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How Latin American Firms Reconcile Corporate Strategy with Government's Regional Innovation Strategy

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Introduction

This article analyzes how a Latin American business manages its own business strategy with government's cluster strategy. This article also takes a look at what kind of incentives governments are using to increase collaboration in clusters. Why should a company respond to goals from a regional government to promote science and technology? Is participating in clusters worth it for the business? How effective is the regional innovation cluster strategy anyway? This innovation strategy comes with a variety of challenges. Indeed, on the micro level, it is difficult to get companies to work with government and coordinate strategies. On the macro level, government has trouble determining which clusters will be sound investments for the country's future. The crux of this overall analysis is at what point do these two strategies intersect and work for both business and government. In particular, this paper will look at firms in Costa Rica and Argentina and how they operate within their clusters and work with governments' goals.

Regional Innovation Clusters (RIC) Strategy

What is a Cluster?

Before applying the cluster concept to business and government relations in Latin America, it would be helpful to have some background on what a cluster actually is and the increasing role it is playing in countries all around the world. According to Michael Porter, professor at Harvard University, a cluster is a "geographic concentration of competing and cooperating companies, suppliers, service providers and associated_institutions" (Porter). The goal for policy makers is to encourage the collaboration and circulation_between these masses of people that innovate, implement and financially support creative ideas (Florida). Economist Charles W. L Hill states that RIC strategy is the first theory that develops a strong connection between the cluster actors on multiple dimensions (Smith). This strategy stems from Porter's diamond. Porter devised this hypothesis to apply to firms at first. Today, this concept explains the forces that shape an industry and determine a region's productivity. The four major conditions Porter outlines in his construct are demand conditions; firm strategy and competition; suppliers; and factor conditions (such as financial resources, human resources, natural resources and information technology) (Porter). Moreover, Porter's Diamond model describes the role of federal government as a_"catalyst and challenger; it is to encourage- or even push- companies to raise their aspirations and move to higher levels of competitive performance" (Diamond model).

Why do Clusters Matter?

Economist Richard Florida states that the world is becoming "more spiky." This means that cities are the level of analysis and that fewer regions matter. Furthermore, this global change demonstrates that the meaning of space is crucial. Florida believes that these regions first need to attract talent. From there, the lifestyle incentives that emerge cause agglomeration which then leads to knowledge spillovers. The innovation that results from this snowball effect precipitates a robust regional economy (Florida). On a national scale, economists attribute 50 percent of US annual GDP growth to the overall development of innovation (measuring regional innovation) (Council). Of course, policy makers need to focus on existing clusters in order to bring about Florida's vision (Cluster Observatory). The way to accomplish this is by tailoring public policy to specific regions; directing attention to their special strengths and assets (Porter).

People agglomerate at clusters because of economies of scale, knowledge spillovers and productivity advantages (Florida). In particular, traded clusters that attract talent with higher wages lift up satellite regions as well (Porter). Surely, driving up average wages in traded industries can bring about prosperity. Most people perceive these kind of industries as "high-tech" and knowledge-intensive, such as business and distribution services along with education.

The Face of Innovation

Many economists preach the need for innovation, but what does it actually look like? According to the National Innovation Initiative (NII), innovation means efficiency, multiple disciplines, collaboration and democratization. First, in the context of clusters, efficiency refers to the speed at which technology advances and commercializes. Second, innovation is multidisciplinary as many creative ideas can arise from the industries and fields that combine. Third, innovation involves collaboration and circulation of ideas between multiple groups. Lastly, innovation is not exclusive, but rather democratized where transportation and telecommunication can make creativity come from anywhere. Innovation also has three inputs: assets, networks and culture. Assets refer to the particular strengths and weaknesses of a region along with its infrastructure, R & D, human capital, legal environment and quality of life. Networks imply the partnerships between businesses, government and other entities. In particular, angel capitol networks have a tremendous impact on a region's innovation. Culture is the last input that describes the attitude of the ecosystem that relates to risk-taking, openness and racial diversity (Michael).

