

and the fish distribution market could not sufficiently develop due to the lack of communication network between them. This chapter stresses the importance of people who can derive the economic benefit that use digital technology.

Concluding Remarks

This book deals with the complicated subjects of technological innovation, employment and economic development, suggesting an important insight to us. Although this book stressed the negative effect of technological innovation, it teaches us how well we can live in cooperation with them in this society where the machines and technologies lead us humans.

We can derive again some important issues from this book. As stressed in the main contents of this book, the technological innovation is not disadvantageous to all of us. People in the middle class or the unskilled workers are the most disadvantageous. Are there any alternatives for the general decrease in the number of jobs for these unskilled people in middle class? Is the great expansion of service business responsible for the lack of the number of jobs for unskilled workers caused by the technological innovation? Much of the current job training and employment policy is carried out under the premise of this problem. However, they are showing no significant effect in the creation of the jobs, employment expansion, and increase of income for that class of people. Education is helpful in the long-term perspective but the short-term solutions can include the expansion of businesses that can create many jobs even if they are simple jobs like the service business. The service industry can be considered as the only lever that can support the creation of employment. Accordingly, how we can advance this service business and what effect the service business has on the technological innovation are considered as the important subjects that we should deeply contemplate in future researches. Lastly, I think there may be the cases where we are also the digital frontiers. There is no other country that is as sensitive to technological innovation as Korea and there is also no other country where people change their mobile

phones as frequently as Koreans. I think there must be cases wherein we Koreans are digital frontrunners in as many cases as the Americans. What is important is that we should make efforts to reduce the number of neglected digital people by sharing and learning those cases. At this point in time, I think that we should seriously think about the methods and ways to prevent the jobs from being taken away by technology or to prevent income from being reduced by technology.

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Creating Silicon Valley in Europe: Public Policy Towards New Technology Industries, Steven Casper, Oxford University Press (2007), ISBN: 978-0-19-926952-5

Introduction

Steven Casper, the author of *Creating Silicon Valley in Europe: Public Policy Towards New Technology Industries* (2007), is a Henry E. Riggs Professor of Management and Associate Dean of Faculty Development of KECK Graduate Institute of Applied Life Sciences in California, USA.

During the 1999–2000 academic year, he was invited to participate in a research group at the Netherlands Institute for Advanced Studies (NIAS). At that time and place, the author studied the National Innovation System (NIS) and investigated the interplay between public policy and national institutional frameworks to try to answer whether the “Silicon Valley model” in the U.S. is feasible to the European economy.

The main motivation of the study originated from the appearance of dominating entrepreneurial technology companies in the U.S., such as Microsoft in software, Genentech in biotechnology, and Google

on the Internet. After the emergence of these companies, the U.S. technology cluster, such as Silicon Valley, has been recognized as a successful model of innovation. Many governments in developed and developing countries started to construct Silicon Valley-styled innovation clusters at their own country. Many countries, however, did not become as successful as they expected.

Based on an institutional framework, the author compared the performance of the Silicon Valley model adopted in other countries and focused on the biotechnology and software industries, which are the so-called radical innovation sectors.” He then identified the main elements that led to the successful establishment of the Silicon Valley model.

The author first introduced the “varieties of capitalism” perspective as the main theoretical framework and then, categorized the market into two different characteristics: Liberal Market Economy (LME) and Coordinated Market Economy (CME).

The Liberal Market Economy encourages the diffusion of each of the key elements associated with Silicon Valley models. It has a financial system that emphasizes the role of venture capital, high-powered incentive structures within firms, and largely deregulated flexible labor markets. The U.S. and UK are well-known major economies organized under the liberal market economy model.

The Coordinated Market Economy, on the other hand, emphasizes long-term employment and large company investments in industrial training. It has a financial system focused more on bank credits than capital market financing and on stakeholder systems than shareholder systems. An important characteristic of stakeholder capitalism is that it pursues relatively long-term or incremental innovation strategies within medium-technology industries. Typical examples are found in engineering, machine tools, automobiles, and specialty chemical industries. In general, German companies and other European economies belong to the CME model.

