



# 10<sup>th</sup> INTERNATIONAL WORKSHOP ADVANCES IN CLEANER PRODUCTION

“TEN YEARS WORKING TOGETHER FOR A SUSTAINABLE FUTURE”

## Business Cooperation Networks:

### Arrozeiras do Sul Experience

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#### Abstract

Business Networking becomes a brilliant alternative so several objectives can be achieved in less time, with better quality, lower cost and meeting current production needs within the criteria of environmental sustainability. In this paper, considerations based on a field research, supported by a theoretical reference on the structuring and operations of Business Networks are presented, as well as validated by a praxis evidence of what occurred and still occurs in the Arrozeira do Sul Network in the south of Brazil. This network effectively establishes the search for the concept of Cleaner Production, achieving consistency in its criteria of environmental sustainability.

**Keywords:** *Cooperation Networks, Cleaner Production, Sustainability.*

#### 1 Introduction

Sustainability acquires competitive advantage, allowing the expansion of some markets. In this context, Cleaner Production reflects on the environmental sustainability aspect, as well as on the performance of the organization: showing Cleaner Production methodologies contribute to increase production of the worker's capacity and flexibility, health and safety.

The guideline of seeking an ecologically correct business environment, as far as human-business relations, as well as the search for Cleaner Production, is to propose the confrontation of freedom of expression and decision-making in the field destined to the Business Cooperation Networks (BCN) (Severo et al., 2013).

Cooperation consists of an agreement that establishes strategic alliances, which allows different parties not only to reduce the uncertainty and turbulence of the markets, but also to combine advantages in a way in which the overall benefit is greater than the act of individual action (IAPMEI – INTELI, 2008).

The European Commission (EUROPEAN COMMISSION, 2004) defines the term “cooperation” as the relationship between independent partners. This is how they add their efforts and resources in a joint process for value creation. This means sharing knowledge and exchanging ideas is very important. However, building confidence among partners is crucial to make this happen. (D'OLIVEIRA et al., 2015).

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The experience of the Arrozeiras do Sul Network is the objective of this research for its examples of factors that help the effectiveness of collective success.

## 2 Business Cooperation Networks (BCNs)

Business Cooperation Networks are based on four guiding principles (BALESTRIN, A; VERSCHORE, J; ANTUNES, J, 2010):

- 1) Horizontal Cooperation: To stimulate the formation of networks between companies of the same segment of the productive chain, avoiding vertical relations that establish some form of hierarchy among the associates.
- 2) Associative Designs: To constitute a non-profit association, legally established, and designed to promote the common interests of entrepreneurs. However, each entrepreneur maintains his/her individuality.
- 3) Network Expansion: Expand the initial number of members so the benefits extend to all interested entrepreneurs.
- 4) Independence: To maintain autonomy in the definitions of directions taken, regardless of the program.

The practices, values, processes, culture and individual differences share collectively in favor for a common project. Cooperation networks represent the place where the processes of learning and accumulation of knowledge take shape.

For Balestrin, Verschoore and Reyes (2008, p. 170): "In a company, the principle of functional hierarchy is suggested, according to which those responsible for each body or unit are vested with authority to carry out the overall coordination." In this way, all associates are integral parts of the management system.

Verschoore (2006) demonstrated the following management attributes:

1. Social mechanisms;
2. Contractual aspects;
3. Motivation and commitment;
4. Integration with flexibility;
5. Strategic organization.

As for the social mechanisms, the relationship and established bonds of trusts identified replace the hierarchical organization. In social interactions, relationships among the network members can be monitored.

In networks with a high number of associates the use of contractual instruments is necessary. This consists of formally documenting the relationships between the parts. This formalization assists the network in the process of including new associates, since the contracts establish rules and norms of conducts for everyone involved. Balestrin and Verschoore (2008) propose four instruments for networks cooperation management: contractual; strategies; decision-making; and integration.

The following activities create an interaction of a collective trend of business interaction in a BCN with the objective of establishing trust bonds: technical visits between the industries; assemblies; social gatherings; trips and visits to fairs; courses and lectures; strategic planning; and social media to strengthen connectivity and socialization among network businesses.

