

Learning and upgrading in local production systems: evidences from the footwear industry

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ABSTRACT

This paper concerns an investigation on the forms of governance in local production systems and their relations with the global value chain. The insertion of the local producers in the value chain provides strong opportunities for the firms to upgrade in areas related to manufacturing process, such as production, costs, quality and delivery time. However, the development of production capabilities does not come with upgrading in other areas of the firm, such as product development and commercialisation, since the global buyers do the tasks of these areas. In this paper, this question is applied to the global footwear industry.

Key words: local production systems – learning process – global competitiveness.

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INTRODUCTION

There is an increased concern with the debate on the importance of global chain in the sense of the behaviour of producers organized in local systems. Some authors, such as Gereffi (1994) and Humphrey and Schmitz (2001), have presented the notion of “global commodity chains” (or global value chains, as commonly known), as a form to study and investigate the configuration of this kind of industrial organization and the forms of governance of industrial relationship. Others, such as Ernst et al. (2001), have used the concept of “global production network” as a way to look at the relations between local systems of production and global networks.

In spite of different configurations in commodity chains and global networks, it always can be seen and identified a coordinator of the relationship. In the case of buyer driven commodity chains, global buyers assume this role. There is an assumption that the presence of global buyers can provide industrial upgrade for the local producers, by the learning process that is generated by the interaction among them – which provides an increase in the local system collective efficiency.

However, the examination of the global chain of the footwear industry, specially the experience of the Brazilian footwear industry, clearly shows that the learning process is restricted to the manufacturing capabilities. In addition, the interactions with global buyers provide some constraints to the development of capabilities in other areas, mainly product development and commercial assets.

1. GLOBAL BUYERS AND THE ORGANIZATION OF COMMODITY CHAINS

The global chain approach, or global value chains as most commonly known, was firstly presented by Gereffi (1994). This approach is an important and very interesting tool to analyse the organizational format of the international productive chains as well to investigate hierarchies and governance as could be seen on those chains. The main assumption of this approach is that the capacity to fit the value that is created throughout the productive chain is deeply non-symmetric among the agents, because of the strong hierarchies that could be seen inside the productive system.

A global commodity chain is characterized by the commodities production and trade, which includes strategic decision-making and the formation of international supply chains. As Gereffi (1994) has pointed out, these chains have four main dimensions: (1) a value-added chain

of products, services and resources; (2) a geographical dispersion of production and marketing networks; (3) a governance structure between firms; (4) an institutional framework. As from these four dimensions, two basic types of chains could be observed: “producer-driven” and “buyer-driven”.

In the buyer-driven commodity chain, which is analysed in this paper, the global buyers are main responsible for the role of coordinating the whole value chain. They appear as large retailers, brand name firms and marketers or trading companies who play the role of setting up a huge and decentralized production network, which is located particularly in the less developed countries, where they find lower labour costs. This type of chain configuration could be more commonly seen in labour-intensive industries such as garments, footwear, furniture, ornaments and others.

This type of governance, in this kind of global chain organization, is determined by the global buyers owning some strategic assets that, because of the their tacit knowledge and specificity, could not be reproduced by the other firms in the network. The global buyers, in this sense, are the only ones in the whole chain with access to commercial assets, mainly distribution and commercialisation channels to the huge international consumer markets and, sometimes, their own brand names.

The production process is a responsibility of the producers in overseas networks, generally subcontracted in less developed countries (like Brazil), which manufacture the goods in the terms and specifications of the global buyers, who are responsible for the product development and their commercialisation. In some cases, the global buyers are “only” the traders of the goods, but in others they have their own brand names, which are branded on the products. This results in a very asymmetric relationship, in which the global buyers can settle on their interests among all the producers involved in the chain, by coordinating the international supply chain and influencing the producers’ strategies.

Then, the main task of the global buyers, which provides them this capacity to coordinate the global chain, is to manage the production and trade global network and to make sure that the disintegrated and overseas complex works together as in the same organization. Moreover, the global buyers maintain different and diverse sources of provision of the products, because this allows them to buy goods at best conditions in terms of labour costs, exchange rates and, still, local competences. They look for the best suppliers in terms of manufacturing process, quality, delivery time besides other features of the products.