Once government decides to build up a regional cluster, it also needs to measure innovation output. Innovation is manifest in the unemployment rate, employment growth rate, wages, cost of living index, number of initial public offerings (IPO's), number of patents, value of venture capital and other metrics (Michael).

The Importance of Collaboration

Collaboration is the next step in sparking this chain reaction of innovation. Financiers, government agencies, universities, media and non-profit organizations all need to work together in order to generate creative solutions to complex problems. For instance, some cities and regions may house numerous researchers in the areas of science and technology (Council). Economists, however, find that these very regions may see slow commercial adaptation because of a lack of collaboration (Florida). R&D investment and research centers without communication between the regional actors will not guarantee innovation output. Staffan Bjurfulf, a regional advisor in Sweden, emphasizes that collaboration is a necessary social process. The ultimate objective is to build the essential trust between businesses and other entities. The success of a cluster depends on the synergy between all of these actors. A way for governments to build trust is by incentivizing local firm interaction (Michael). One program that already exists is Partnerships for Innovation through the National Science Foundation that supports inter-cluster effort (Feldman).

Why Clusters Fail Globally

Clusters fail globally for a variety of different regions. Three ways a cluster can go under is through the lack of collaboration between the cluster actors, decreasing demand in the cluster products, competition from other clusters or from or the ineffectiveness of the organizational structure. In general, there are two ways that a government can prevent these situations from happening. The first is called catalytic strategy, where governments will initiate the cluster development but leave the rest to individual cluster actors. However, government will follow up by encouraging efforts from the private sector. The second is called supportive strategy, where government supplements catalytic policies with investments geared towards training, education, promotional support and infrastructure (Brocker).

Criticism of RIC Strategy

On a theoretical level, RIC strategy has received a lot of criticism. Some opponents claim that globalization renders this strategy uncertain. They say that because trade is more open and transportation more efficient, clusters cannot defend a country's economy (Italian Industry). The belief is that the world is becoming flatter and that talent no longer needs to migrate to clusters. Friedman, a proponent of this idea, asserts that the world is more flat because of advances in technology. He claims the "global playing field has been leveled. You do not have to emigrate to innovate" (Feldman). Richard Florida, on the other hand, argues that the world only appears flat because "economic and social distances between peaks worldwide have gotten smaller." This is because of the increased mobility of the "creative class," which accounts for about 150 million people world-wide.4 Economist John Gray likens Friedman's philosophy to Karl Marx, stating that "two different notions are commonly conflated: the belief that we are living in a period of rapid and continuous technological innovation (…) and the belief that this process is leading to a single worldwide economic system. The first is an empirical proposition and plainly true, the second a groundless ideological assertion. Like Marx, Friedman elides the two." Gray emphasizes that globalization in reality does two things: it makes the world smaller and sections of it richer. It does not, however, make the world flat (Gray).

Another critic, Vivek Wadhwa, argues that Porter's model is outdated. He claims that Porter's diamond does not create real innovation and that "people" are what is missing from recipe. In fact, he cites a study of 1604 companies in Norway's urban regions and states that creative and open-minded people are what make the cluster. Of course, Porter's model does not explain everything; he devised this idea back in the 1990's so it naturally would not address all modern-day forces. Regardless, it still serves as a solid foundation for cluster policy. Furthermore, Wadhwa is correct when he says a knowledge-based regional economy needs creative people. By building up clusters from the bottom up, however, wages and standards of living begin to increase which are what attract the creative people that clusters need in the first place (Wadhwa).

Latin American Economic Development

Countries in Latin America are beginning to recognize that in order to stay competitive, they must focus on cluster development and channel their efforts toward constant learning and innovation. Typically, governments in Latin America play a role as a catalyst with clusters along with exerting a great deal of influence in providing training and education. Technology clusters are becoming increasingly important in Latin American economies due to its potential to propel innovation (Feser).

Cluster development in Latin American economies certainly has its challenges. Many countries struggle with the lack of investment capital, collaboration between firms, services related to business development. These three challenges make implementation of such a strategy very difficult for Latin American governments and prevent further development. This means that more than ever, governments are doing whatever it takes to incentivize "inter-institutional networking" between the individual cluster actors (Felzensztein).

