

BOOK REVIEW

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

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

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Cluster growth initiatives are “an important new direction in economic policy (Porter, 2000), essential to economic development in response to the increasing demands for global competitiveness” (p.26). Clusters can be understood as geographic concentrations of institutions in a particular field in a nation or region. The growth of a nation or region is directly related to the capacity of members of institutions and the development of clusters is important for institutions including governments and firms in both developed and developing countries. Articulation of cluster growth initiative reveals the problems clusters currently face for ongoing

innovation, as its analysis highlights many facets of the relationship between actors in clusters.

“Comparing High Technology Firms in Developed and Developing Countries: Cluster Growth Initiative” is a well structured and rich volume providing an analysis of clusters in varied technology fields and in several developing and developed countries both in theoretical and empirical levels.

The volume is compiled from articles that provide a critical and in-depth analysis of how clusters in high technology industries grow in a nation or region and is articulated by employing a variety of different theoretical frameworks and methodological tools.

The articles provide an industry-based analysis related to cluster growth initiative from different viewpoints, along with political perspective, which offers insightful remarks into how cluster growth is initiated and developed in different countries.

The book begins with an introductory chapter by Tomas Gabriel Bas, which sets the basic

conceptual ground of the volume. This article states the importance of Regional Innovation System (RIS) for developing countries as well as developed countries and the role of geographic clusters in it. The author stresses that the developing countries have to build an economy based more on knowledge and concludes with a description of key factors for RIS including public policies.

The second article by Gert-Jan Hospers, Erwin van Tuijl and Paul Benneworth discusses the usefulness of benchmarking success stories of regional innovation and proposes to Europe regions that they should not try to imitate success stories, but to create their own regional innovation because factors including competencies in each region differ.

Pak Tee Ng investigates cluster growth initiatives of high technology clusters in Singapore as successful cases in the third article. The author points out the role of the systematic involvement by the government in these clusters and concludes that several players or factors including the private sector rather than the government have to be involved in moving development forward.

In the fourth article Neeta Baporikar develops the concept of technology frame in Information and Communication Technology and provides a discussion to better understand the technology policy perspective in clusters using comparative analysis of software parks in India. "The effective mobilization of technology for competitive advantage depends on the orchestration, integration and application of increasingly specialized knowledge from both inside and outside the firm" (p.51).

Johanne Queenton, Yvon Dufour and Regis Milot focuses on the technological system approach and investigates the relationships between intellectual capital and the pace of growth of Canadian biotechnology firms in the fifth article. The article demonstrates the importance of the conditions for more interactions between the researchers and the firms. They note that "more components and a rich network inside a technological system will generate new initiatives for regional innovation" (p.62).

An interesting article by Blanca de-Miguel-Molina, Jose-Luis Hervas-Oliver, Rafael Boix and Maria de-Miguel-Molina, utilizing empirical analysis, studied the relationship between industrial agglomerations in European regions and the wealth of the regions (Chapter 6). The results of their analysis show that creative industries play a role in regional wealth and demonstrate the importance of high-tech manufacturing industries, which is useful for policymakers.

The seventh article by Carolina Alejandra Oliu focuses on knowledge, one of the main priorities to achieve sustainable success in any organization. The article presents a theoretical model of knowledge management that is expected to promote learning abilities within an organization. The author concludes that the main challenge is to promote the state of equilibrium between "the existence of a portfolio of stocks of knowledge and development of knowledge flows for renovation, conversion and implementation of these stocks" (p.95).

The eighth article by Jose Albers-Garrigos and Jose-Luis Hervas-Oliver discusses the determinants of radical innovation and technology diffusion in a traditional tile ceramic Spanish cluster based on a case study. The study points out how radical innovation is also possible in low or medium technology and even traditional clusters. The article shows that the presence of lead users, sharing common paradigms and understandings as well as social bonds in clusters is useful in radical innovation and the architectural knowledge is effective for the diffusion of new knowledge within the clusters.

The next two articles point out the role of the government (Chapters 9 and 10). The article by Marcia Villasana presents findings from an empirical investigation of a high-tech cluster case of biotechnology in Mexico, through discussions of the interactions between academia and industry. Although the study, including interviews, showed that academic researchers will automatically engage in working relationships with firms in a country where linkages between academia and industry are weak; there is also a need, from the policy dimension, to distin-

guish between projects with technical services or consulting and those with an exchange of science-based knowledge. The article by Tomas Bas describes the problems encountered by a berry cluster in Chile from the perspectives of actors, that is, farmers, researchers and the state. The article describes the necessity of innovation and the lack of involvement of the private sector in R&D initiatives due to the role of the state.

The article by Tao Chen, Li Kang, Zheng-feng Ma and Zhiming Zhu in Chapter 11, discusses the Global Value Chain from the point of view of governance models and matching models of management for manufacturing in the transitional period in Mainland China. The authors propose to lay a solid development platform for manufacturing upgrading and the integrated development of the regional economy. They propose to study manufacturing upgrading from the perspective of the entire national systems.

The 12th article by Inna Platonova focuses on partnerships which are part of the technology diffusion processes and identified a set of factors which contribute the effectiveness of the development partnership utilizing the innovation system framework. The analysis using the case study in Costa Rica provides a better understanding of the role of non-governmental-organization as an innovation actor.

Samarendra Kumar Mohanty and P. Arun Prasad discuss management of skilled individuals' performance in their article (Chapter 13), and, based on the literature review, present the propositions taking account the migration of workers and so on. The article provides solutions to improve performance of skilled employees which are useful for multinational firms in the high-tech sector.

The 14th article by Jorge Boiola considers strengths and weakness of the three sectors, universities, governments and firms through a case study of Argentina and proposes suggestions for the development of regional innovation. They are the actions: increment the synergy, scale up the value chain, provide information, protect and promote intellectual property, and increment the number of R&D firms, which are known to policy makers but are important and applicable around the developing world.

As to economic globalization, one of challenges to a cluster, Jingyuan Zhao discusses internationalization strategies through empirical research of Chinese pharmaceutical firms in the 15th article. The article presents the paths and strategies including acquisition and subsidiary, which have important implications for the late-comers or emerging market firms.

The last article by Kayhan Tajeddini and Keyvan Tajeddini discusses the definitions of innovativeness from the two keys, organizational level and personal construct, and shows the broadness of the subject and the considerable depth in investigation of each aspect. This is why we further study the concept of innovativeness in practice.

Overall, this volume provides analyses of cluster growth initiatives in-depth and from varied aspects in different industries or countries, focusing on clusters of high-technology firms. The quality of both the theoretical and empirical frameworks utilized in the various papers is high. This is a well-documented book which informs and illuminates an important area of research for anyone interested in cluster growth initiatives and the role of researchers, firms and government.