

The strategic factors shaping competitiveness for maritime clusters



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ABSTRACT

Maritime clusters provide an attractive analytical base within a strategic management perspective, as they render a sanctuary for a plethora of strategic factors that sustain competitiveness. This fact is a direct corollary of the investigative potential that generic industrial clusters have provided for decades. Through the critical review of this body of knowledge, a venture to extract the strategic factors that instigate the effects leading to competitiveness is attempted. The objective of this work is to provide a topology of strategic factors concerning the rudiments of competitiveness within maritime clusters, their critical linkages with factors concerning other industrial clusters and their differentiation, if any. For this end, literature concerned with industrial clusters is reviewed in order to extract the underlying factors that compose the distinct manifestation of competitiveness within them and these factors are categorized as per their nature. This work aspires to provide a relevant understanding of the factors dictating the competitiveness of clusters in the maritime sector; its results contribute to the body of knowledge concerning maritime clusters, for they provide a readily available critical review of the elements that formulate competitiveness within these particular industrial entities.

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1. Introduction

Industrial clusters have been enduring objects of study, deriving from Alfred Marshall's, 1890/1920 'localized industry', to the point that scholars are still analyzing the framework and dynamics of agglomeration economies and their underlying factors. Industrial clusters are considered as a pillar of competitiveness, innovation and sustainability for today's economies, for they may hold viable competitive advantages for industries and nations. The principles of the analysis of industrial clusters lie within the dawn of economics themselves and traces of the instigation of the theory can be traced within the foundations of modern economic theory. Smith's (1776) 'domestic industry' can be accurately regarded as a geographically clustered industry; from these origins even, we are able to observe a basic constituent of industrial clusters that is of a rather fuzzy and not explicit stock. For Smith it may be referenced as an 'invisible hand' (p. 349) that will guide the benefit of a society within a given geographical location "to promote an end which was no part of his intention" (though the 'invisible hand' is not generally coined as an industrial cluster constituent, we cannot overlook its subsequent relevance with industrial cluster theory), whereas for Marshall and whence illustrating the near-permanence of localization, it is the 'mysteries that are no mysteries', "but as it were in the air, the children learn many of them subconsciously". Though economic theory is all about identifying, analyzing and interpreting the dynamics

of economies, we observe two predominant and pioneering fathers of economics entering the explicitly stochastic whence referencing the externalities of proximity. The thought that maybe clusters include an abundance of paradoxical elements is granted and as we will observe herein, defensibly sustained.

On the other hand, the attempt at explicitness is fruitful as well. Utilizing a formal and somewhat sterile perspective, agglomeration economies are all about concentration of entities due to cost reductions (McDonald & McMillen, 2007). These cost reductions are said to originate from the three basic Marshallian dimensions that are better access to skilled labor (labor market pooling in proximity-locality), specialized suppliers (shared inputs and local supplier linkages) and knowledge spillovers (within the locality) from competing firms, as extracted from Marshall's, 1890/1920. The initiation of the 'localized industry' requires the pertinent conditions, albeit physical potential (e.g. from concentration of resources) and/or a centralized trigger effect; we would add these requisites to the dimensions of agglomeration economies mentioned above, for they are pertinent factors that readily affect cluster formation and health. The pillars upon which the industrial cluster is generated are ideas, people, goods and natural advantages (Ellison, Glaeser, & Kerr, 2007) and these specifics may be the diverse facets of a unilateral cause: of the physical conditions that are required, or as literature suggests, the volatility of a centralization aspect that clusters need in order for these industrial entities to perform instigation (De Langen, 2002).

Every time and in every aspect regarding agglomeration, whether we call it clustering or localization, the latent construct for the analyst is not that different: we seek out patterns and study them, in order to extract the cluster's structure, linkages and components, and better

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understand if not recreate this dynamic and fascinating phenomenon. The natural attribute within human beings that is to observe patterns within raw data and assign them to natural forming clusters has been manifested as the cornerstone of novel scientific domains as well as their formal initiation; John Snow's (who is considered a father of epidemiology) work illustrating clusters of cholera cases in London (Bonita, Beaglehole, & Kjellström, 2006) is a fine example. The original map by Snow portrays the clusters of cholera in the London epidemic of 1854 (Fig. 1) and the water pump responsible for the epidemic located at the intersection of Broad Street and Cambridge Street. This groundbreaking work was utilized in order to associate a factor to an attribute, for until then, the miasmatic decree was prevalent; Snow's work on clusters was the basis for the association of the disease to the single pump responsible.

The same underlying mentality and drive is utilized to study clusters of any kind, for within them lies the mesmerizing instance of patterns that can be investigated within an empirical or theoretical basis. Clusters hold parameters that whence observed within practice, are utterly daunting. Maybe it's the fact that nature herself utilizes them as the manifestations of abundance and opulence, that human beings are so keen to explore, understand and imitate them. Whether referencing clusters of insects such as ants and bees or clusters of industries, the astonishment we may hold is identical, for we can observe a marvelous instance of systems on 'the edge of chaos' (Macintosh, Maclean, & Burns, 2007), self-sustained and always versatile, not only adapting, but always thriving within a complex, hostile and ever-changing environment. The paradigm is along the lines that within this particular edge of chaos there is order, that within a given geographic location and following the ever-dictating scarcity principle, all members of the cluster may be able not only to survive, but prosper. It is maybe because of these paradoxes that we find clusters so interesting, because they hold so many characteristics that cannot be explained with any agreeable superficial account; they require severe scrutiny, pristine analysis and recruitment of mighty mathematical instruments and even thence, they do not surrender their

mysteries completely. Clusters as it seems are a prominent part not only of strategy and business, but society, nature and life.

