

# Strategies for Regional Innovation: A Branding Approach

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## Abstract

The main question of this research is how regional industries can sustain growth. In the “Creative Class” theory, it is claimed that people with high education levels tend to move their places of residence to areas blessed with a good living environment and cultural appeal (Florida, 2002). Although it is important that cultural attraction and infrastructure for a knowledge-based industry already exist in a region, it is equally effective for the region to clearly indicate its future vision. I call this concept the “branding approach” in regional strategies. The idea behind my research, in short, is to transform an ideological model of the industrial cluster theory (Porter, 1990, 1998) into a model that is concrete and easy to understand for businesspeople. This study aims to obtain concrete proposals on the roles of local industries, universities located in the rural areas, and local governments to evolve clusters of regional IT industries. In conclusion, whether to adopt a closed or open regional strategy depends on the cultural appeal and infrastructure maturity of the region’s knowledge-based industry. The ideal goal of sustainable regional development is to reach a level that adopts “Multi-layered Regional Strategies,” combining open and closed regional strategies.

*Keywords:* Indirect Targeting, 3-Layer Model, Discontinuous Innovation, Attraction Approach, Bangalore's IT Companies

## 1 Introduction

Porter's cluster theory was originally presented as a concept to explain a country's competitive advantage (Porter, 1990, 1998). Eventually, countries with a number of regions that gain industrial competitive advantage spawn numerous innovations. In such regions, start-up companies spring up one after another, attracting an inflow of human resources and investment from around the world, which, in turn, increases the potential to create further innovation. Porter showed such conditions to exist in regions with high industrial competitiveness.

Porter's Cluster Theory is summarized in a simple and clear manner in the "diamond of national advantage." He states that there are four characteristics of nations or regions that become globally successful in a particular industry. The first one is "Factor Conditions," which shows the abundance of skilled labor force and high-level and well-maintained industry infrastructure. The second one is "Demand Conditions," which shows how much a product or service produced in a region is actually desired in the region. The third one is "Related and Supporting Industries," which shows if a particular supplier or service provider with international competitive advantage exists within the region. The fourth one is "Firm Strategy, Structure, and Rivalry," which shows the competitive environment and higher number of competitors within the region with an advanced enterprise governance structure.

Since the 1990s, the cluster theory has had a significant influence on policymaking in many countries. Especially in Japan, in the 2000s, the theory

was incorporated into the national policies for science and technology as well as education.

However, the cluster theory has its limitations. Although the theory can explain how competitiveness works effectively in the regions that already possess sufficient industrial competitiveness, i.e., in regions that are sufficiently growing as clusters, it does not sufficiently explain what should be done about the regions that are on a path to gain industrial competitiveness and are about to form clusters.

This means that the cluster theory is not a dynamic model; it is rather a static model.

Many misconceptions about the cluster theory lie in thinking that cluster theory is identical to government policies. Befitting a researcher on corporate competitive strategies, what Porter demands from the government is very limited. The feature of his concept as a policy implication is that he differentiates the targeting by government under two categories.

More specifically, he criticizes the government's direct targeting policies, such as the selection of priority industries and support through subsidies, but recommends indirect targeting, such as publishing a government white paper regarding the industries that should be fostered and hosting industrial fairs related to the industries whose activities should actively be disseminated to the public.

Through my fieldwork in many regions where industrial clusters exist, I have come to believe that indirect targeting would be instrumental in developing national and regional industries. Based on these results, I have devised a new regional innovation strategy theory called the "branding approach" (Uchida, 2009).

## 2 Three Layers of Regional Innovation

To make it easier to understand the cluster theory, I have theorized a “3-Layer Model” of regional innovation. The elements of this model are presented in Figure 1.

The upstream “Supply and Services Layer” represents the actions of suppliers and enterprises in providing support services to start-up companies and small to medium enterprises in the region. Companies belonging to this layer contribute to creating innovations for the entire sector by engaging in the networked division of labor constituted by other companies. The supply of technical knowledge by research institutes, including universities, is facilitated by this layer.

The intermediate “Network Control Layer” establishes production and service linkage systems through which companies belonging to this layer combine services and supply components. Needless to say, this layer also functions to link companies with a customer base and, thereby, to establish a business. It would be appropriate to say that this is a layer whose role is to proactively create innovation for the entire network.