But to guarantee that the producers in the overseas networks will carry out these attributes, the global buyers create and maintain important structures to provide services to local producers. These structures of technical and productive assistance are strongly linked with the trading companies that are established on the producers’ side. The trade office often has a technical assistance structure to guarantee the achievement of the product characteristics defined by the global buyers among the producers in the international network.

For this reason, it is very interesting, and cheaper, for global buyers to organize the overseas network in the form of local productive system, when the technical assistance can provide services for many producers at the same time and can make available high volumes of production. If the producers were geographically dispersed, it would be much more difficult to the trade offices besides the overseas suppliers to guarantee the attainment of the product characteristics required by the global buyers.

Moreover, by buying products in local systems, the global buyers can obtain low costs of supply goods because of the benefits derived from local external economies, which can be observed among local producers¹.

However, on the other hand, the presence of global buyers can produce an important learning process among local producers, because they have to attain some requirement in terms of product characteristics in order to participate in the global buyers' network. In many cases, as in the Brazilian footwear industry, for instance, joining the global network raises important capabilities among producers and provides upgrades in their competitiveness.

2. UPGRADING IN GLOBAL NETWORKS AND THE LOCAL SYSTEMS

An important question in the research about local systems and global networks is in terms of the possibilities to upgrade in the international chains, by the development of new production and technological capabilities among producers (Gereffi, 1994; Humphrey e Schmitz, 2001).

There is no divergence among authors that the interactions with global buyers can provide upgrade to the producers in the local system. At least to certificate the requirements in terms of the product and process characteristics, the global buyers play a very important role in the transmission of knowledge to the firms that take place in the network. The necessity to achieve the quality standards and the other specifications of the product provides the development of producers' specific capabilities, many times in co-operation with the local trade offices maintained by the global buyers. Usually, the global buyers maintain, besides the trade office, technical and organizational assistance to the local producers in less developed countries, which contributes to the learning process and to the transfer of knowledge.

Some experiences clearly show this point, like in the apparel industry (Gereffi, 1999) and the in the fresh vegetables market (Dolan and Humphrey, 2000). Even the Brazilian footwear industry a strong upgrade was perceived in manufacturing areas after the beginning and the increase share in the international market, by means of the global buyers' commercialisation and distribution channels.

However, besides the assumption that the interactions with the global chain can provide strong possibilities to upgrade in the value chain, it can be seen that the formation of new capabilities, which is the basis of the producers' competitiveness, is restricted to the manufacturing area. For instance, there is no evidence that the producers achieve an increase in the their capabilities in other areas in the value chain, even in technological or commercial assets. The development that is fostering by the interactions with the global buyers rarely exceeds the sphere of the production and manufacturing process. The producers develop excellent qualifications and skills for the production processes, in terms of best practice of manufacturing, fulfilment, product quality of the specifications and even the development of process engineering. However, they cannot develop capabilities in other functions that confer value to the goods, as product development and the establishment of their own commercial assets. In this in case, the ownership of these strategic assets is what confers the companies the capacity to command the value chain, since they are not easily reproduced in other contexts, in contrast to the productive units. Not by chance, global buyers reproduce similar productive structures in different parts of

¹ As many authors have pointed out, such Krugman (1991), Porter (1998), Schmitz (1997), Enright (1994), Scott (1998), Belussi and Gotardi (2000), Lombardi (2003) among others, there are two basic benefits to the producers in local systems, derived from the incidental external economies and from the higher scope to deliberated joint action among the producers.

the world, since this guarantees their capacity to substitute suppliers without very high costs for changing.

In terms of the technological capabilities, the producers of supply goods are not stimulated to maintain higher efforts in terms of production development, because the global buyers, which are the ones to settle all the product definitions, subcontract them. The global buyers define all the characteristics of the product, such as the design of the consumer good, the materials to be used, the delivery time and even the price.