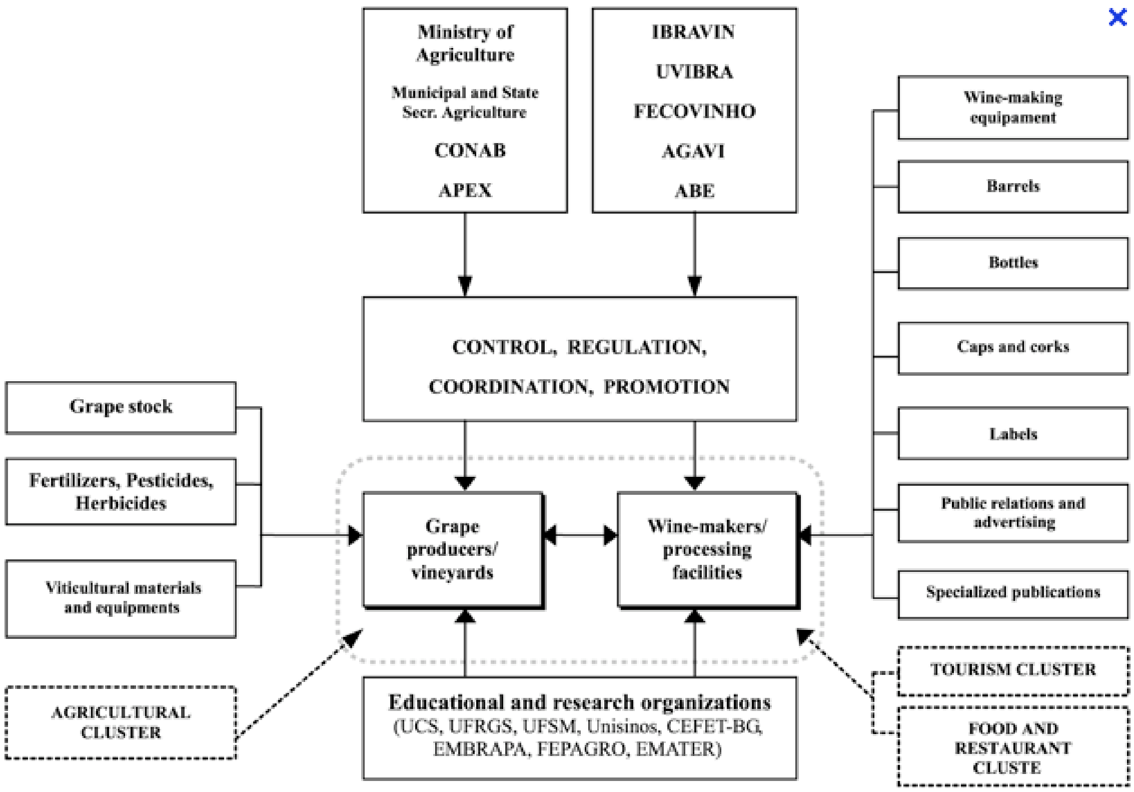
Latin American governments have intervened a great deal in cluster development. For example, they have been working relentlessly to provide export assistance, training, marketing development, networking and infrastructure support. These governments' three main targets for bolstering cluster development are promotion of exports, attracting "inward investment" and integration of companies' value chains. Of course, the greatest challenge on a larger scale is how active or passive government should be about this kind of policy in general. Some governments strive for a "free market structural policy," while others prefer a more activist approach. It is clear that these frameworks are helping governments employ useful strategies in combating their economic weaknesses and enhancing the individual competitiveness of their sectors (Felzensztein).

Argentinian Cluster Policy

Argentina is the fifth largest wine producer in the world with a domestic market concentration of 79% (Felzensztein). Government plays a proactive role in cluster development for wine as its Ministry of Agriculture aims to control, regulate, coordinate the cluster, along with providing promotion services as well. Figure 1 below shows how this policy benefits both suppliers and retailers. Government also wants to encourage education and research organizations to participate in this framework so they can guide the innovation as well (Emeraldinsight.com). While the government works on this endeavor, what benefits and externalities do businesses see in this cluster?

