

Chapter 3

High Technology Cluster Growth Initiatives in Singapore

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ABSTRACT

Cluster growth initiatives, especially in high technology industries, are part of many countries' attempt at developing a competitive edge in the global market. This chapter describes and analyses how Singapore attempts to develop three specific high technology clusters – media, aerospace engineering, and alternative energy. It highlights and examines the strategies used to promote cluster growth. It also discusses the different roles of the government in promoting high technology cluster growth and some of the challenges Singapore will face in moving forward in this journey.

1. INTRODUCTION: ECONOMIC CLUSTERS

Clusters can be understood as concentrations of interconnected companies and associated institutions in a particular economic field in a country, city or region. The impetus to clustering among such companies and institutions is that a cluster increases the productivity with which companies can compete. Cluster growth initiatives may be defined as “organised efforts to increase growth and competitiveness of clusters within the re-

gion, involving cluster firms, government, and/or the research community” (Sölvell, Lindqvist and Ketels 2003, p. 15). The development and growth of clusters is now an important agenda for governments and companies. Cluster development initiatives are an important new direction in economic policy (Porter, 2000), essential to economic development in response to the increasing demands for global competitiveness in different industries. According to Brown (2000, p.3), “globalisation is shown to be consistent with the localisation of competitive advantage

in various industries and activities. Increasingly, the need to adjust to global competition, and the examples of prosperous regions whose economies are built on localised groups of firms, have caused local, regional and national governments to turn to policies based on enterprise clusters... Indeed, cluster development policies have proliferated in developed and developing economies, in central and peripheral regions, and in nations and regions with disparate philosophies on the role of government in economic development". Cluster growth initiatives facilitate enterprises to create possibilities for maximizing capital and skill through its systematic mobilization of financial and human resources within its industry (Schmitz and Nadvi, 1999).

2. CLUSTER GROWTH STRATEGY IN SINGAPORE

Singapore has a very impressive economic growth record since independence in 1965. Today, it has one of the highest per capital GDP in the world. However, because of global competition, the economy must continue to develop and replace the outdated strategies that were once successful. One of the recent economic strategies for Singapore to break through its economic development model of the 1990s is to focus on growing high technology economic clusters. Technological advancement affects many areas of modern society, including communications, education, health care, business, and even lifestyle (read, for example, Drucker, 1993, 1998; Greider, 1997; Ohmae, 1990, 1995; Poster, 1990; Postman, 1993; Webster, 1995). High technology fits into Singapore's agenda very well because Singapore does not have natural resources or adequate land. Such economic clusters are able to create value significantly based on advanced knowledge creation, utilization and dissemination. Focusing specifically on high technology growth cluster initiatives is a strategic move on the part of the government to systematically respond to

the emerging economic situations that the nation faces. Old factories are phased out. New ones based on high technology are initiated. Prime Minister Lee Hsien Loong, in his speech to the Parliament, explained,

...we have to ask ourselves how we can deploy our resources to maximum effect. Singapore is a small population, land is finite, and our resources are finite... so what can we do? We have to make judicious trade-offs - recover land from less productive and declining industries, make space for new industries which are bringing in better jobs. (Lee, 2009)

In 1994, a S\$1 billion Cluster Development Fund (CDF) [US\$1.00 approximately = S\$1.25], managed by the Economic Development Board (EDB), was launched to catalyse these high-growth clusters (Ministry of Trade and Industry, 2010). According to Lee Yock Suan, former Minister for Trade & Industry and 2nd Minister for Finance, the objectives of the CDF are (Lee, 1997):

- To co-share risks with industry, as a demonstration of the Government's long-term commitment to cluster development;
- To foster strategic alliances and secure strategic investment projects;
- To accelerate the development of promising local enterprises; and
- To extend Singapore's partnership with key MNCs into the region where these result in spin-offs for the Singapore economy.

In particular, one aim of the CDF is to identify areas of opportunity where high technology can create new value propositions and innovative services, thereby enhancing the competitiveness of key economic sectors in Singapore. These sectors include Digital Media and Entertainment, Education and Learning, Financial Services, Healthcare and Biomedical Sciences, Logistics and Hi-Tech Manufacturing.

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