In the commercial area, the producers have no choice to sell and trade their products out of the global buyers' structure, because the global buyers are the ones who have access, in the form of established distribution channels, to the big international markets. For this reason, to guarantee a high amount of production, and the benefits of production scale economies, the producers have to comply with the requirements of the global buyers.

The asymmetric power of the global buyers is a result of their having important capabilities that are not available to the producers; the restricted access to the international consumer markets, which allows them to determine all the attributes of the negotiation with the overseas network, even the characteristics of the products and their design. The firms that supply them the goods have not developed new capabilities in this structure, because they have not performed these functions in the global value chain.

Lombardi (2003) presents this question by using the different capacity of the global buyers to input an information hierarchy. The agents that can do the link between the local systems and the exogenous demand, that Lombardi (2003) "final firms", can also distinguished two types of information: the parametric and the hierarchical information.

The parametric information refers to operational and productive aspects of the relation with the local producers and that they are disclosed by means of the performance of certain tasks, such as operations and activities done by the set of the specialized suppliers. Those are a complex set of information, however parametric, that are capable to foster a huge process of interactive learning among agents. These forms of interaction between are normally based on strong cognitive elements and are built in social and cultural identities.

The other set of information flows are the hierarchical information, that are managed by the agents that are able to govern the set of producers, the "final firms" as Lombardi (2003) called. Normally, they refer to information about the demand and market, that these agents are able to get by the construction of specific ways of search that are exclusively dominated by them. They translate these signals of the demand by means of specific demands to its specialized suppliers, which are performed by the interaction circuits that they are established in proper and specific channels inside the local system. Therefore, the dissemination of this knowledge occurs only in accordance with the interests of the coordinating agents (the final firms), used as a strategic asset in the interaction with the set of the producers that compose the local system.

It is clearly to see that, in the buyer driver global chain, the global buyers do the role of the "final firms". They are able to distinguish that two types of information, they maintain in their hands the strategic information and they disseminate the parametric ones. So, the local firms just receive the information about the techno-productive parameters of the relation, which guarantees the hierarchical position of the global buyers.

Then, the development of new capabilities is restricted to the forms of manufacturing. In this area, the firms have to build up new competencies, because it is a requirement to be kept inside the global chain. The firms have to attend the requests in terms of the quality of the products, the delivery time and the price fixed by the global buyers. To do this, they have to attain these competencies.

Using the terms of Gereffi (1994), the firms are not able to upgrade from a position of OEM – original equipment manufacturing, which refers to the manufacture of finish consumer goods by subcontracting locally owned factories mainly in the Less Developed Countries, to higher positions in the global chain, like ODM – original design manufacturing or OBM – original brand name manufacturing.

Ciarli and Giuliani (2002) pointed out that it is clear that global buyers stimulate the subcontracting firms to jump in product and process technologies, as a requirement to the increase of challenging prices and quality standards. In this buyer-dependent position, the firms might face the risk of being disconnected from the global chain when the buyers found better conditions of provision. Moreover, the global buyers can construct production capabilities in other parts of the world, where they could find better conditions for consumer goods supply.

This incapacity to advance towards more important assets means that the producers fail to reach upper corporative functions (Furtado, 2003), restricting their operations to “banal” activities. This excessively harms the capacity of the firms in assuming a bigger share of the value generated along the productive chain; at the same time, this guarantees the command capacity of the value chain as a whole for global buyers.

These points can be clearly verified in the analysis of the global chain of the footwear industry, in which the global buyers play an important role in the governance of the system. The global buyers maintain some different sources of supply all around the world and then they order where they find the best conditions in terms of production characteristics and costs. To do that, they need good standards of production among their suppliers, which motivate them to foster a learning process with the producers. In the case of Brazilian footwear industry, the focus of the analysis in this paper, the strong increase in the sales to the international market provides a great development among the producers, by means of the global buyers’ orders.

3. LOCAL SYSTEM IN THE BRAZILIAN FOOTWEAR INDUSTRY

One of the main characteristics of the Brazilian footwear industry, as in many international experiences, is the organization of the production in industrial clusters. It can be observed some regions that respond for the main share of production².