In the Argentinian wine cluster, there are multiple reasons for collaboration. The basic advantages are attracting new customers and increasing sales in the long-term; there is also significant opportunity to enter international markets as well. What else is there to consider? First, a business must take location into consideration. If we examine how useful it is to be located in a particular region of a country, benefits to think about are: enhanced reputation, skilled labor, specialized services, innovation, inter-cluster referrals, local market demand, customers for your company, international marketing demand, marketing knowledge.

Figure 1: Argentinian Wine Cluster



Source: Adapted from Porter (1998) and Fensterseifer *et al*. (2002)

According to a study conducted by La Universidad Adolfo Ibáñez, a business has the most to benefit from an enhanced reputation, innovation and inter- cluster referrals compared to the other externalities. Interestingly enough, this is not the case for wine clusters in Chile where the more important benefit is international market demand. Furthermore, the study concluded that when it comes to marketing, firms in an Argentinian wine cluster benefit the most from joint distribution services. On the other hand, joint promotion is a more significant benefit for a wine cluster in Chile. Figure 2 below demonstrates the indices used to quantify the marketing externalities for this cluster (Emeraldinsight.com). When we look at both Argentina and Chile in comparison to a wine cluster in a country such as New Zealand, we see that with its high number of 4.24 that firms in that country see the greatest advantages to join promotion strategy.

This chart goes to show that Argentina needs to enhance its inter-firm collaboration in order to compete with clusters in other countries. This is where government can step in to bridge this gap by helping businesses realize the strategic advantages to cluster participation and engender trust (Emeraldinsight.com).

Figure 2: Marketing Externalities for the Argentinian Wine Cluster

		Personal relationships with customers	Joint distribution activities	Joint promotion strategy	Joint database and internet communication	Developing network relationships
Argentina	Mean	2.07	2.50	2.29	2.07	2.50
Australia	Mean	3.58	3.17	4.11	3.39	3.88
Chile	Mean	3.25	3.18	3.82	3.44	3.11
NZ	Mean	3.71	3.35	4.24	3.06	4.00
Emerging	Mean	2.86	2.95	3.31	2.98	2.90
Developed	Mean	3.64	3.26	4.17	3.23	3.94

Costa Rican Cluster Policy

Costa Rica's government also plays a proactive role in catalyzing its information technology cluster. The Costa Rican government generally focuses on export and investments promotion in order to bolster innovation. Below in figure 3, we see that the government not only wants to increase local competition by opening trade and FDI policies, but also works to improve every part of the industry cluster (Porter, Michael).

Overall, Costa Rica's cluster demonstrates the government's long-term vision for the industry and how it wants to "move the economy into a new level of partnership with private firms," according to a study conducted by the University of Toronto. We see that a result of these efforts is exports of 44 Million US Dollars in medical equipment, 36 million US Dollars in communication equipment and 45 Million US Dollars in hair dryers (Singh). Of course, from this involved approach on cluster development, businesses can see the benefits from participating in this framework.

Overall Cluster Externalities for Businesses

After looking at cluster development in both Argentina and Costa Rica, what else should businesses think about when participating in a cluster? One benefit of a cluster is that businesses can increase market share by acquiring customers from a particular competitor and "locating beside that competitor" in the cluster. The premise is that "because consumers shop at the nearest center that carries the desired good, it is essential that retailers locate next to their competition so that they can be the first door consumers approach." This may only benefit a company in the short-term, however, as other companies may move into this cluster for the same reason (Brown). Figure 4 below is an example of a SWOT analysis with other sample considerations and questions for a business operating in a cluster in Latin America.16

A SWOT analysis like this can also help a cluster establish a viable strategy for innovation and job growth; at the same time, it can also be too broad. Other tools that should be considered are product and market segmentation, GAP analysis, value chain analysis, market trends analysis and competitive positioning analysis (The World Bank International Trade Department).

After thinking about the regional innovation cluster strategy for many companies and how this applies to Argentina and Costa Rica, we see the benefits that come from active participation and collaboration from businesses. Some businesses may be hesitant to engage in this kind of activity because they may not trust how the external economies of scale works with their business strategy. Government should play an even more proactive role in showing what marketing externalities arise from regional innovation strategy while also fostering a sense of trust between each of the cluster components.