The “Marketing Link Layer” refers to companies with customers. It obtains opportunities to access the market and absorb market information and contributes to creating innovation for the whole sector by providing its information to companies in the network control layer. By making a connection with these companies, the final customer needs will be brought to the companies from the layers that do not otherwise have the means to connect with customers, thus enabling them to deploy a customer-oriented

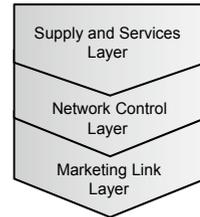


Figure 1: Concept of the “3-Layer Model”

business.

### 3 Pilot Case Studies on the 3-Layer Model

I first analyze pilot case studies for Seattle and Austin, known as cluster zones in the IT industry.

I analyze the business models of Amazon and Dell as representative companies in each district using the 3-layer model. The results are presented in Figure 2.

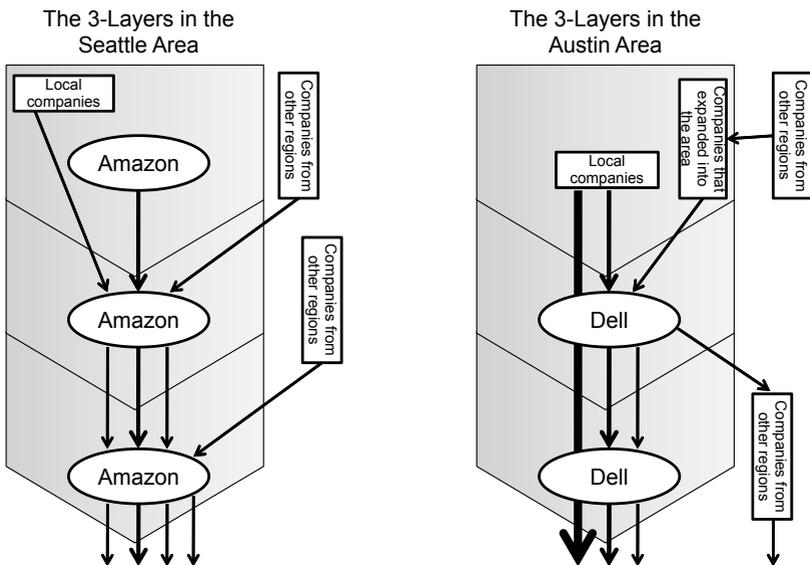


Figure 2: 3-Layer Model Analysis Fitted to Amazon and Dell

Then, the characteristic of each district is a network in which the Austin region is closed or deliberate, whereas the Seattle region is open or emergent.

In the industrial cluster zones, the predominant majority of companies, such as subcontractors and component suppliers, belongs to the supply and services layer. These companies are good at maintaining their business by supplying components and services to the network control layer rather than producing the final products on their own. In the same way, universities and research institutes normally lack the capacity to produce final products. However, universities and research institutes bear socially valuable seeds of innovation. Therefore, it is also important for the network control layer to actually turn the knowledge or concepts into a business. This function of the network control layer is also called “platform leadership” (Gawer and Cusumono, 2002).

Amazon is a representative open network-based firm and has a business model with a highly competitive advantage that is widely hailed by many Internet-based business operators. In contrast, Dell is a representative closed network-based company in the IT industry. Dell has publicly stated that the company’s business model is based on that of Just-in-time manufacturing (Toyota production system), a representative model that has adopted a closed network system in the automobile industry (Dell and Fredman, 1999). The closed network-based business can be a business model with a competitive advantage as well, just as in the case of Dell and Toyota (Liker, 2004).

However, relying on a single closed network involves the risk of delaying handling of the situation when the validity of the business collapses. It is true that participation in a closed network offers benefits to participating suppliers, such as preferential rights to obtain the customer information that they do not own and to do business with the companies in the network control layer on a priority basis. However, I argue that in the future, it will be desirable to participate in an open network system as well.

#### **4 The Creation of Discontinuous Innovation**

An industry in a given region with many companies corresponding to the marketing link layer will increase its potential to create “discontinuous innovation.” This means that several development patterns are available for the company.