In the first place, the importance of the region called Sinos Valley, in Rio Grande do Sul State, can be pointed out. Because of its vast extension, both in geographical terms and in their productive structure, it was called by Schmitz (1999) a “supercluster”, which responds for something like the 40% of the employment in all of the Brazilian footwear industry, which makes it the biggest Brazilian producer region of this good. The second most important industrial cluster in the Brazilian footwear industry is the city of Franca, in the hinterland of the State of São Paulo. It is the second largest employer region in the domestic footwear chain, responding for something about 8% of total employment, and it is specialized in the production of leather shoes, mainly for men³ (Data from Brazilian Ministry of Labour).

In the two most significant cases, the Sinos Valley and the city of Franca, an important characteristic is the great presence in the local productive structure of the various links of the

² In fact, the recent process of geographical decentralization of production in the Brazilian footwear industry induced a decrease in the importance of the traditional production regions. But, in spite of the productive decentralization, the traditional regions are still headquarters of the most important companies in the industry, since the production had been moved to other regions where they found lower labour costs.

³ There is another, but less important, industrial clusters in the Brazilian footwear industry, like the cities of Birigui, Jau (both in the São Paulo State) and Nova Serrana (in the state of Minas Gerais).

footwear production chain. The correlates and supportive industries, such as raw materials, components, machines and equipment are observed to exist, which configures a very complete productive structure related to the footwear production.

Therefore, the importance of the external economies to the local producers should be detached, in terms of the existence of skilled labour force, the presence of correlates and supportive industries and the occurrence of technological and knowledge spill-overs. These external economies are locally generated and benefit the firms by increasing their competitive advantages. However, in spite of the importance of the incidental external economies, the local producers, not only in the Sinos Valley but also in Franca, do not use, as much as they could, the possibilities to establish and maintain consciously pursued joint actions. If they were able to take advantage of the joint action, they would strengthen their competitive capacity.

3.1. Local system and global linkages

One of the main characteristics of the Brazilian footwear industry is its presence in the international market, mainly in the US consumer goods market. From the late 1960s, because of the process of worldwide productive decentralization in the footwear supply towards the countries that presented lower labour costs, the Brazilian producers started to occupy an important place in the great consumer markets in the world.

From there, the Brazilian footwear industry was consolidated as a great supplier of leather shoes in the international market, playing an important role in the global production and distribution chain of these products. Since then, the Brazilian producers became players in these international chains, when the companies assumed the role of footwear suppliers to global buyers⁴. This also allowed an important development of the technical and productive capabilities, imposing strong dynamism to the firms. Figure 1 shows the total Brazilian exports of footwear, which presented a very strong increased mainly in the 70s and 80s.

As figure 1 shows, the external sales of the Brazilian footwear increases from less than US\$ 100 million in the early 70s to almost US\$ 2 billion during the 90s.

The fast development of the Brazilian footwear industry produced deep heterogeneities in the local productive structure, where some great companies – which act in the domestic market with their own brand names and have high bargain power with purchasers and the remaining productive chain – coexist with a contingent of various small and medium enterprises, which produce and sell standardized products in general and have reduced yield rates. To these agents are added a great number of rendering services, the called backstitch “workbenches”, that act in the informal market as subcontracted of the major companies. This shows, therefore, a heterogeneous and complex productive structure, as a result of the growth process in both local systems.

In this sense, in contrast with the advances in the productive sphere, the Brazilian firms that take part in the global chain have presented little advancements in areas like commercialisation and development of product and design. The presence of the trading companies, that are the local agents for the global buyers, inhibited (or it hindered) more substantial advancements in these areas.

In the area of commercialisation, the producers only supply footwear to the trade office, which is responsible for the process and all the logistic of the distribution of goods. Consequently, the firms do not have their own channels of commercialisation and distribution,

⁴ In terms of local specialization, the Sinos Valley producers are the suppliers of women's footwear, and the Franca's of men's.

and have to use the trade office to sell their goods. Furthermore, rarely were the goods sold with the manufacturer brand name or with the inscription “Made in Brazil” in a visible place.

