Globalisation and Cluster-Based Economic Strategy

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INTRODUCTION

The nature of global competition is changing and becoming increasingly complex in the current stage of globalization. The business environment for multinational corporations at home and abroad is also changing. When the multinational corporations are more integrated into a multinational environment, the local business environment in which they operate becomes a key element of the strategy of multinational corporations. This suggests that the new way to compete is fundamentally based on *location* – it relates to how the multinational corporations locate themselves in the best business environment throughout the world, and how the locations throughout the world compete to host the activities of the best multinational corporations.

The current context impacts the ability of multinational corporations to generate employment and transfer technology and knowledge to host countries, and their capacity to change employment patterns in the home countries. The competitiveness challenge for these corporations propels them toward innovation and adaptation to markets in which the local needs of the host countries expand beyond traditional economic development programs and become integrated in global competition to attract foreign capital and provide a "permanent" location for multinational corporations as a way to stimulate economic development. In this new context, the nature of competition for multinational corporations and for locations around the world pertains to issues related to the relationship between business and government, human rights, the environment, labor practices, among others, which impact the business environment in a particular location.

Business and Government

Traditionally multinational corporations and governments have shared a collaborative relationship in the home countries. For example, in the United States the relationship between business and government moved between early collaboration with the railroad industry and agriculture to government support for such industries as military and aerospace. Even though formal mechanisms for cooperation within the U.S. business-government relationship such as those that exist in Germany and Japan do not exist, the relationship can be characterized by the free play of the interest groups in the congress and the executive office. The government exercises its capacity reflecting the interests of its constituencies, of which multinational corporations constitute only one player. However, the multinational corporations devote time, effort, and money to influence the government using various means of persuasion. This explains the existence of thousands of lobbyists and lawyers in Washington, D.C., corporations and trade associations with headquarters in Washington, and the increasingly substantial amounts of money interest groups allocate for political campaigns.

In this context, the U.S. political system constitutes an arena in which the interests of U.S.-based multinational corporations, labor unions, small businesses, and other organizations interact. These interactions, which entail the representation of different interests, have at times turned into conflict. This was the case with the North American Free Trade Agreement (NAFTA) negotiations, in which multinational corporations supported the agreement under the consideration that it would benefit the expansion of their operations. However, other actors, such as labor unions and political leaders, opposed not only the passage of the agreement but the U.S. multinational corporations' influence on foreign policy. In the recent context, the case of UNOCAL – in which both a Chinese company

(CNOOC) and a U.S. company (Chevron) were vying to acquire or merge with another U.S. company, UNOCAL – illustrates a situation in which the interests of MNCs conflict with the U.S. government's political interests. This was evident through the special hearings that were held on the subject (Sloan, 2005).

Another example is the case of the European Union, whose governments have traditionally protected their multinational corporations as their "national entities." However, with the evolution of the European Union, it is likely that this close relationship between Europe-based multinational corporations and their home-country governments will give way to multinational corporations that are transnational in identity, rather than identifying with their own home country. This situation provokes tension between what the governments' want, which is to pursue policies consistent with a social market economy, and what the multinational corporations in an increasingly competitive international context want, which is constrained by the heavy taxation and labor-oriented policies previously pursued. These conflicting goals have led to tensions in the relationship between European governments and the multinational corporations based in their countries. For example, in 1997 the Sweden-based multinational corporations Volvo and Ericcson threatened to move their companies out of Sweden in retaliation for the government's increases in public spending. A similar situation occurred in Germany, where the Federation of German Industries suffered a strike of the largest labor union in the country due to a proposal to cut sick pay, going against the previous corporatist practices exercised in the country (Vernon, 1997).

Human Rights

Human rights activists among the home countries of the multinational corporations have become more organized and have more access to political decision makers than they had in the past. They confront the interests of multinationals in the decisions of the government and in the configuration of foreign policy. This situation is clear in the case of China, which is accused by advocacy groups such as Amnesty International of systematically violating human rights. Despite advocacy-group opposition, multinational corporations have strong economic reasons to want to see Washington "delink" trade with China from all political issues. For example, last year U.S. consumers bought nearly $200 billion worth of goods made in China (Elliott, 2005). Despite this, major multinational corporations, such as General Motors, Motorola, General Electric, Exxon-Mobil, Coca Cola, have operations there.

