the clusters to benefit from various schemes and measures to enhance the process efficiency and thereby attract more businesses.

The supports to the beneficiaries based on the various provisions of the industrial cluster policy of METI are listed in Table 2.

Table 2: Provisions of the industrial cluster policy of METI.

Scheme of Benefit	Effects
Networking & Alliances	• Promotes cluster formation • Encourages networking with actors in related industries • Facilitates extended networks & alliances with passive stakeholders, academia and local authorities. • Development of collaborations for business development
Innovation & Incubation	• Research grants and support • Facilitation of regional and national lab for innovation • Support for Collective and collaborative research • Setting up of incubation facilities • Supervised incubation • Support for the establishment of intellectual property rights
Monetary Support	• Provides grant and subsidies • Extends Tax holidays and performance incentives • Support for availing facilities from financial institutions • Facilitates venture capital support
Marketing	• Support for domestic and foreign market development • Promotional activities for cluster marketing • Aids collaboration with local industries • Establish collaborative channels for distribution
HR Development & Management	• Sponsoring Skill development activities • Coordinating Collective HRM activities

(Source: ICP of METI, Japan, 2005 as cited in Nishimura & Okamuro, 2011, p.4)

It is essential to have a stable political agenda focused on economic development of the geographical region, adequate commitment and trust from among the constituents of the cluster and other stakeholders in the industry and the region, for developing a sustainable cluster policy.

4. Policy for Maritime Clusters

The development of clusters in a specific industry in a particular location demands the appropriate triggers and conditions (Isaksen, 2016, p.10). The development and impacts of the agglomeration of firms had been reviewed in the literature using various distinct approaches. The maritime sector is one such industry where the geographical agglomeration of related firms has considerable potential to contribute to the economic performance of the region.

Concept of clustering in Maritime sector had been developed over years and the components and functions of the clusters in the sector had been optimized during this evolution. The maritime cluster comprises of establishments and firms contribute to the competitiveness and innovative capabilities in the port industry.

Because of the maritime industry's widespread and diverse existence, and also due to the fact that maritime business and allied sectors exhibit many features and characteristics of clusters, it can be regarded as the ground for enhancing the competitiveness of the geographical regions in which they are operating. Policy makers, at different times and locations, have made attempts to establish both generic and unique   clusters in the maritime industry.

Research shows that such clusters enhance competencies of the port, the clusters and its constituent firms in maritime industry, which in-turn contribute to the development of the region (Hsu et al., 2013, p.6; UNIDO, 2013, p.14; Awad, M.I et al., 2017, p.4; Haezendonck & Langenus, 2019, p.3). This encourages the policy makers to consider clustering in the maritime industry as a policy tool to promote the regional development.   And this corroborates the relevance of an effective cluster policy for the maritime sector.

Port development shall be evaluated from the standpoint of a cluster on specific consideration of agglomeration and dis-agglomeration. Such evaluations also create avenues to throw light on the innovative theories on governance in seaports (De Langen, 2004, p.19). There is much research about geography and configuration, firm structure, performance and governance (De Langen & Visser, 2005, p.3). The agglomeration within the geographical area of a seaport also referred to as proximity within a seaport, is appraised substantially in port operations (Martin, 2001, p.6). Also, this proximity is evaluated in terms of the availability of leader firms, which play a significant role in port clusters. Major governance activity by the leader firms shall be to accomplish combined action schemes in a region, such as the innovation organizations, the hinterland access systems, the marketing and promotion agencies, the international regimes and the training and education organisations (De Langen & Visser, 2005, p.7).

To consider policies and strategies for maritime clusters, it is logical referring to the policies in relatively mature other industries. The importance of the cluster governance, strategy management and practicable policies were emphasised by the researchers studying maritime clusters (Doloreux & Shearmur, 2009, p.3; Brett & Roe, 2010, p.15).

The literature evidence that favorable tax schemes promoted by the shipping industry are existing. Distinctive tax schemes may lead to counterproductive outcomes and result in many unexpected distortions. However, there is evidence that the tax-based policies, by emphasizing on maintaining and further developing the maritime sectors in technological, educational, logistical and institutional infrastructure contribute to the economy. It was observed that in the case of Norway, the tax schemes promote the shipping industry in the country, as it is identified as having the key role within the Norwegian maritime cluster. These companies are considered as the core actors (Benito et al., 2003, p.12) in the cluster and in turn, contribute to the national economic development.

Though, the major role of governance in the maritime cluster was highlighted in the studies of Doloreux and Shearmur (2018, p.3), an extensive literature review revealed substantial variations in categorising the   constituents of a maritime cluster based on its significance. This   poses difficulties in outlining a system for governance and development of an appropriate policy for maritime clusters. And hence adaptation and contingency must be given due considerations while discussing an exclusive cluster policy for the maritime industry.

Once various functionalities in the maritime business are considered as potential constituents for a cluster, policymakers should encourage the cooperation within such firms in the economic geography in-order to effectively develop a maritime cluster. Also, policies should encourage the collaborations between upstream and downstream maritime businesses and should promote an interface between the industry and the academia/research. This will encourage an innovative and productive environment

facilitating generation and management of spill-overs vertically and horizontally.

The rationale of all kinds of policies employed in a maritime cluster is to enhance the competitiveness and sustainability of the clusters (Balasubramanian, 2012, p.11). There are many evidence from the industry supporting this observation. The interventions of policymakers in the development of the maritime cluster in Quebec's coastal region are taken as an example (Doloreux & Melançon, 2008, p.10; Doloreux & Shearmur, 2009, p.5).

