

## **Inter-organization networks: alternatives for larger insertion of Brazilian fruit in the international market**

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### **Summary**

*This article intends to be an exploratory study focusing on the production and commercialization chain of Brazilian fresh fruit for export action. The objective is identify the main agents that govern the structure of this chain. There are many agents in this chain, for instance vertical integration enterprises, big producers and, mostly, the focus of the work, the integrated producers. The transactions are analyzed in relation to their characteristics that are set in the context of transaction costs theory. Based on the definition of the characteristics of the transactions one could consider which organizational forms should be adopted by the integrated producers, so that there is a decrease of the transaction costs. The organizational form studied in this case is the inter-organizational networks.*

Words key: Fresh fruit , Inter-organizational networks, Transactions

### **1. Introduction**

According some authors, the concept of network is very complex. Primarily, it can refer to the notion of a group or a series of cells inter-connected by relationships. In the ambit of the industrial organization the notion of networks can be adopted as being the organizational method of economic activities through coordination and/or cooperation inter-firms (PORTER, 1998).

The great interest of this work is the so-called nets inter-organizational nets, which involve not only companies, but also institutions interested in those activities, and that can support the joint-actions of the involved companies. As examples of institutions we can mention research centers, universities, city halls, associations, among others. (AMATO NETO, 2000).

For the interest of this work, it is worth mentioning the concept of vertical and horizontal networks of coordination (SANTOS ET ALLI, mentioned by AMATO NETO, 2000). The vertical nets occur among companies along a productive chain. These companies are of different segments inside the same productive chain. This coordination is fundamental, because the companies should be aware that its efficiency depends on the efficiency of the chain as a whole. This type of organizational form characterizes the systemic approach and can make possible the largest coordination among the segments that constitute a productive chain. Horizontal networks of coordination occur among companies of a similar segment. This type of organizational form can provide the accomplishment of activities that companies could not get to accomplish on their own.

According to Grandori & Soda (1995), enterprise networks can be classified as either social and bureaucratic. The social nets are those in which there is informality in the relationships, that is to say, there are no formal contracts among the agents of the net. This net type can be symmetrical or asymmetrical. When the power is distributed in a more homogeneous way among the participants, it is said that the nets are social symmetrical. When there is a central agent controls and organizes the activities in an informal way, they are had the social asymmetrical net. According to Casarotto Filho (1999), the social asymmetrical net is called

topdown network, when there is a “mother company”(hub-and-spoke) which coordinates the activities of small suppliers .

The bureaucratic net is the one which involves formal relationships among the participants. This net can also be divided in symmetrical and asymmetrical. The symmetrical bureaucratic net is which the power is divided in a more homogeneous and formal way among the participants. It is the case of federations, consortia, among others. The asymmetrical bureaucratic nets are those in which is hands of few agents. It is the case of franchises, when the franchisers have the formal control of the net (of franchisees), thus deciding on the criterions for commercialization of the product in question.

Other important definitions for networks emerge from the consideration of the relationship among the agents concern. Based on Sauvée (2001) networks can be seen as a combination of governing structures, including a series of horizontal and vertical relationships among organizations. For Menard (mentioned by ZYBERSTAJN, 2002), networks are all the arrangements that define a group of contractual liens among autonomous firms. For some authors, such as Lazzarini et al (2001), networks just involve the horizontal relationships among institutions and not vertical relationships among institutions of a same productive chain. In spite of the several definitions for networks, it is worth mentioning the great importance of this organizational form as a generator of collective actions that can provide a series of advantages for its partners.

The inter-managerial cooperation facilitate the assistance to a series of needs of the companies (PYKE, 1992). We could mention:

- to combine competences and to use know-how of other companies;
- to divide the obligation of accomplishing technological researches, sharing development and acquired knowledge;
- to share risks and costs when exploring new opportunities, working together on new experiences;
- to offer a more diversified line of products of bitter quality;
- to exercise a larger pressure on the market, increasing the competitive strength in favour of customers;
- to share resources and distribution systems and marketing;
- to strengthen the purchase power;
- to obtain more stenght to act in the international markets.

## **2. The Transaction Costs Approach**

The economy of the transaction costs is inside one of the theories of the so-called new institutional economy (NEI). This approach has two analytic levels. The first of them focuses on the subject of microinstitutions, which objective is explain specific transactions among the parts involved in a certain transaction, and it deals with the costs of transaction and governing structure. The second one is related to the institutional atmosphere that establishes the bases for the interactions among the human beings (AZEVEDO, 2000).

It is necessary to revise the presuppositions of orthodox economy. Among them, the subject of the perfect information stands out. According to the orthodox economy the agents possess all the relative information to the economic decisions. However, what comes out is a great informational asymmetrical that does with that allows the agents who hold more information a larger power of bargain in the economic relationships.

