Chapter VI

Cluster Development: Issues, Progress and Key Success Factors

Alev M. Efendioglu, University of San Francisco, USA

Abstract

Over the years, industry clusters have been touted to have economic and strategic advantages and have been used to develop embryonic industries. The cluster development process/methodology generally has taken two distinct approaches: laissez-faire, or economic system-driven; or planned/sponsored, or driven by government policy and intent. This chapter looks at two biotech clusters that are representative of each of these methodologies—the San Francisco Bay Area (California, U.S.) cluster and the Hsinchu (Taiwan) cluster—to identify the evolution and success of these two methodologies. The chapter also identifies and discusses key success factors that impact the development and growth of business clusters.
Introduction

The idea that national economic success depends in part, at least, on the development of localized concentrations of industrial specialization can be traced back more than 100 years to Alfred Marshall (1890). He argued that Britain’s economic growth and leadership during the 19th century was founded on the development of several examples of localized industries. This concept was further developed and linked directly to the theory of the international firm by Markusen (1995), which has been shown to strongly impact the potential for business firms’ strategic advantages (Porter, 1998).

The impact and use of clusters in the development of embryonic industries are well documented. As previous research has shown, clusters of related industries have formed around promising industries, becoming a part of the overall business activity and further feeding the embryonic industry’s development and growth and contributing to its eventual success. These clusters have resulted in both internally derived and externally derived economies of scale, have reduced the transactions costs of dealing with suppliers and customers, and are evidenced by extensive knowledge spillovers, enabling a geographic region to capture additional economic benefits (Bahrami & Evans, 1995; Braunerhjelm & Johansson, 2003; Brown, 2003; Mathieu & Gibson, 1993).

Even though clustering always has involved some kind of cooperation and coordination between economic systems and governmental policies, different economic environments have utilized and depended more on one (the economic system with an organic and laissez-faire approach) or the other (governmental policies and efforts with a planned approach) supporting system. Generally, organic approaches have been the primary development methodology in economically advanced countries and around major metropolitan areas. (Orton, 2001) There are many examples, such as entertainment in and around Los Angeles, household furniture and synthetic fibers in North Carolina, insurance in Connecticu, and major manufacturing clusters in Japan around Tokyo and Osaka. In most other countries, clustering primarily has been initiated, encouraged, and partially sustained by governmental policies and support.

Interest in clusters has not been confined to academic research, and over the years, the cluster concept has found a ready audience amongst policymakers at all levels, from the World Bank to national governments, regional development bodies, and city authorities. These groups have sought new forms of industrial policy or activism in which the focus has been firmly on the promotion of successful, competitive economies. Porter’s (1998a, 1998b) work has been a major impetus in stimulating this policy interest, and his writings have suggested that governments and other policy bodies may have a role to play in facilitating and supporting the development of competitive industrial clusters. An excellent example of this is the information technology industry development in Taiwan.

Given these two primary development methodologies and support systems, the objective of this study was to determine if any time-based outcome differences can be identified to exist between an organic (via an economic system) and a planned (via governmental policies and support) cluster. In order to identify the evolutionary and outcome differences between cluster developments supported by these different systems, two representative clusters (one in the San Francisco Bay Area (SF Cluster) in California, representing the organic process; and the other Hsinchu Cluster in Taiwan, representing the planned process) were identified and
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