### 2.1 BCNs Focusing on Cleaner Production

Competitive gains are used to indicate the strategic nature of the results aimed at strengthening competitiveness of companies associated with a network. Six different competitive gains were found (VERSCHOORE e BALESTRIN, 2008):

1. Higher Scale and Market Power

2. Creation of Collective Solutions
3. Costs and Risks Reduction
4. Social Capital Accumulation
5. Collective Learning
6. Collaborative Innovation

However, the condition to be sought from Cleaner Production must be included in this role in order to be defined as a goal of environmental gain and responsibility for cooperation.

In the BCNs field, D'Oliveira *et al* (2015) suggest the following guiding principles, focusing on sustainability and Cleaner Production:

- a) Adopting the Cleaner Production
- b) Labor conscience in Cleaner Production
- c) Minimum waste
- d) Regional Anthropological Characteristics
- e) Cooperative Social Responsibility
- f) Ethical behavior: character, honesty, and businesses relationship principles
- g) Strong and stable institutional and legal instruments
- h) Legal and accounting advisors

## 2.2 Public Policies of Business Cooperation

In Brazil, Business Cooperation Networks (BCNs) programs consolidate public policy instruments aimed at promoting sustainable development based on small and medium-sized enterprises, through projects focused on cooperation and overcoming barriers on training and evolution of networks between companies. Incorporating governmental mechanisms to support the competitive insertion of small and medium-sized enterprises is an important innovation in the field of public management for development. Thus, government incentive programs have a conception of development depending on their assumptions and their inspiration, in this case, the European model of cooperation.

The Department for Development and International Affairs (SEDAI) of the state of Rio Grande do Sul is a good example on how the government plays an important role with the network. The guiding principle was the creation of the Cooperation Network Program (CNP) in order to promote cooperation among companies, to generate a stimulating environment to the entrepreneur, and to provide the necessary technical support to the formation, consolidation, and the development of the networks (SEDAI, 2003).

The cooperation network program of the Government of the State of Rio Grande do Sul, Brazil, is based on four principles (VERSCHOORE, 2008): horizontal cooperation, associative design, network expansion, and Independence in which companies should not be affected in their decision-making autonomy.

The following operating system was established. (SEDAI, 2003):

- SEDAII among Universities provides a specific methodology.
- Permanent technical advice.
- Joint strategic planning.

- Management training course.
- Strategic alliances methodology.
- Seminar for exchanging information.

### **3 Methodology**

The qualitative exploratory methodology applies to this research, in which according to Gil (2009): "It has as its goal to provide greater familiarity with the problem, by making it more explicit or to constitute hypotheses, the improvement of ideas or the discovery of intuitions", and in most cases, these surveys involve the following:

- 1) Bibliography survey.
- 2) Interviews with people who have had practical experiences with the researched problem.
- 3) Analysis of examples that promote understanding.

The research process in this work began with the acquisition of data through interviews, researches from varied sources such as videos, books, magazines, internet, articles, dissertations and theses. The data went through a process called "data processing", Mello (2006) says it is "a relation between the theoretical foundation of the object to be researched and the field to be explored is fundamental for the performance of a qualitative research work". Mello (2006) also emphasizes that qualitative studies are more concerned with quality than with the quantity of data, the main tool in qualitative methods is the researcher him/herself, his/her process of reason and sensibility, especially the use of his/her intuition and his other human attributes related to human communication (MELLO, 2006).

### **4 Case Study: Arrozeiras do Sul Network**

#### *4.1 Foundation*

Arrozeiras do Sul Network is located in the state of Rio Grande do Sul, Brazil. This network was founded in the central region of the state on November 21, 2005, and its 16 business members work together in a satisfactory exemplary way. This bond was born of an auspicious desire to build a structure based on commitments aimed at financial-business success in the internal and external competitive market. The accomplishment of this network gradually happened gradually in occasional meetings, but soon it became routine due to the increase of commitments happening among the partners interested in implementing a true Business Cooperation Network.