An inclusive and consolidated depiction of the strategic factors that are responsible for the formulation of competitiveness within maritime clusters is attempted, through the critical analysis of literature regarding industrial cluster derived competitiveness. As will hopefully become apparent, the industrial entities within the maritime sector that formulate clusters, hold much in common with generic industrial clusters, as there is no clear differentiation of cluster typology whence referencing competitiveness; rather we could state that clusters are entities with veins of shared culture and characteristics, regardless of a particular cluster's distinct form and function.

2. Industrial clusters

2.1. Proximity, centralization and agglomeration

Industrial cluster research finds a plethora of potential and exhibits herself in a wide range of applications. The three Marshallian factors can be analyzed in order to extract location strategies (Alcacer & Chung, 2010) and we are able to observe the centralization parameter being considered as a discrete analytical category, within centralized trading activities (Shi, 2002). The centralized aspect can be embedded within a localization externality, such as the skilled labor pool (Searle & De Valence, 2005), though whence investigating regional clusters by localized clustering and networking ties, centralization may prove to be a hurdle (Roolaht, 2007); Hendry, Brown, and Defillippi (2000) argue that the centralization parameter is governed by a higher education institution. A first collective deliverable from the literature is that centralization may provide a stepping stone for an industrial cluster's health. The aspect of knowledge creation is investigated thoroughly by Bathelt, Malmberg, and Maskell (2004), whereas Feldman and Audretsch (1999) present the notion that it is directly correlated with 'sticky knowledge' (Von Hippel, 1994) and with discrete

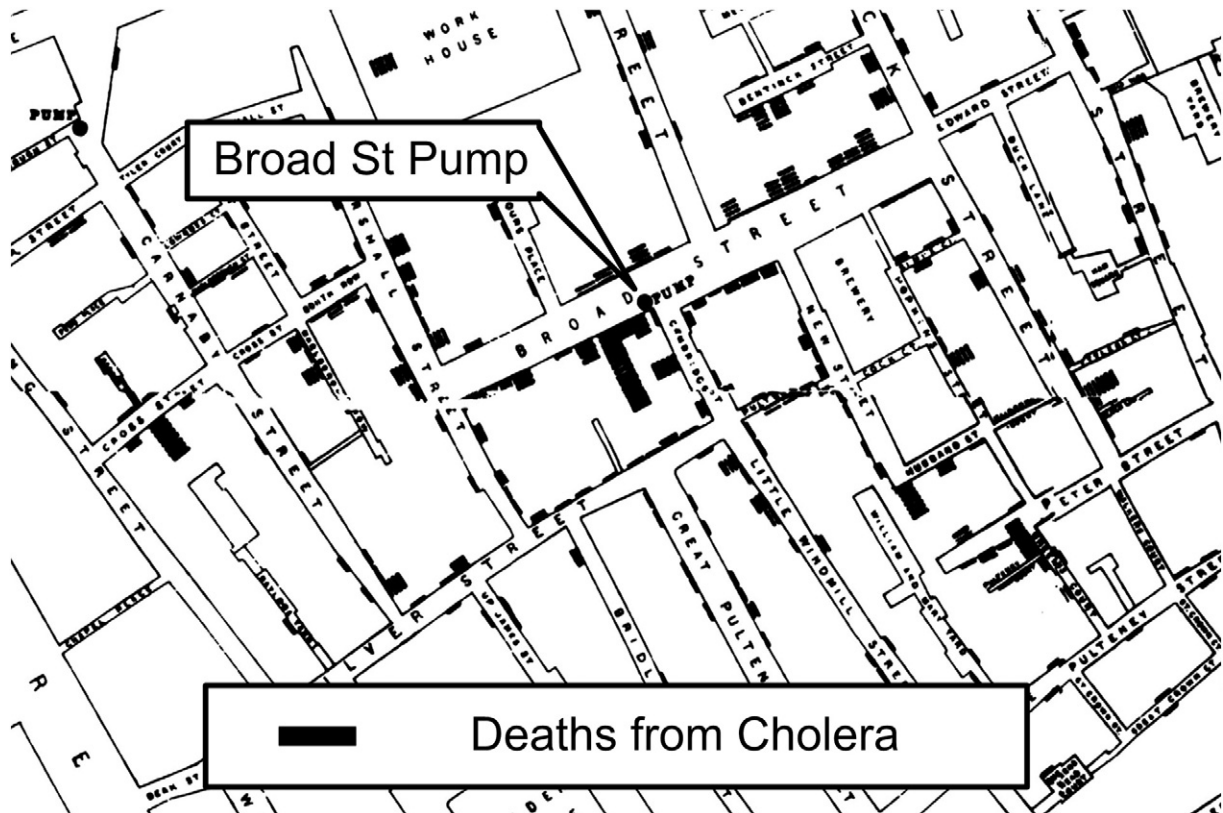


Fig. 1. John Snow's 1854 drawing of cholera clusters (the original image belongs to the public domain).

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