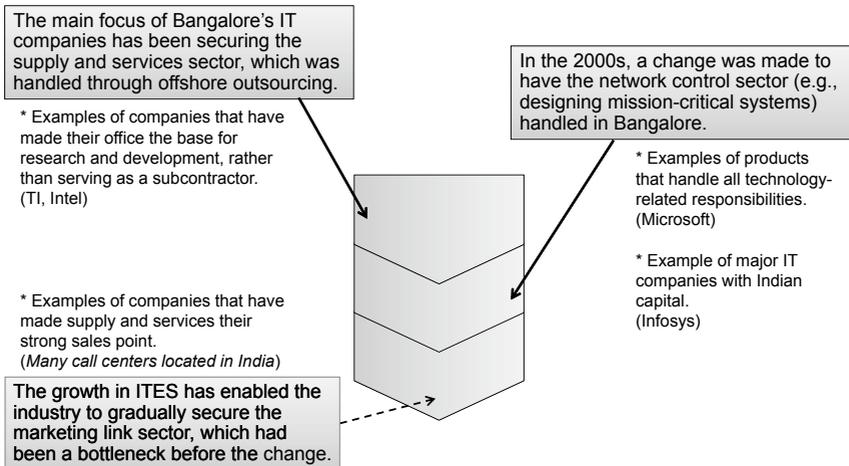
Usually, discontinuous innovation emerges at a later stage of the “S-curve” (Foster, 1986) of technological advancements. In a normal competitive environment along the technology trajectory, the existing leading companies that have invested the most in development and have the most resources tend to become winners, and the hierarchy of companies in such an environment becomes immobilized. However, occasionally, some companies with novel and different technologies may enter the market and compete with and beat the existing companies. This is the power of discontinuous innovation (Utterback, 1994; Christensen, 1997).

When discontinuous innovation emerges in a different region, the power of the region that has built a competitive advantage relatively weakens. A truly competitive region can continuously generate discontinuous innovations.

Porter’s cluster theory also included a vision on the possibilities of innovation. However, because it is a static model on the whole, it lacks a framework for capturing the development stage of industrial clustering. The 3-layer model is intended to supplement the dynamic vision not covered in the cluster theory.

#### **5 Case Study of Advancement of Bangalore’s IT Companies**

In this study, I explain the 3-layer model using cases obtained from the fieldwork data on the Indian IT industry (Figure 3).



\* Indian companies have also developed brand strength through their use of packaging.

Figure 3: Advancement of Bangalore's IT Companies

The target Indian city is the Bangalore district, which is often called the Silicon Valley of India. The development of the IT industry in India was believed to have been boosted by the offshore outsourcing businesses making use of the time difference between the U.S. and India. It is true that many companies in Bangalore in the supply and services layer deployed offshore businesses for American companies during the 1990s.

However, in the 2000s, the companies in Bangalore were transformed into major players in the network control layer, including Microsoft's Bangalore base and Infosys, a leading Indian company with Indian capital. These Bangalore-based companies were engaged in single-package software and group software module development in a responsible manner. The Indian companies were never content with subcontracted work and have also developed brand strength through their use of software packaging.

In the same way, an increasing number of companies in the supply and

services layer started to conduct research and development rather than just serving as subcontractors in the offshore outsourcing business. Even the major U.S. companies, such as Texas Instruments (TI) and Intel, have established their research and development bases in Bangalore.

Moreover, change was also made to the marketing link layer. More Indian IT companies made a foray into the ITES (IT Enabled Service) field, including call center services, and started to engage in direct transactions with their customers.

It is obvious that the IT industry in Bangalore seized an opportunity to grow by inviting American companies such as TI from the late 1980s. In a country with complex rules and regulations, the Bangalore region actively promoted deregulation and prepared special incentives, such as preferential tax treatment and exemption from custom duties, and strove to invite companies to make use of the Indian connection as Non-resident Indians (NRI). This incentive proved successful, promoting further offshore transactions between many Bangalore-based suppliers and American companies (Saxenian, 2006).

However, in the 2000s, regions in India other than Bangalore started to invite IT companies. Once this “invitation” approach started to function, the interregional competition became more intense. Bangalore, however, had already become an attractive place with enough regional appeal to attract people, investment, and companies without inviting companies. I believe that the “attraction” approach began to function for Bangalore in the 2000s.

I believe that evolution from the invitation approach to the attraction approach is indispensable for the continuous future development of the industrial cluster (Uchida, 2009).