The human rights issue is one force in the global economy that can weaken the influence that multinational corporations have on home-country governments and even on their own internal operational policies. For example, in Burma (Myanmar) companies such as Texaco, Arco, Unocal, and Pepsi have been forced to change their strategies for operating in the country. Several municipal governments in the U.S have enacted "selective-purchasing measures" against products from companies doing business in Burma. In the United States, the Free Burma Coalition was created. This group is comprised of high school, university, environmental, human rights, religious, and labor organizations. The Coalition organizes peaceful protests, publicizes consumer boycotts, and lobbies for federal sanctions as well as state and local selective purchasing laws in order to cut the flow of foreign currency to Burma provided by multinational corporations and to help the position of democratic forces that fight against dictatorship in the country. The position of these organizations hurts the interests of U.S.-based multinational corporations, which have economic interests in exploiting the natural gas resources of these countries and the strategic position of companies in the East Asian region (La Mure, 1998). In July 2005, the U.S. government renewed sanctions on Burma.

The Environment

Environmental organizations such as Greenpeace and political parties like the Green Party in the home countries of multinational corporations try to persuade national governments and the international community against the practices of multinational corporations that are not concerned with the environment. Most of the environmental legislation that has been approved in the home countries has been passed reflecting the principles that these organizations pursue. Currently home-country governments are requesting that the multinational corporations meet environmental standards in their operations around the world. Some multinational corporations assume these environmental standards as part of their social responsibility. However, such policies signify additional costs that the companies need to confront to adopt technologies to protect the environment. In order to meet rising global environmental standards, multinational companies, are undertaking expensive investments in new technologies in order to be able to compete in an environmentally-friendly way. For example, spurred by regulation in Europe and the prospect of sales to China, General Electric is investing $1.5 billion over the next five years in research into energy-efficient and environmentally-friendly products like wind turbines, clean coal technology, and appliances that save water or electricity (Gunther, 2005). Similarly, Intel, Xerox, Motorola, and Dell are undertaking modifications to their supply chains in order to remove lead from microprocessors, copiers, cell phones, and computers (Gunther, 2005). However, there is not the same progress in companies that operate in their own countries, such as those that use polluting technologies, like in India or those that provoke deforestation in Latin America.

Labor Practices

Another source of tension in the home countries of the multinational corporations is the assertions of the labor unions and consumer advocacy groups regarding the unfair practices of the multinational corporations with respect to the use of sweatshops and child labor. An example of this is the low wage and poor working conditions in areas of free trade zones and *maquiladora* operations in Central America and Mexico. This situation brings these organizations to lobby the governments to pass legislation against unacceptable labor practices. They threaten consumer boycotts of the products of the multinational corporations in the home countries. Examples are such cases as Guess and Nike, which had been accused of employing child labor abroad with low wages in order to maintain their profitability and competitiveness. Currently, Nike and the Gap dispatch inspectors who monitor hundreds of their suppliers in the developing world, at considerable expense (Gunther, 2005).

THE CLUSTER-BASED ECONOMY – A NEW WAY TO COMPETE

In order to attract multinational corporations, countries are developing a friendly business environment at the macroeconomic level, providing stable macroeconomic policies and an accompanying set of actions to provide a stable political, legal, and societal environment. These are important elements for attracting multinationals and are elements that multinationals seek in every location. However, these conditions, even though they are necessary, are not sufficient to be successful in attracting foreign direct investment in the new competitive global marketplace.

The elements that complement the positive macroeconomic environment of a given location are the microeconomic fundamentals of such location. These fundamentals are related to the way in which the companies interact at the local level with other companies and with the government, educational and research institutions, and other institutions of civil society. In this scenario, in which companies compete, multinationals also deal with tensions related to business and government relations, human rights, environmental issues, and labor practices discussed above. This microeconomic environment, in which companies compete and at the same time provide economic development, is found in locations in which there are developed clusters (Porter, 2000).

