**BOOK REVIEW**

# Comparing High Technology Firms in Developed and Developing Countries: Cluster Growth Initiatives

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*Comparing High Technology Firms in Developed and Developing Countries: Cluster Growth Initiatives*
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Technology is the cornerstone of national development. The presence and wide-spread use of high technology marks the distinguishing characteristics between developed and developing countries. It is, thus, important to have a comparative analysis of high technology firms in developed and developing countries. This edited book does exactly that. The editors assembled a wide array of world-renowned experts, who provided a wide coverage of various topics dealing with high technology. The 16 chapters of the book cover 286 pages. The diversity of views and techniques presented in the book contribute to the intended theme of the book. Chapter 1 presents dynamic competitive geographic clusters in the generation of innovative capabilities. The chapter reiterates the theory of the "Triple Helix" which, in terms of industrial policy, denotes the three-way relationship between government, industry and researchers. Such a tripartite alliance does drive innovation to create a comparative basis among firms. The chapter also talks about the importance of innovation for development and growth. In this respect, the chapter emphasizes the "Theory of Economic Development" as a distinguishing characteristic of regional development. Chapter 2 addresses the issue of "innovation by imitation" in the sense that benchmarking and emulation can provide the impetus for self-directed innovation in regional development competition. Citing a 1993 publication, the author's list seven contingencies through which public-policy lessons can be drawn. These include, uniqueness, resources, institutions, complexity, scale

of change, interdependency, and values. The chapter's conclusion and recommendation is that regions should not just imitate, but should, rather, engage in internal innovation. Chapter 3 is on high technology cluster growth initiatives in Singapore. Clustering of initiatives involves organized efforts to increase regional growth and competitiveness. This facilitates constructive partnering among firms, government, and the research community. The chapter summarizes the important considerations in developing high technology economic clusters. Elements covered in this respect include knowledge infrastructure, private sector organization, overarching regional strategy, regulatory framework, and government's role in initiating economic clusters. Chapter 4 presents a technology policy perspective for the case of technology parks in India. The chapter profiles successive industrial revolutions and how each phase lays the ground work to the next impetus for development. It also mentions military objectives as the main incentive for expenditures of the superpowers as well as some smaller countries. It is surprising, though, that this chapter classifies France and the United Kingdom as belong to the "smaller" economic powers compared to the superpowers. The chapter makes a good point that the growth of the world economy has positively influenced the development of new technologies. In a case example presented in the chapter, software technology parks in India have played a key role in regional development.

Chapter 5 is about the Canadian Biotechnology systems. The authors of the chapter estimate the importance of the cluster phenomenon in linking the development of biotechnological systems and external factors. The chapter quotes a 1991 definition of a technological system as "a network of agents interacting in a specific technological area under a particular institutional infrastructure or set of infrastructures and involved in the generation, diffusion, and utilization of technology. Chapter 6 focuses on creative regions in Europe and examines the existence of regional agglomerations of manufacturing, service industry, and creative enterprises. The chapter presents three conclusions based on an analysis of 250 European regions: creative industries play an important role in the wealth of the regions, creative regions are characterized by having more high-tech manufacturing industries than the rest of the region, in the richest regions, a greater share of high-tech manufacturing industries coexists with a greater share of the creative industries. Chapter 7 addresses a theoretical model of knowledge management capacity to promote learning organizations. The chapter emphasizes that intense competition in the global system has led to the emergence of organizational environments that are increasingly complex and unpredictable. Markets transform rapidly. Thus, only those organizations who commit themselves to learning from the past survive in the more competitive arena. Chapter 8 addresses radical innovation and technology diffusion in traditional clusters. The chapter is a research-based case study of a small company in Spain. The premise of the study, which is based within the Tile industry cluster, is that a global value chain exists for the Tile industry and the response of the industry to global system can instigate innovation. The chapter discusses innovation breakthrough, technology adoption, and dominant design concept. The study presented in the chapter concluded that social capital is relevant for the pursuit of innovation. Also concluded is the fact that clustering is an effective approach to achieve innovation breakthroughs.

Chapter 9 suggests a list of engaging factors for the development of a high-tech cluster, with a specific reference to the biotechnology industry. The chapter presents the case of technology-based development in a region of Mexico. In this case, regional innovation systems are fueled by the national policy dimension. The government's role in establishing and upgrading industrial clustering is acknowledged with respect to establishing the institutional setting for knowledge transfer, creation of an attractive environment for industry, and strengthening clustering plan at the national level.

Chapter 10 is about the clustering of industries in Chile. The chapter analyzes the dynamic

sectors that have contributed to the advancement of the region in terms of innovation by scientific knowledge and competencies. Communications are identified as a potential obstacle between the various players in the industrial development goal. In the conceptual framework of the chapter, knowledge is identified as a key factor in competitiveness. Chapter 11 presents an analysis of the manufacturing evolution in Mainland China. The chapter categorizes the two perspectives of studying Chinese manufacturing. One involves a discussion of the status quo of Chinese manufacturing from the perspective of industrial competitiveness. The other view directly discusses the upgrading of manufacturing within the global value chain. The summarizing view of the chapter is that economic development cannot do without systems. This essentially confirms that a systems view of the world is needed to get the mutual benefits of industrial development. In Chapter 12, international development partnerships are discussed for the case of diffusion of renewable energy powered lighting technologies in developing countries. The specific cases of exploratory studies in Costa Rica are presented. The chapter discusses innovation drivers and challenges for partnership effectiveness, dynamics, and outcomes. Chapter 13 is a chapter that centers on the importance of human capital. The chapter presents factors of success in managing the performance of highly mobile skilled individuals in hi-tech firms. High-tech industries are particularly prone to mobile professionals. Globalization creates opportunities for which skilled manpower tends to migrate toward. The multi-skilled employees normally provide higher productivity, flexibility, quality, and better morale. But, at the same time, they have marketable skills that other organizations want. Thus, managing their performance can be challenging. A case of local innovation system in Argentina is the topic of Chapter 14. In the premise of the chapter, systems innovation is seen as being highly dependent on local conditions. The tiered development path of a developing province within a developing country is analyzed in the chapter. This makes it imperative that policy makers at the provincial, regional, and national levels must communicate and cooperate. The chapter did an excellent job of summarizing the factors of development on a small scale compared to the constraints imposed by the larger regional influences. Chapter 15 covers the internationalization strategies of Chinese pharmaceutical firms. The chapter points out that the popularity of "Made in China" manufacturing does not translate to the drug-making companies. What accounts for this is the unproven pharmaceutical quality at the world stage. In Chapter 16, the contradictions of organizational innovation and personal innovativeness are discussed. This concluding chapter puts industrial competitiveness into the perspectives of the prevailing environment of the high-tech firm.

Overall, this book makes an interesting reading covering diverse industrial perspectives from around the world. The multi-themed contents of the book, while providing a global view, do create a lack of cohesiveness of the overall book. Because an overall editorial finesse is lacking in the book, it makes it difficult to appreciate the full impact and benefit of the book. Each chapter is self-sufficient and effective in addressing its focused theme, but the overall book drifts over too many divergent points and does not do justice to the expectations conveyed by the keywords contained in the title of the book.