## 6 Path to an Innovative Region

Let me classify the development forms of regional industries using the diagram in Figure 1 and the concept of discontinuous innovation (Figure 4).

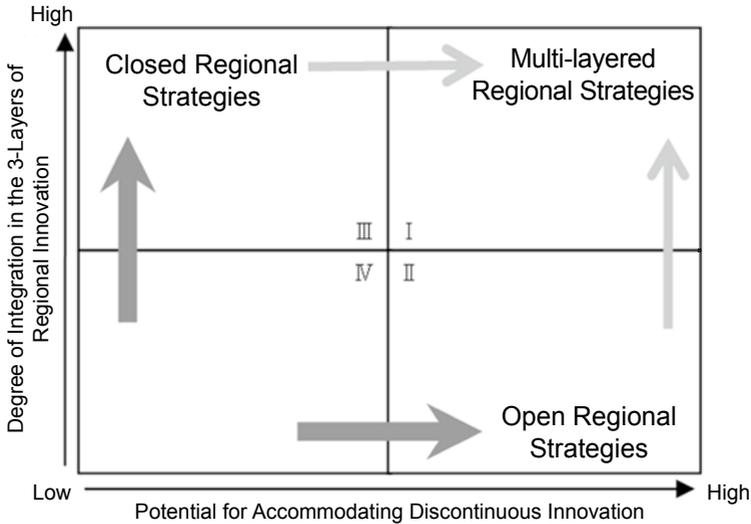


Figure 4: Path to an Innovative Region

Source: Uchida (2009)

First, I use an index called the “degree of integration in the three layers of regional innovation” for the vertical axis. This indicates a high/low degree of closed integration of key players/companies in the respective sectors as in the case of subcontractor relationships or strong collaborative relationships within a region.

If many associated companies that make up a company town establish business facilities within a region, like in the case of Dell and Toyota, then the degree of integration is high. On the contrary, if there is little need for

business collaboration within a region, like in the case of Amazon, then the degree of integration is low.

Next, I use an index called the “potential for accommodating discontinuous innovation” for the horizontal axis. This indicates the extent to which discontinuous elements are included in the innovation that occurs within a region.

In addition, the possibility of creating innovation is significantly influenced by the domain selected by a region. If a local government selects a limited regional domain, then it is the same as direct targeting by the local government. The region ends up losing its diversity, and the potential for accommodating discontinuous innovation becomes low. Conversely, if the region avoids direct targeting as much as possible, then there will be room for inviting the regional entrepreneurs and human resources with the possibility of discontinuous innovation. However, in this case, unless the region has a considerable appeal, the region will find it difficult to attract entrepreneurs and excellent human resources in the first place.

Seattle was culturally attractive from the beginning and, naturally, there was an effort to induce inflow of entrepreneurs and human resources into the region (Cell II in Figure 4). In contrast, Austin seized the opportunity for successful regional development by politically inviting semiconductor-related research institutes (Cell III in Figure 4).

As stated above, there are two kinds of development paths in regional development and the final goal of these paths is the Silicon Valley model, with advantages of both closed and open networks (Cell IV in Figure 4).

In the case of Bangalore, the district started to grow with the strategy of Cell III, but around the time when other regions in India began to enter Cell II, Bangalore had already converted to the Cell II strategy. As a result, the current Bangalore strategy is that of Cell IV.

## 7 Conclusion

In Florida's Creative Class theory, it is claimed that people with high education levels tend to move their places of residence to areas blessed with a good living environment and cultural appeal. Although it is important that the cultural attraction and infrastructure for a knowledge-based industry already exist in the region, it is equally effective for the region to clearly indicate its future vision. This vision should recognize that diversity will lead to discontinuous innovation and, thereby, shift the strategy away from simple field selection within a narrow range like in direct targeting. Moreover, it is necessary to deliver this vision to the public through regional public relations efforts and, in the process, it is also necessary to make efforts to attract human resources and investment. The contents of regional public relations vary according to whether respective regions currently adopt closed-type or open-type strategies.

In conclusion, whether to adopt a closed or open regional strategy depends on the cultural appeal and maturity of the infrastructure of the region's knowledge-based industries. The ideal goal of sustainable regional development is that while regions proactively engage in developing regional industries in stages, they eventually adopt multi-layered regional strategies that combine open and closed regional strategies.

## Notes

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