The traditional approach followed in developing countries to attract foreign direct investment, foster competitiveness, and promote economic development, has not been successful. Policies such as those that focus on the attraction of foreign direct investment for which the countries offer multinational corporations a series of tax and regulatory advantages, low labor costs, and weak environmental and regulatory standards have not proven to be successful neither for increasing competitiveness or promoting economic development. On the contrary, they create a series of distortions in the economy, that result in “dualism” or “enclaves” such as those articulated by such authors as H. W. Singer and Raúl Prebisch in the 1950s and 1960s. These authors wrote about the “dualism” of Latin America manifested in the coexistence of a highly productive export-oriented sector and a domestically-oriented sector characterized by low productivity.

Similarly, policies oriented toward export promotion in developing countries that employ a set of tools like fiscal relief, special credit lines, and monetary devaluation have also not proven to be successful. For example, policies that use devaluation to foster the competitiveness of the country, on the contrary, hurt the domestic consumer, lower his real income, and weaken the competitiveness capacity of the country. Other examples are related to the existence of free zones that process inputs and export to the international markets and do not have major impact on the domestic economies due to the lack of linkage with the domestic productive sector.

A similar situation happened with the “branch plant syndrome,” discussed in the 1970s, which was characterized by a region in which externally-controlled “truncated” or “hollowed out” branch plants concentrated on production activities while functions such as R&D and development activities were conducted somewhere else within the parent company. The result was economies that were technologically dependent and lacked innovative and entrepreneurial activity. Furthermore, “branch plant economies” lacked linkages with local companies (Watts, 1981).

Given these experiences over the past few decades, there have emerged several experiences around the world that suggest the existence of a new approach to attract multinational companies, foster competitiveness, and promote economic development. This new approach implies a shift in the paradigm giving a more comprehensive view about the nature of competition in today’s global economy, in which every metropolitan region and community in each country must compete with the neighboring regions as well as internationally in order to achieve economic development. This new approach suggests a focus on locations through cluster development as a base for economic strategy for development. Examples include successful experiences in the United States, Costa Rica, Finland, Norway, Singapore, and the United Kingdom.

THE CLUSTER-BASED ECONOMY AT WORK

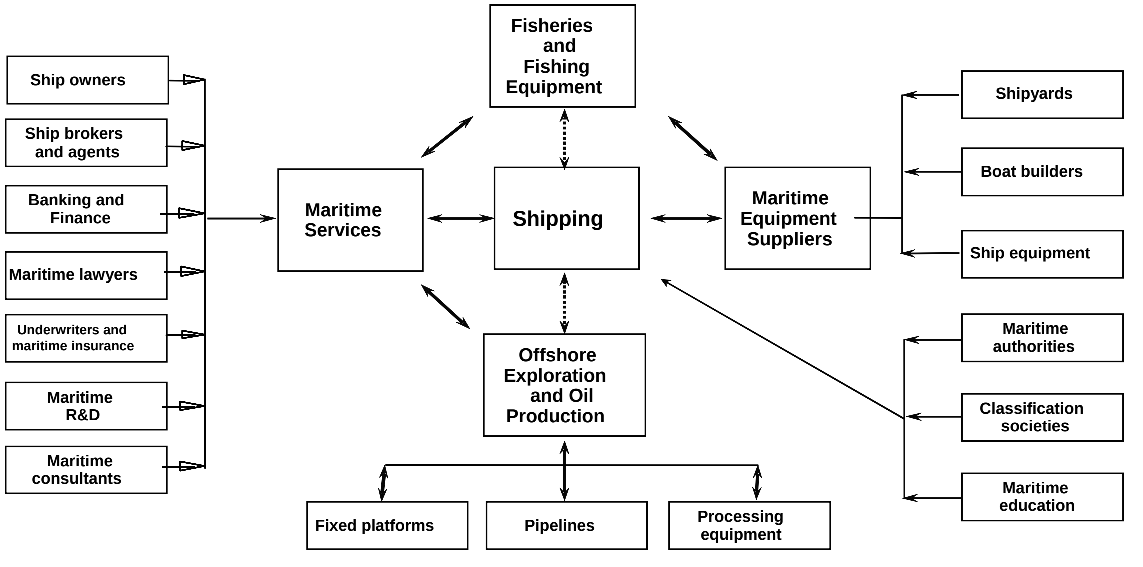
The cluster-based economy is based on the principle that by improving the competitive position of similar or related companies within a particular location, an effective business environment is created that will naturally attract other companies. The rationale is to move the country or region from a productive structure and economic vision that are disjointed, to a productive structure based on clusters, which is defined as a geographic concentration of interconnected companies and institutions working in a common industry (Porter, 2000).