In a study of sustainability in Japan's maritime cluster, Shinohara (2010, p.22) ascertained the dynamics of the relationships between and within the business network and cluster culture, education and research, collective management of maritime assets, knowledge creation and transmission among working partners and stakeholders, and the value system of work. Icaza et al. (2009, p.29) suggested the Greek government take innovative initiatives to attract shipping companies to Piraeus, with the selling point of an encouraging tax structure and good support for cluster development. To develop the maritime cluster policies in economies where there is no specific policy is framed, the policymakers can also research and relate to other successful maritime cluster policies in similar economies.

The philosophy and dynamics of Maritime clusters are changing and developing. Hence the policies about maritime clusters also are dynamic and developing. As a result, mapping the development of maritime cluster policy is important (Othman et.al, 2011, p.6).

Maritime clusters are made of various businesses associated with the maritime industry. Accordingly, the maritime cluster policies shall be relating to the development of all these sectors. Portsmuth et al., (2012, p.4) attempted to research the influences and coupling of the policies for major industrial / business sectors while considering the cluster policy development. Development support, spatial planning, fiscal incentives/grants, coordination/information-sharing and human capital matching are among the policy measures included in the report released by OECD (Merk, 2013, p13).

These strategies and policies related to maritime clusters, it is evident that the government or public institutions take part a prominent role in the management of maritime clusters because of their direct involvement in all the activities of the

businesses in the maritime industry. Though these government or public agencies, who has the landlord status, have direct governance opportunities over the cluster constituents, only a few researchers corroborate the meticulousness and efficacy of this influence when implicating these policies. It may not be possible in such situations to depend on track records of these policies and strategies for establishing maintainable and active maritime clusters to convince the new policymakers. More precise measures based on both qualitative analysis and quantitative calculation is required for establishing the relevance of a policy centering around the public agencies as cluster leaders entrusted with cluster governance.

5. Discussion

The cluster policies in various countries and regions discussed validate that there are different approaches followed for development, support and evaluation of clusters in different economies. The attempt was to analyze what cluster policies are focused on in different economies, each of which is characterized by the existence of certain features specific to each country. It is observed that the cluster policy had developed in terms of features and effectiveness in European countries than in Asia mainly due to the divergence in the purpose of the policy initiatives by the governments, disproportions in economic development and socio-political environment. Cluster policies in the European region are implemented at the national levels; however, in Asia, most of the cluster policies are implemented as government-funded initiatives with the involvement of local government.

The governmental involvement in the process of establishment of clusters is viewed by the prospective constituents as an assurance for the sustainability of the cluster. European economies follow an approach to fit the needs of industries to enhance market competitiveness while Asian countries adopt an approach to establish clusters to enhance entrepreneurship. In both cases, the mode and focus are on innovation.

This results in two distinctive structures for the clusters in the two geographic regions. The European clusters are more diverse and established progressively whereas authorities initiate those in Asia region, regionally or nationally to establish infrastructure for specialized geographies. The cluster policies across the various economies have common features of financial support, networking opportunities, training facilities, resource pooling, collective

research and development, coordination of business processes, and business services, knowledge spillover and innovation opportunities, though the modes of implementation of the policy support vary in different countries. Another major aspect of the cluster policies across the regions is the evaluation system embedded in it, be it for pre-selection or post-implementation.

6. Conclusion

A systematic evaluation of a cluster will enable policymakers to devise schemes that can augment the performance of the constituents individually and the cluster as a group. Also, schemes that are devised in the perspective of the cluster explicitly through an understanding of the cluster environment and establishment process can be used as a basis to ensure the sustainability and growth of the cluster.

In order to create clusters for economic growth, we need policies and frameworks beyond the schemes promoting the creation of a cluster. The requirement is now for an establishment of a policy structure and framework which would steer sustainable cluster development. The definitive intention is to achieve sustainable economic growth and development by the establishment and functioning of a cluster. It is observed that the cluster policy had been developed in terms of features and effectiveness in European countries than in Asia mainly due to the divergence in the purpose of the policy initiatives by the governments, disproportions in economic development and socio-political environment.

Many similarities had been observed among countries with regard to promotional support for clusters, industrial or geographical, even where specific cluster policies do not exist. The purpose of this paper was to identify characteristics of the cluster policies, which are crucial, and needs to be considered within many of the approaches being practiced.

Authorities should establish cluster policies with an optimal approach, which is appropriate to synchronize it with the economic strategies of the region. We consider appropriate to suggest at this stage, to take into consideration the seven phases of development of effective cluster policy, discussed earlier in this paper. Further, the development of cross-industry networks will lead to enhanced innovation capabilities of the cluster constituents. Thus the cluster policy should facilitate the evolution and sustainability of clusters which in-turn establish an innovation platform contributing to the regional development. The scope of the current paper was to identify the critical features and characteristics of maritime

cluster policies, further research is recommended in-order to analyse the direct and indirect impact of these policy measure in different geographical contexts. Also there had been certain limitations in the study, mainly due to lack of focused research in this field recently. However, all available research points out that an ideal cluster policy is the one which supports the industry to optimize and strengthen their tolerance to changing business environment and evolving business processes, empower them to create new businesses with next-generation core business process, expand their network for enhanced commercial success.

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