

Preface

High technology clusters are geographic concentrations of interconnected high technology firms, specialized suppliers, service providers, and associated institutions in a particular field that are present in a nation or region. The development and upgrading of high technology clusters is an important agenda for governments, companies, and other institutions. Cluster growth initiatives are a new direction in economic policy, building on earlier efforts in macroeconomic stabilization, privatization, market opening, and reducing the costs of doing business.

Many scholars pay much attention to the theoretical studies of high technology cluster growth, and score certain achievements in terms of basic concept, function, model, operational mechanisms, and evolutive path of the clusters. Government governance and technology policies play a critical role in the growth of industrial clusters and the performance of high technology firms in the clusters. The factors that have key impacts on the growth of the clusters and the performance of high technology firms, as well as the best practices in different countries still need be further discussed correctly and comprehensively. Meanwhile, a comparative analysis of the clusters between developing countries and developed countries is theoretically and practically important, while exploring the public policy inducements and effective technology policy for both developed and developing countries.

The subject area is a combination of the clusters and the cluster-related policies, technology and natural resources, innovative regions and innovative firms, technology policy and technology management. It aims to serve as a leading information source of information for all those who are interested in the comparative analysis of the clusters between developing countries and developed countries. The book promotes scientific discussions on policies and practice of cluster growth, and covers the emerging research topics that tend to picture the future for the management of technology. Furthermore, the book demonstrates the effectiveness and efficiency of technology policy based on observations of differential growth rate of high technology firms in the clusters, and explores the factors that explain superior performance of high technology firms to contribute the improvement of technology policy in both developed and developing countries.

Comparing High Technology Firms in Developed and Developing Countries: Cluster Growth Initiatives is organized into 16 chapters, which provide insight on high technology firms and high technology clusters in developed and developing countries as a whole.

Chapter 1 (*Dynamic Competitive of Geographic Clusters (Such as Micro Regional Systems) in the Generation of Innovative Capabilities*) analyzes the geographic clusters supporting local and regional development, and assumes they generate knowledge and innovation within a (micro) regional system of innovation.

Chapter 2 (*Innovation by Imitation? Benchmarking Success Stories of Regional Innovation*) reviews insights from Schumpeterian innovation theory, economic geography, and public policy studies. On the basis of this overview, the authors conclude that especially in the field of regional innovation it is hard to reproduce the success of best practices. Thus, the guiding principle for public authorities should be: don't imitate – innovate! This indicates that with the help of high technology, improving the scenic RFID smart queuing system will be the main function of queue management module.

Chapter 3 (*High Technology Cluster Growth Initiatives in Singapore*) 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.

Chapter 4 (*Technology Policy Perspective: Critical Review of Software Technology Parks in India*) provides the reader with a suitable analysis platform for decision-making that enhances all phases of making effective technology policy so as to ensure growth and success for clusters through optimization of knowledge management process.

Chapter 5 (*Canadian Biotechnology Systems: The Stakeholders and the Institutional Infrastructure*) seeks to estimate the importance of the clustering phenomenon in link with the biotechnological system as external factors that influence the growth of SBEs (specialised biotechnology enterprises). The authors specify the number of SBEs by region, the number of researchers, and their links with industry, and claim that in terms of biotechnological systems in place, the identification of the different stakeholders will reveal strengths and weaknesses of those regions for the sustaining of innovation in Canadian SBEs.

Chapter 6 (*Creative Regions in Europe: Exploring Creative Industry Agglomeration and the Wealth of European Regions*) examines the existence of regional agglomerations of manufacturing, service, and creative industries, and the relationship between these industries and the wealth of regions. Through an analysis of 250 European regions, important conclusions can be inferred from the results obtained in this chapter. The importance of this chapter resides in the fact that up until now no analysis has demonstrated that creative industries are the most important industries in regional wealth.

Chapter 7 (*Theoretical Model of Knowledge Management Capacity to Promote Learning in Organizations*) focuses on offering a model that specifies how a series of procedure mechanisms influence and interact upon the learning ability in the organization.