These clusters can be local, including industries that provide goods and services primarily to the local market, or the region in which the employment is located. In these clusters, the industries compete in a limited way with other regions. Examples of such clusters are local health services, retailing, and construction. Other clusters are trade clusters, which include industries that sell goods and services across regions and internationally. These clusters are located in regions based on their competitive advantage and are international in scope. Examples of these clusters are information technology, energy clusters, and aircraft engine clusters. In the International Cluster Competitiveness project, using the Porter Cluster Model, Michael Porter identifies and profiles the performance of 36 clusters and 206 sub clusters, which are subgroups of industries within a cluster, in 163 nations (Competitiveness Project, 2005).

Clusters are constituted by an interconnected group of companies and associated institutions, linked by common and complementary elements, that are found in close geographic proximity and that are dedicated to the production of specific goods and services. Clusters can be found around the world, from the most sophisticated, such as the energy cluster in Houston in the United States, to the less sophisticated cluster, such as the textile and apparel cluster of Gamarra in Peru.

An example of a successful cluster is the maritime cluster of Norway, which is comprised of companies from ocean transport to shipping equipment, ship-building, ship brokering, financing, insurance, classification, and maritime offshore-oil-related activities. This cluster is known as the most internationally-competitive and know-how based industry cluster in Norway. According with the Norwegian Shipping Powers Association, it is estimated that the maritime cluster generates around 18,000 jobs in the country, generates the world's third-largest commercial fleet, and constitutes a strong land-based shipping operation. Maritime insurance represents 30 percent of the global market. Norway classifies 15 percent of the world tonnage. Leading manufacturers of marine gear, several of the world's most prominent shipbrokers, two of the world's biggest shipping banks and internationally-renowned institutes in shipping economics and technological research and development are based in Norway (Hammer, 2004). (Figure 1)

Figure 1 The Norwegian* Maritime Cluster



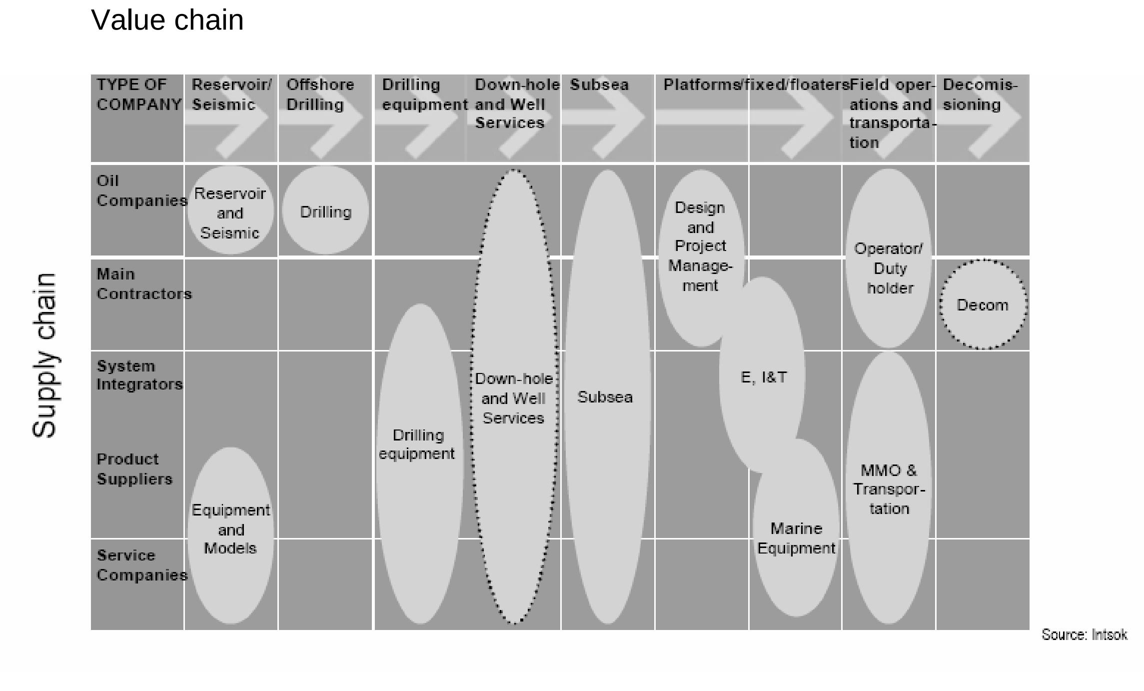
* Norway has 0.1% of the world's population, represents 1.0% of the world's economy, yet accounts for 10% of world seaborne transportation
Source: Sven Ullring, presented to M.I.T.