Figure 3: Costa Rican Information Technology Cluster

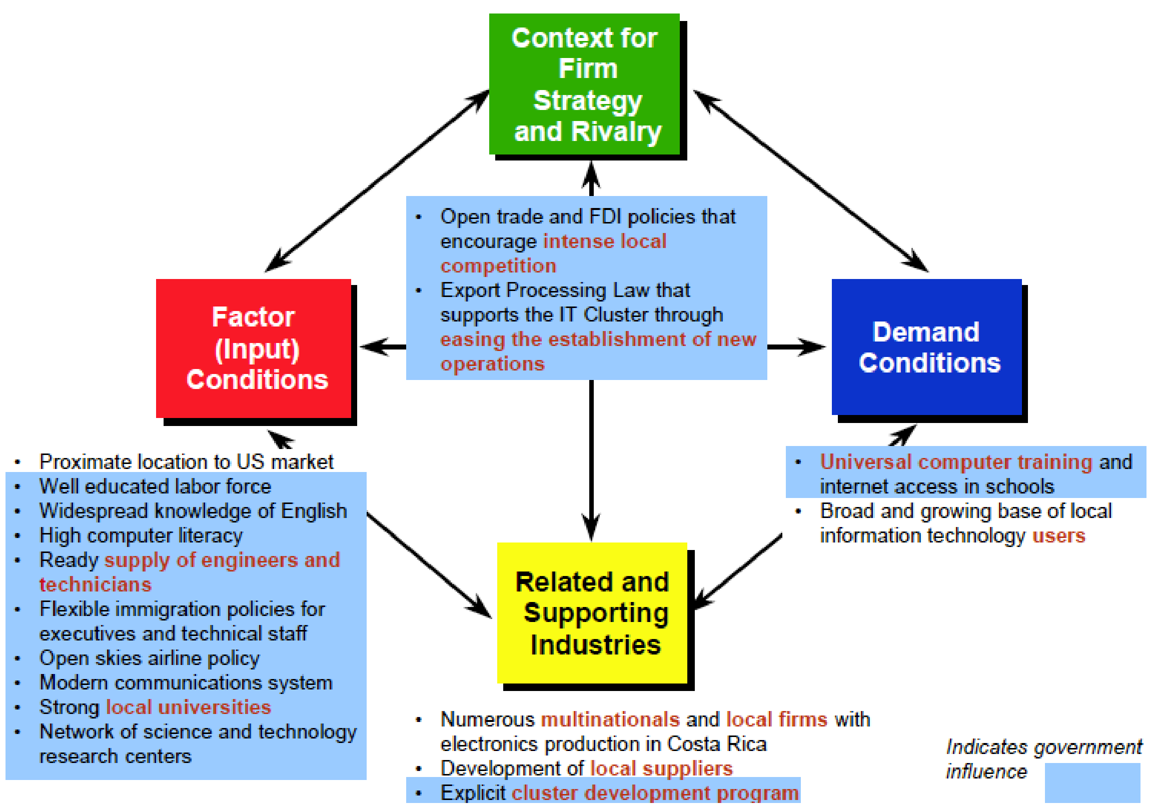


Figure 4: SWOT Template for businesses considering cluster participation

Internal	Strengths	Weaknesses
	• What are our raw material strength? • What are our human resource strengths? • What are locational advantages? • What are climatic advantages? • What are our cost advantages	• What are our distribution weaknesses? • Do we have adequate financing and is this critical? • How capable is the industry of working together? • How effective are the public institution supporting or regulating the industry?
External	Opportunities	Threats
	• What are the growth aspects for the industry? • What communication mediums can be tapped for more info-internet portals and newsletters? • What key trends (market, trade, and industrial policies) are building new opportunities? • Where are the product/industry segments that we directly compete with? What are they doing?	• What is the competition doing? • What are the major domestic trends today? • What are the major global trends today? • Do we know how international markets view us? • Are we meeting international labor standards? • Are we meeting international quality and consumer safety standards?

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