Employing several case studies of the biotechnology and software industry in the U.S., Germany, and UK, the author argued that the institutional differences and technological characteristics are important elements to

establish successful innovation clusters. It could be risky for each government to uptake the Silicon Valley model without the consideration of the institutional and technological features with which each country has relative advantages.

Main Contents

This book is composed of eight chapters. Chapter 1 is an introduction that provides an overall background of the study and a road map of the book. Chapter 2 introduces the varieties of capitalism perspective to develop a theoretical framework that links national institutional structures within LMEs and CMEs to the sustainability of radically innovative companies. The main idea of the analysis is to compare institutional characteristics, such as finance, corporate governance, company law, and labor market organization of the country and link the validity of each element to evaluate the sustainability of firms within CMEs and LMEs.

Chapters 3–5 contain detailed examinations of the biotechnology industry in three countries—the United States, Germany, and the United Kingdom—and a comparison of the performance of those clusters within the institutional framework. The author focuses the comparison on the therapeutics segment that is known as a radically innovative area in the biotechnology industry.

Chapter 3 introduces a successful biotechnology cluster located in San Diego, California, and examines whether biotech firms in the cluster benefit from a comparative institutional advantage of being located within a liberal market economy. The author shows that San Diego biotech firms use venture capital and IPO markets as instruments for high-risk financing, high-powered incentive structures, and flexible labor markets, and argues that the liberal market economy should provide benefits to biotech firms, those that specialize in radically innovative areas.

Chapter 4 describes the biotechnology cluster of Germany and examines why the performance of the cluster is relatively poor even though the German government provides enormous support to stimulate the biotech industry. The author argues that Germany

has a long reputation as an “organized” or “coordinated” economy and such characteristics are not suitable for the radically innovative biotechnology industry.

Chapter 5 introduces biotechnology in UK, which is heavily specialized around radically innovative therapeutic research. This country has adopted the key elements of the Silicon Valley model within the liberal market economy. In this chapter, the author evaluates that the UK biotechnology cluster is performed better compared to the German cluster, but is relatively in a poor position compared to the San Diego biotech cluster in the U.S. The author also explains the differences between the role of universities in UK and the U.S. Universities in UK do not have the resources or incentives to fully participate within the marketplace for ideas that surround commercial biotechnology, while the elements explain the different performance between the biotech industries of the U.S. and UK.

Part II of the book, which is composed of Chapters 6–7, suggests alternative pathways by which entrepreneurial technology firms located within the coordinated market economies can become sustainable.

Chapter 6 suggests that one possible strategy for new technology companies is to specialize within the subsectors of new technology industries, which will then demand the creation of company capabilities. Chapter 7 examines whether regional mechanisms could be possible alternatives in organized (or coordinated) economies to support radically innovative companies. The chapter emphasizes that the activities of very large firms, through their presence within a regional economy, could feasibly alter the “normal” patterns of economic coordination to encourage alternative patterns of industrial organization.

The concluding chapter, Chapter 8, summarizes the findings, suggestions, and implications of the research and argues that national institutional frameworks do strongly impact the emergence and sustainability of new technology companies.

Concluding Remarks

The book is motivated by the question of whether the Silicon Valley model could be established well in the European economy. The author argues that the characteristics of national institutional frameworks play an important role in explaining the success of creating the Silicon Valley model. He also suggests that the varieties of capitalism perspective could be a good starting point to predict the performance of an innovation cluster. He is, however, emphasizing that public policy and university capability can also be important complements that can help to explain country competitiveness.

Creating Silicon Valley in Europe provides deeper insight for policymakers in designing innovation clusters and adopting the Silicon Valley model in the country. Its institutional feature is the important elements that explain the success of the Silicon Valley model especially for rapidly innovative industries. The book provides very detailed experiences of each country based upon a consistent analytical framework, which may helps for policy makers to predict the success of innovation cluster. It, however, seems to provide two extreme institutional frameworks and is expected to be able to expand the scope of the analysis into many other mediocre clusters that have mixed institutional characteristics. Such an expansion may enrich the analysis of innovation clusters.

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