A variety of companies are typically located in the cluster, such as specialized providers of industrial services, related and supporting industries, financial institutions, education and training institutions, research institutions, infrastructure companies, *etc.* All of them are located closely enough to each other to facilitate communication, logistics, and personal interactions. Clusters usually respond to different levels of specialization and sophistication. They can specialize in specific segments of the international or domestic market. They can evolve and get to the highest level, becoming world-class innovation centers like Silicon Valley in the area of information technology.

Also, in the same region, several clusters can exist, such as the case of the U.S. state of Massachusetts in which there are clusters formed but a large number of small and mid-sized companies that take advantage of the local pool of specialized workers, suppliers, financiers, marketers, and infrastructure resources that the state of Massachusetts offers. These clusters consist of: (a) information technology, comprised of computer and communications equipment, software, and services; (b) health care, comprised of health services, medical equipment and devices, and biotechnology and pharmaceuticals; (c) financial services, which consists of banking, insurance carriers, and securities and exchange services; (d) knowledge creation, which is a broad cluster that supports the creation of knowledge-based assets and includes higher education, printing and publishing, and legal, engineering, management, and R&D services; (e) traditional manufacturing, including paper, rubber and plastics, fabricated metals, apparel and textiles, industrial machinery (except those included under information technology), instruments (except information technology or health care), and all other manufacturing industries; and (f) travel and tourism, which combines retail establishments and hotel and travel operators that serve business and leisure travelers.

Cluster formation does not happen overnight. Clusters can take time to develop. For example, the Norwegian oil and gas cluster took about 30 years to develop. This has made it possible to build up the petroleum production from the Norwegian Continental Shelf to the current level of production, making Norway the sixth-largest producer and the third-largest exporter of oil in the world. This has also made the oil sector the most important industry in Norway, accounting for approximately 23 percent of GDP. The development of this cluster also entailed the development of national oil companies and a large contracting and supply industry, which includes approximately 200,000 people that are directly or indirectly involved in this cluster. (Figure 2)

Figure 2 Norwegian Oil and Gas Clusters



Source: Intsok

According to the United Industrial Development Organization (UNIDO), there are a number of clusters in Latin America and Asia displaying sustained competitiveness, including in export markets, and with some firms progressing along a quality-innovation growth path. In particular, clusters that have been able to establish and/or insert themselves into regional/global marketing channels and then developed a capacity to respond to changes in the market have done particularly well. For example, they include the cotton knitwear cluster of Tirupur in India, the surgical instrument cluster of Sialkot in Pakistan, and the footwear cluster of the Sinos Valley in Brazil. However, clusters also stagnate and disappear. For example, in sub-Saharan Africa, the process of cluster development has had only a minimal impact (UNIDO, 2004). Other experiences show how the cluster-based economy perspective can constitute an effective tool for attracting foreign direct investment. This is the case of Costa Rica, which was able to attract Intel as an anchor company for developing the IT cluster in Costa Rica (Ketelhöhn, 2003).