The fore-runner of this approach (NEI) was Ronald Coase (1937), who defended the idea that the origin of the firm was due to the need of controlling the transactions. The control makes the agents want to dominate this activity and, for thus, create the firms. The limits of this firm

are defined starting from the need of internalizing the activities. In case of not being possible to find the product or service available it is necessary to create it. Besides that internalize is taken based on the costs involved to take place the activity, including the transactions. If the costs are smaller than to manufacture the product (or service), the transactions are made in the market. In case these costs are higher, the company will internalize their activities. According to Coase, transaction costs in the market are those to find out the prices that should be practiced, the costs of individual contracts of negotiation for each transaction, the costs to learn the specific details of a transaction.

On the other hand, the costs for internalizing the activities involve great investments in specific assets for the activity, which as machinery, labor, among others. What can be observed is that the ideas of Coase come out, mainly, from the flexibility of the presupposition of the orthodox economy of perfect information.

The economy of transaction costs presupposes that a transaction involves risks, and the parts try to protect themselves creating mechanisms and governing structures in order to reduce them. These risks are called transaction costs. With the reduction of the risks involved in the transaction, it's possible to increase the efficiency of the companies (HOBBS, 1996).

After that, Williamson (1985) defined transaction costs as " the costs *ex-before* preparing, negotiating and to safeguard an agreement, as well as the costs *ex-post* of the adjustments and adaptations which came out the execution of a contract is affected by flaws, mistakes, omissions and unexpected alterations. To sum up, they are the costs of driving the economic system. According to Williamson (1985) the transaction costs can be divided in costs of information, of negotiation and of monitoring (enforcement).

The economy of the transaction costs has some characteristics related to behavior of agents. One of them refers to the fact that the economic agents are rational, but in a limited way. And another refers to the economic agents opportunistic behavior in the accomplishment of the transactions.

It is difficult to foresee all the future situations concerning a transaction. The situations which the agents can foresee are established in the contract but many of them do not appear in the contracts in reason of limited rationality of agents. The existence of incomplete contracts can bring problems after the signature of the contract (*ex-post*), what demands the adoption safeguards with the objective of protective against adaptation problems. The presupposition of the opportunism is based on the lack of restrictions to the economic agents' selfish behavior, what also takes to setting safeguards to decrease the eventual transaction costs.

Given the presuppositions of limited rationality and opportunism, it is important to identify the main attributes of the transactions and so analyze the inbuilt transaction costs and the structure of ideal governing for each case, that is to say, the governance structure that will decrease the involved transaction costs. The main governing structures are the free market (or market " spot "), hybrid forms and vertical integration. The first commercialization form has the best example the free markets where the transactions happen without any commitment of the parts. The hybrid structure can happen in several ways and it implies a certain commitment in the supply. The structure of hierarchical governing is represented by the vertical integration, where several segments of the productive chain have an only owner (FARINA et al, 1997).

In the economy of the transaction costs the attributes of the transactions are: especification of assets, frequency and uncertainty. For example: when two companies make a transaction, this can demand specific investments of the involved parts, such as investments in human resources or a certain industrial plant. These investments are specific for this transaction. In

case the transaction does not working it, incurred in expenses that, if used with another aim won't bring the results hoped for. Depending on the intensity of the especification of the assets demanded in this transaction the economic agents will choose the commercialization form or governing structure that provides the smallest transaction cost. The larger of the especification of the assets involved in the transaction, the larger the tendency to adopt the vertical integration as governing structure (ZYLBERSTAJN, 1995).

Among some types of especification of assets we can make quote the temporary especification. In this case, especially interesting for the work, " the value of a transaction depends above all on the time it takes to be process, especially in the case of the negotiation of perishable " products (FARINA et al, 1997, p.87). For fruits this subject is especially important due to high perishing of these products. Another important factor is the new tendencies of the consumer market, with the search for fresh products and good quality that made necessary the adoption of governing structures that guarantee these specifications.

The frequency with what transaction is accomplished is importance for the dilution of the costs of the mechanisms used in the accomplishment of the transaction, fundamental in the choice of the governing structure. The largest frequency in the accomplishment of a transaction also helps the involved agents to have better knowledge of each other.

As far as uncertainty there are different approaches in this sense. For the goals of this article it is worth to mentioning the sense of the attribute uncertainty as the absence of complete information involving a transaction. This aspect increases the uncertainty that involves the transaction, leading to an increase of the costs of the transaction (FARINA and other, 1997).

Having in mind the presuppositions of the economy of the transaction costs, opportunism and limited rationality, as well as, the attributes of the transactions (especification of assets, frequency and uncertainty) it is possible to choose which of the structures of appropriate governing for each transaction, that is to say, that provides the smallest transaction costs.