In terms of technological efforts, mainly in product development and design, the producers practically do not keep those activities domestically. The trade office orders the products with all specifications and requirements. The main attributes of the product such as design, model, materials and even the price of the footwear to be produced are defined by the global buyer, who transmits the information to the producers by means of the trade office. The producers just have to introduce it to the manufacturing process. Thus, the departments of product development of the great exporting Brazilian footwear companies are very small, many times composed of a few “designers”, that are professionals that only adapt the designs in order to comply with the requirements of the global buyers, conferring them manufacturability.

Moreover, the governance of the international chain by the global buyers is strengthened by the existence of alternative sources of supply, as shown in Figure 2. This can be clearly seen in the strong expansion of the Chinese industry in the global footwear market since the early 1990s, by occupying the band of market previously belonging to Brazilian producers in the United States⁵.

It could be perceived that the governance of the global chain is clearly made by the global buyers. The Brazilian exporting footwear companies, therefore, have their strategies conditioned by the global buyers, which overlap the interests of the local companies. This has a clearly harmful effect on the competitiveness of the companies, since they are not able to amass larger shares of the value generated in the production and distribution footwear chain, besides being incapable to absorb part of the benefits of the clustering of the producers.

Then, the analysis of the Brazilian footwear industry shows that the interactions with global buyers present two contradictory sides, confirming the conclusions of Ciarli and Giuliani (2002). On the one hand, this interaction can provide strong and fast accumulation of capabilities in the productive area, such as production process, quality standards, delivery time, and all other requirements of production and goods demanded by the global buyers and by the local trade office.

On the other hand, the firms are kept in a “trap” because they can see increasing difficulties to the development of capabilities in other areas, mainly in technology and commerce. In the technological area, the firms are not encouraged to maintain greater efforts in the product development and design, because the global buyers are the ones who determine the attributes of the products. In fact, the firms act as subcontractors for the global buyers. In the commercial area, the firms have no commercialisation channels or their own brand name in the operations to the international market, which compels them to use the global buyers’ channels, and to comply with all their requirements.

CONCLUSION AND MANAGERIAL IMPLICATIONS

In the past years, there has been a proliferation of conceptual and empirical studies about local systems and the competitive advantages that are generated by the clustering of firms. However, most of these studies undervalued the importance of the global linkages that are maintained by the local producers. More recently, some authors such as Humphrey and Schmitz (2001) pointed out the importance of the global linkages to the dynamics of the local system, by using the approach of the global value chain. One of the basic forms of configuration of the

⁵ The Brazilian exports for the United States represent about 70% of the total of the external sales (data from Secex, Brazil). In Europe, however, the penetration of the Brazilian footwear never was significant.

global value chain is the so-called buyer-driven value chain, in which there were industries such as garment, furniture, ceramic tiles and footwear.

The interaction between local system and the global buyers can thus provide producers upgrade in some areas related to the manufacturing functions, such as production process, quality standards, delivery time, and others. Sometimes, the firms can develop these capabilities very fast, as a requirement to the linkage to the global chain.

However, the interactions between the local system and the global buyers are in fact a big “trap” for the producers, because they are not stimulated to develop capabilities in other areas except for the productive one. In this way, the fast development of production capabilities is followed by an increase of the obstacles to the development of capabilities in other areas, such as in commercial and technological terms. This could be clearly verified in the experience of the Brazilian footwear industry, in which the strong and fast development of production capabilities were not followed by upgrades in commercial and technological assets. Therefore, the producers have no alternative to trade their goods, because they need to use the distribution channels owned by the global buyers. Besides, they were not able to upgrade in terms of the development of product and design, tasks that are completely assumed by the global buyers.

There is thus a clear management/policy implication to this conclusion. In spite of the strong incentives to connect the local system to global chains, mainly in terms of the development of production capabilities, both on the firms and the public policies side that could avoid this strategy, since this would clearly result in possibilities to develop other functions, less banal than the productive one.