According to a study conducted by the Institute for Strategy and Competitiveness (ISC), the average wages in trade cluster industries in the United States are higher than in industries that are not located within a cluster. However, the average wage within different clusters is within a broad range. For example, in 2000 the average wage in the information technology cluster was $93,024, while in the apparel cluster it was $21,444 (ISC, 2000). The ISC study shows that clusters increase productivity because they provide to the companies that are in the cluster access to specialized labor, services, inputs, information, and institutional infrastructure. Clusters also stimulate coordination among companies, diffusion of best practices, and competition. Clusters, according with several experiences around the world, have proven to be a powerful economic engine not only generating employment and increasing labor income, but promoting the economic development of the areas in which they are located.

CLUSTER-BASED ECONOMIC STRATEGY

As outlined by Michael Porter, the successful experiences with cluster-based economic strategy of countries like the United States, the United Kingdom, Norway, Finland, Singapore, *etc.*, show that the following aspects need to be considered:

First, a common analytical framework needs to be adopted, which means that the leaders of the business community, government, and society in general must internalize the view of economic development based on clusters. This element is crucial in order to gain legitimacy and secure the continuity of the cluster-based economic strategy and translate into a feasible agenda for the short run.

Second, the government has a crucial role even though the prosperity originates in the creation of wealth for the private sector. The success of the strategy of the cluster-based economy is due to a positive business environment in which the political, macroeconomic, and legal elements are crucial. The government can frustrate or make successful this strategy.

Third, the cluster as a unit of analysis presents the best scenario to make a company competitive. The prosperity of the country or region is based on the prosperity of the clusters. Under this strategy, economic policy is driven by the cluster due to the fact that it represents a constellation of the economic and social factors.

Fourth, innovation is a key element to increase productivity and advance competitiveness. The recognition of the ultimate goal of the cluster is to become a world-class center of innovation, drive the cluster's development strategy to go beyond traditional policies to policies of science and technology, to specific experiences to assimilate development and generate new technologies and foster innovation capabilities.

Fifth, the engagement of the business community in the public good is justified. The false dichotomy between "private" and "public" ends in the cluster-based environment, in which the private entities understand the crucial dimension that the common environment plays in companies' competitiveness. In this regard, private companies are more inclined to participate actively in contributing to the public good and corporate philanthropy.

The cluster-based economic strategy has shown to be successful in improving the competitiveness of countries, regions, and corporations due to three major aspects: first, improvement of the business environment; second, improvement of the capabilities of science and technology, and fostering of innovation; and third, creation of new institutions and processes to make competitiveness and economic development sustainable.

The cluster-based economy has been shown to improve the business environment of the location in which the cluster is based. This has been shown, for example, in the U.S. state of Connecticut. Such improvements are translated in areas such as physical infrastructure, training and educational facilities for labor, availability of financial and technological resources; substantial advancement in the regulations to protect intellectual property rights, promote competition, eliminating monopolistic/oligopolistic competition; improving product standards with more sophisticated consumers, increasing number of the small-and-medium companies which interact with large multinational companies in a network of providers of inputs, services, and specialized products (Porter, 2003).

A mechanism that permits better interaction between small-and-medium companies and large MNCs and improves the business environment within the cluster is constituted by the institutions for collaboration, which are institutions that facilitate the exchange of information and technology and facilitate coordination among the companies, define common standards, create relationships, facilitate the organization of collective actions, and provide a mechanism to develop a common agenda (Porter and Emmons, 2003). These institutes for collaboration can have a general approach, such as chambers of commerce, university partner groups, *etc*., or can be specific to the cluster, such as industry association, specialized professional associations, incubators, *etc*. Examples of such successful institutes for collaboration are the Harvard Biomedical Community, the MIT Enterprise Forum, and the Associated Industries of Massachusetts, and Massachusetts Hospital Association, among others in the life science cluster of Massachusetts.

The increase of the science and technology capabilities and innovation capacity of the areas in which the clusters are located has shown to be crucial, especially in developing countries, in which the low science and technology capacity limits their adoption of new knowledge and technology. Experience shows that in such countries, the knowledge that is generated by the research institutions is not translated into significant inputs into the productive sector. Similarly, the science and technology transfer has difficulty meeting local needs (UNIDO, 2004). The challenge for these countries is to strengthen the science and technology capacity and innovation system under conditions in which there are institutional, financial, and human resource limitations, and in which a weak economic system and political decision making result in a short-run focus. One successful example of improving the capability of science and technology and fostering innovation is the case of Singapore. Singapore gained independence in 1965 and was able to implement a successful economic strategy that has enabled the country to move toward a knowledge-based economy. The Singapore case illustrates shows how the cluster-based economy constitutes the best scenario not only for the interaction of corporations but to foster a strong relationship between corporations, universities, and research institutions and governments through a specific set of goals that reflect the short-term interests of these actors in the long-term view (Vietor, 2002).