Chapter 8 (*Radical Innovation and Technology Diffusion in Traditional Clusters: How High-Tech Industries Reinvented a Traditional Cluster*) analyses the determinants of radical innovation development in traditional (low and medium tech) clusters caused by high-tech located industries. It analyses the case of the development of breakthrough innovation and its diffusion in the tile ceramic Spanish cluster, and examines how market demands, customer orientation, technology diffusion from other industries and industry competitiveness, as well as cluster internal and external networking did facilitate the development of a complex technology within a common set of social capital, shared cognitive schemes, and understandings.

Chapter 9 (*Engaging Actors for the Development of a High-Tech Cluster: The Case of Biotechnology*) presents findings from an empirical investigation on the interactions between academia and industry, focusing on the university biotechnology researcher's viewpoint. The author hopes to contribute to not only to the growing body of empirical literature on how relevant actors within a regional innovation system engage in working relationships particularly with high-technology industries, but to inform policymakers for the better design of instruments aimed at strengthening university-industry interactions.

Chapter 10 (*Cluster of Berries in Chile: Perspectives and Problems*) analyzes the dynamic sectors that have largely contributed to the advancement of the region in terms of innovation by scientific knowledge and competencies, focusing on their start, current development, and future expansion, and explores the patterns that resulted in a dynamic sector.

Chapter 11 (*Research into the Path Evolution of Manufacturing in the Transitional Period in Mainland China*) discusses the status quo of Chinese manufacturing from the perspective of industrial competitiveness, and the upgrading of manufacturing from the perspective of global value chain. Based on reviewing previous literature, this chapter analyzes and discusses the path evolution of manufacturing in the transitional period in mainland China.

Chapter 12 (*International Development Partnerships and Diffusion of Renewable Energy Powered Lighting Technologies in Off-Grid Communities in Developing Countries: Exploratory Study in Talamanca, Costa Rica*) acknowledges the catalytic role of the international NGOs and emphasizes the centrality of locally embedded organizations and their capacities in successful implementation of development interventions. A set of factors was identified that contribute to the effectiveness of the development partnership in renewable energy in off-grid communities.

Chapter 13 (*Managing the Performance of Highly Mobile Skilled Individuals in Hi-Tech Firms*) highlights the studies conducted on the factors affecting the people in the workplace. This chapter also came across various aspects of migration of skilled workers studied by number of researchers. The current research provides solutions in the form of requisites to improve performance of skilled employees, which will be especially useful to multinational corporations operating in the hi-tech sector.

Chapter 14 (*Local Innovation System in Emerging Economies: Case Study of Córdoba, Argentina*) goes in the direction of gathering and interpreting data from the three mayor players of its innovation system: government, universities, and private companies, assessing the links among them and establishing conclusions about how they work as a system. Finally, it makes a proposal for the improvement of the local system of innovation to the different forces and the policymakers of the province. The study shares a common ground with similar regions around the world and its lessons are able to be applied to them.

Chapter 15 (*Internationalization Strategies of Chinese Pharmaceutical Firms*) summarizes the internationalization experience of Chinese pharmaceutical firms through an empirical research, presents the effective strategies of international market entry, and claims that pharmaceutical firms in emerging market should choose suitable entry paths and strategies according to their own advantages, learn the experience of internationalization from leading firms in emerging market, and gradually enter the standard market.

Chapter 16 (*Organizational and Personal Innovativeness*) examines the existing definitions of innovativeness, and provides a conceptual framework that considers this topic from an organizational to a personal perspective. The similarities and differences of each are reviewed and a synthesized conceptualization of innovativeness is offered. A literature review examines innovativeness taking a broad perspective of the topic in terms of research and practice as well as conceptualizing the relevant personal constructs.

Tomas Gabriel Bas
Universidad Adolfo Ibañez, Chile

Jingyuan Zhao
Harbin Institute of Technology, China

October 2011