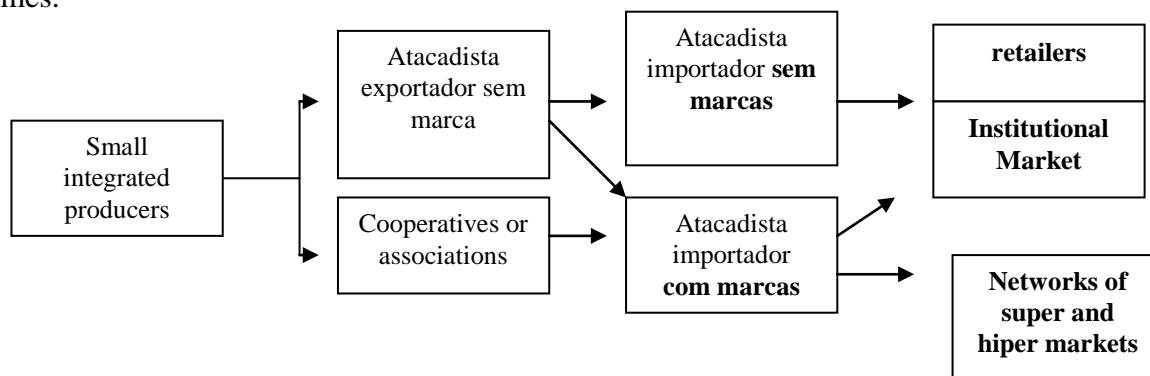
### **3. The exportation of fresh fruits**

Among the largest difficulties appointed for the Brazilian export of fresh fruits it stands out the subject of the tariff and no-tariff barriers imposed by the countries importer, the demanded quality patterns and them owed commercialization difficulty, mainly, the high perishing of products (SILVA, 1999; FAVERET and other, 1999). In this work the largest concern will be with the agents' subject and transactions involved in the commercialization of fruit for to be exported by small producers.

According to Martinelli and Camargo (2000), we can divide the productive chain of fruit for exportation into three great groups.: the producers, the middlemen and the agents involved in the final destiny of the fruit. The group of the producers is formed by three types of agents, the small integrated producers (our study object), the great specialized producers and production verticalizada?????. In the middlemen's group we can find the wholesaler exporter, the cooperative or association of producers, the wholesaler importer that doesn't have a brand name in the product, and the one that puts a brand name and, finally, the multinational companies. The last group is formed by the retail of the importer countries, by the institutional market and by the great nets of super and hiper markets.

In relation to the integrated producers (the focus of the work) the production should go to the cooperative/association of producers or to the wholesaler exporter. These intermediary agents have the function to generate production scale and to accomplish the packing-house services, that is to say, preparation of the fruit for export. Besides, that agents accomplish the commercial transactions with the wholesalers importers in the international markets. In this case, as it has already been mentioned, there are those wholesalers that export the fruit

without brands, being this the task of the importers; and those wholesalers interested in disclosing its brand name to the public. Still according to the authors, when the intermediation is made by the cooperative or the association there is a larger concern in placing the brand in the product to consolidate and to diffuse the agents' commercial brand names.



**Figure 1- Production Chain of exportation of fresh fruit for small integrated producers**  
 Fonte: based on Martinelli&Camargo (2000, p.52).

We can observe from the picture 1 that the road until the consumer end of the external market involves two types of middlemen. When the fruit are marketing through cooperatives/associations there is great interest in marketing them disclosing the brand name of the group. In relation to the commercialization for the wholesaler without brand, the producers are at the mercy of wholesaler or distributor, what ends up decreasing the power of bargain of the producers facing the middlemen. The product without the producer's brand has small especification of assets, what decreases the value of the product in unitary terms.

The difficulty the producers have to arrive until the consumer from external market have some consequences. One of them is related with the appropriation of the value. If producers hasn't much contact with their consumers, they will appropriate less of the product value. Another important element of this chain is the fact of the institutional market and of retail they be less demanding in terms of quality of the fruit than the nets retailers' market of super and hypermarkets. They are generally these last ones that have production **verticalizada**???, as it is the case of the production of grapes for Carrefour in farms of the it is Worth of San Francisco (MARTINELLI, CAMARGO, 2000).

#### 4. Conclusions

It stands out that there are three great transactions in this productive chain, the one of the producing with the wholesalers, that can stop existing in case the producers are organized in associations and cooperatives and the transactions among them with the wholesaler importer or of the wholesaler exporter with the wholesalers importers. Finally, we have the relationships among wholesalers importers with the market agents directly. What we can observe is that the organization of the producers with objective of developing joint actions can be extremely positive at the moment of getting better price for the products in the external market, to decrease the number of middlemen in this process, as well as to distribute a product in the international market disclosing its mark (FAVERET and others,1999; MARTINELLI, CAMARGO, 2000).

The fact that producers are organized makes it possible for them to trade products in larger amount, what gives them larger bargain power when negotiating with the middlemen. In addition to this, the product that is being traded has a certain especification, due the demand of the external market, what makes us end that structure hybrid of governing, just as net of

companies. It can be interesting for the presented case. In this case it could have so much social as bureaucratic nets, which established by means of formal contracts and the also those informal. What is essencial is that these nets should be symmetrical, where there would be a certain homogeneity as far as the power of bargain of participants in what he/she says respect to the power of the participants' bargain.

Finally, one cannot forget the importance of local institutions that support and they strengthen the formation and consolidation of the nets. In the Brazilian case stands out the importance of Valexport - Association of the Producing Exporters of Hortigranjeiros and Derived of the Valley of San Francisco and of Embrapa - Brazilian Company of Agricultural Research (SOUZA; AMATO NETO, 2003). These institutions act in the productive polo of fruit of the São Francisco Valley supporting projects to motivate the increase of the quality of the fruit, as it is the case of the program of integrated production.

## **5. References**