The cluster-based economy enables the creation of new institutions and processes that make competitiveness and economic development sustainable. An example is the Council of Competitiveness, in which corporations, governments, universities, research institutions, and other civil society institutions are represented. Such institutions guarantee that the decision-making process captures the necessities and interests of the parties and the implementation of decisions. This situation is translated into a set of processes of negotiation, deal-making, and actions that guarantee the continuation of the activities of the cluster and carry the cluster to higher levels of competitiveness.

One example of the institutionalization of this process is the state of Massachusetts in the United States, which established the Governor's Regional Competitiveness Councils, which advise the Governor on economic activities, issues, and needs in the various regions of the state of Massachusetts. One of the main tasks of the Council is to identify clusters suitable for each sub region of Massachusetts. Seven Councils, each representing a region, have been appointed. Each council is integrated by no more than 35 members, appointed by the Governor. The members of the Councils are leaders in business, labor, economic development, and education. Each Council meets as established by the Council chair no less than twice annually, and the Councils individually or collectively provide recommendations to the Governor concerning regional competitiveness no less than annually (Executive Order, 2003). The existence of this kind of institution has become a useful tool to address issues related to changes in the global business environment, such as business and government relations, human rights issues, environmental concerns, labor practices, and regulations.

Another example of the institutionalization of the cluster-based economy is INTSOK in the Norwegian oil and gas cluster. INTSOK was established in 1997 by the Norwegian oil and gas industry and the Norwegian government. This institution is comprised of 105 partner companies, which include oil companies, main contractors, technology suppliers, and service companies. Also participating are governmental institutions such as the Norwegian ministries of Trade and Industry, Petroleum and Energy, and Foreign Affairs. Additionally, it includes professional organizations, such as the Norwegian Shipowners' Association, the Norwegian Oil Industry Association, and the Federation of Norwegian Manufacturing Industries. Among the activities of this institution are to assess market opportunities for the partner companies, in order to enhance their ability to compete in the global marketplace. Also, INTSOK helps the partner companies to network with the international and national governmental agencies and provides information about Norway's oil and gas cluster.

CONCLUSION

The nature of global competition is becoming increasingly complex in the current stage of globalization. When multinational corporations are more integrated into a multinational environment, *location* becomes a key element of the strategy of multinational corporations. In order to attract multinational corporations, countries are developing a friendly business environment at the macroeconomic level, providing stable macroeconomic policies and an accompanying set of actions to provide a stable political, legal, and societal environment. These are important elements for attracting multinationals and are elements that multinationals seek in every location. However, these conditions, even though they are necessary, are not sufficient to be successful in attracting foreign direct investment in the new competitive global marketplace.

The elements that complement the positive macroeconomic environment of a given location are the microeconomic fundamentals of such location. These fundamentals are related to the way in which the companies interact at the local level with other companies and with the government, educational and research institutions, and other institutions of civil society. In this scenario, in which companies compete, multinationals also deal with tensions related to business and government relations, human rights, environmental issues, and labor practices.

There are several successful experiences of building cluster-based economic strategies around the world that suggest the existence of a new approach to attract multinational companies, foster competitiveness, and promote economic development. This new approach implies a shift in the paradigm giving a more comprehensive view about the nature of competition in today's global economy, in which every metropolitan region and community in each country must compete with the neighboring regions as well as internationally in order to achieve economic development. This new approach suggests a focus on location through cluster development as a base for economic strategy for development. The cluster-based economic strategy has shown to be successful in improving the competitiveness of countries, regions, and corporations due to three major aspects: first, improvement of the business environment; second, improvement of the capabilities of science and technology, and fostering of innovation; and third, creation of new institutions and processes to make competitiveness and economic development sustainable.

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