ACKNOWLEDGEMENTS

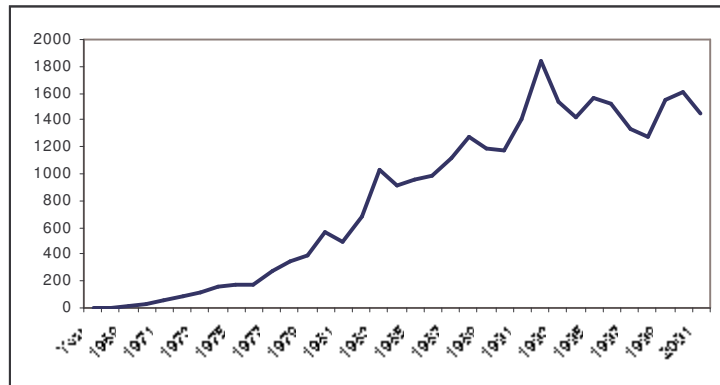
The author wishes to thank CNPq – Conselho Nacional de Desenvolvimento Científico e Tecnológico, Brazil, who provides financial support for this research (Process no. 478.786/2003-4).

REFERENCES

- Bazan, L.; Navas-Aleman, L. (2001). *The underground revolution in the Sinos Valley: a comparison of upgrading in global and national value chains*. Paper presented in the Workshop “Local Upgrading in Global Chains”, Brighton, feb.
- Belussi, F.; Gotardi, F. (2000). *Evolutionary Patterns of Local Industrial Systems: towards a cognitive approach to the industrial district*. Aldershot, England: Ashgate Publishing Ltd.
- Ciarli, T.; Giuliani, E. (2002). Patterns of industrialisation in developing countries: the role of Local Networks and Global Buyers. 6th Annual EUNIP Conference, Turku, Finland.
- Dolan, C.; Humphrey, J. (2000). Governance and trade infresh vegetables: the impact of UK supermarkets on the African horticulture industry. *Journal of Development Studies*, v. 37, n. 2.
- Enright, M. (1998). Regional clusters and firm strategy. In: Chandler, A.; Hagstron, P.; Solvell, O., orgs. *The dynamic firm: the role of technology, strategy, organization, and regions*. Oxford University Press.
- Ernst, D.; Guerrieri, P.; Iammarino, S.; Pietrobelli, C. (2001). New challenges for industrial clusters and districts: global production networks and knowledge diffusion. IN: Guerrieri, P.; Iammarino, S.; Pietrobelli, C. (eds.). *The global challenge to industrial districts: small and medium enterprises in Italy and Taiwan*. Cheltenham and Northampton: Edward Elgar.
- Furtado, J. (2003). *Globalização das cadeias produtivas do Brasil*. São Carlos, Brazil, Ed. UFSCar.

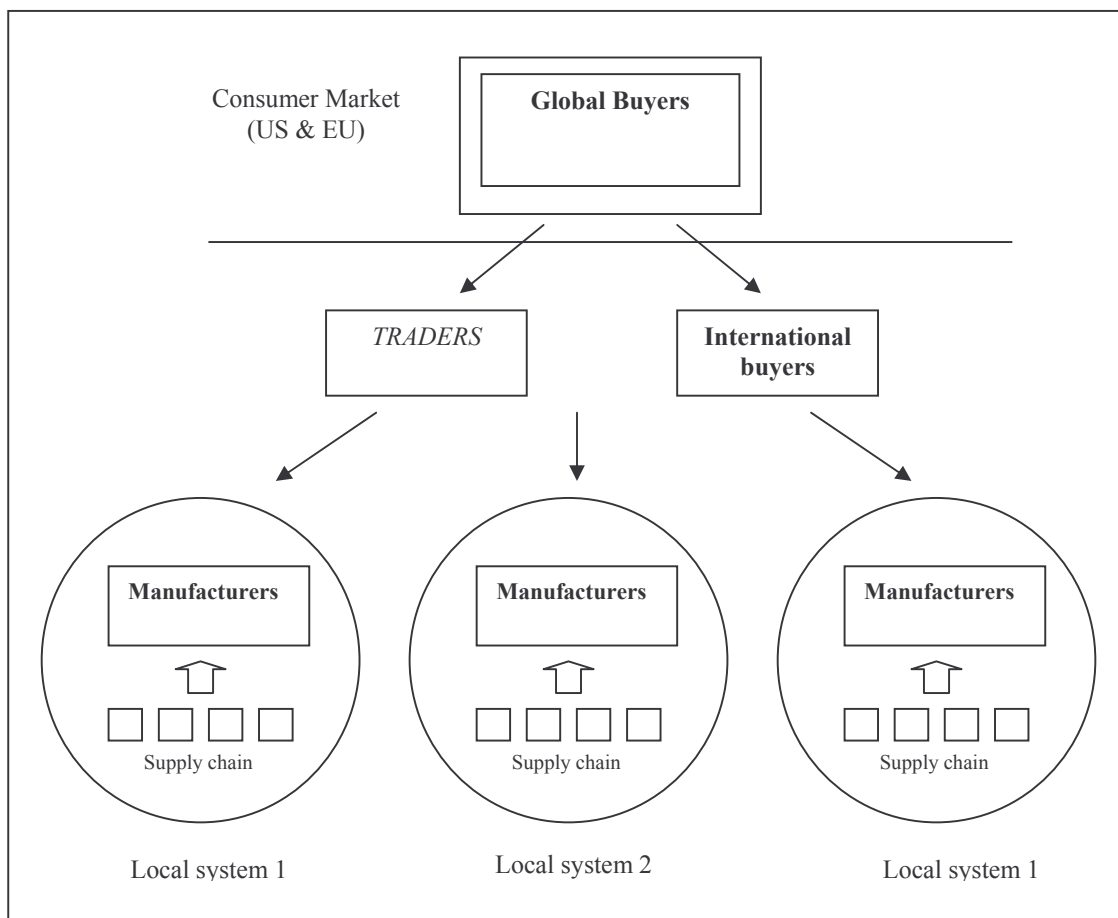
- Gereffi, G. (1994). The organization of buyer-driven global commodity chains: how U.S. retailers shape overseas production networks. In: Gereffi, G.; Korzeniewicz, M. *Commodity chains and global capitalism*. Westport: Praeger.
- Gereffi, G. (1999). International trade and industrial upgrading in the apparel commodity chain. *Journal of International Economics*, v. 48, p. 31-7.
- Humphrey, J.; Schmitz, H. (2001). Governance in global value chains. *IDS Bulletin*, v. 32, n. 3.
- Krugman, P. (1991). *Geography and trade*. Cambridge: MIT Press.
- Lombardi, M. (2003). The evolution of local production systems: the emergence of the “invisible mind” and the evolutionary pressures towards more visible “minds”. *Research Policy*, v.32, n. 8, p. 1443-1462
- Porter, M. (1998). Clusters and the economics and competition. *Harvard Business Review*, nov-dec.
- Schmitz, H. (1997). Collective efficiency and increasing returns. *IDS Working Paper*, Brighton, IDS, n. 50, march.
- Schmitz, H. (1999). Global competition and local cooperation in the Sinos Valley, Brazil. *World Development*, v. 27, n. 9.
- Scott, A. (1998). The geographic foundations of industrial performance. In: Chandler, A.; Hagstron, P.; Solvell, O., orgs. *The dynamic firm: the role of technology, strategy, organization, and regions*. Oxford University Press.
- Suzigan, W.; Furtado, J.; Garcia, R.; Sampaio, S. (2003) Local production and innovation systems in the state of São Paulo, Brazil. *43rd ERSO Congress*. Jyväskylä, Finland.
- Suzigan, W.; Furtado, J.; Garcia, R.; Sampaio, S. (2001). Sistemas produtivos locais no estado de São Paulo: o caso da indústria de calçados de Franca. In: TIRONI, L.F. (Coord.). *Industrialização Descentralizada: sistemas industriais locais*. Brasília: IPEA.

Figure 1 – Total Brazilian footwear exports (US\$ million)



(Source: Brazilian Trade agency – SECEX).

Figure 2 – The organization of the buyer-driven global value chain in the footwear industry



Source: author's own elaboration from Gereffi, 1994.