According to its members, the group came up with the objective of identifying and making available technological standards to provide information exchanges, to add value to the products of these industries, to increase the bargaining power, to develop research for the development of new products and to identify new markets and to be ecologically responsible. A few months after its creation, some actions resulted in important gains for the members, such as increasing the bargaining power in the joint purchases of machines, equipment, spare parts, and diverse materials and establish an advantageous exchange of information on market, technologies and industrial processes. The companies also emphasize the importance of social capital formation.

At first, the idea of forming a network of rice industries was resisted, because it involved joining companies with different management profiles. However, joint companies that previously saw themselves as competitors are partners nowadays. There are rice industries for more than a hundred years in the region, each one doing its own business individually, but in a network they exchange information and do business together.

Through the support of SEBRAE (Brazilian Micro and Small Business Support Service), Rio Grande do Sul Government and Santa Maria city hall, entrepreneurs were able to make technical trips to China at the Canton Fair and the Sial Fair in Shanghai. They had the opportunity to meet some of the most

modern machines in the world and a myriad of rice products they have never imagined it existed. From these experiences, the Network began to establish technical partnerships for the development of special products and for exportation.

The Network provides an advantage to the productive chain for the appreciation of its products or actions improving the sector with incentives to increase consumption and the generation of higher benefit products. Finding alternatives to the rice consumption habit in Brazil is a challenge for the Network. The high tax burden is another obstacle to new investments, according to the Network members.

The Arrozeiras do Sul Network is the first rice industry network in Brazil. Founders of the Network are located in the central region of the state, in the cities of Santa Maria, São Pedro do Sul, Mata, São João do Polésine, Restinga Seca and São Sepé.

By acting together, these small and medium-sized associated industries accumulate political resources that enable their participation in the dispute over the rules of the rice industry, influencing the political decisions related to norms regulating the organization of production.

#### 4.2 Description

It is a Business Cooperation Network – BCN, working in the area of Agribusiness, currently constituted of sixteen companies, headquartered in the city of Santa Maria – RS – Brazil, operating in the central region and north coast of the state of Rio Grande do Sul, Brazil, as showed in Fig. 1.



Fig. 1: Headquarters of member companies  
Source: Developed by the author.

Physical and administrative infrastructure of the Rice Network and its network management team operate at their own headquarters in Santa Maria – RS - Brazil. It has a centralized administration through an Executive Secretary. The Federal University of Santa Maria, the Department of Development, and International Affairs of the State of Rio Grande do Sul and SEBRAE-RS supports the Network. SEBRAE-RS has been acting to encourage entrepreneurship, supporting micro and small business through consultancy.

The Network is managed through a President, a Director, a Treasurer and a Secretary Director. The Board of Directors is composed of three to seven members and the Supervisory Board consists of three to five members. All positions have a two-year term.

The organizational structure of the Network consists of the President, Vice-President, 1<sup>st</sup> and 2<sup>nd</sup> Treasures, 1<sup>st</sup> and 2<sup>nd</sup> Secretaries, Supervisory Board, Administrative Council and Ethics Board.

According to the managers, the Supervisory board is responsible for supervising compliance with the determinations set forth in the bylaws of the Network. The Board of Directors is responsible for the administration of revenues and expenses, promotions, offers and they are in charge of the financial area of the network. The Ethics Board is in charge of ratifying the final opinion issued by the Supervisory Board.

#### 4.3 *Performance Strategy*

The Network defined a set of objectives intended to achieve in the long term, such as joint purchases with several suppliers. There are weekly videoconferences, and in-person meetings every quarter of the year to exchange information among members for the common good of the group. Strategies are defined among the members of the Network, formalized in Minutes.

Planning is formulated jointly by the members, annually, Always in January of each year, with the presence of the majority of members. At the end of each year, a management report is prepared on the activities carried out during the year, and members are asked to contribute and to suggest activities to be carried out the following year.

Elaboration of the network planning is done with internal and external environment analysis. Several tools are used for scenario analysis, such as SWOT and/or other methods. They always seek positioning within the global market, both internally and externally.

Strategies have been deployed in short, medium and long-term goals and actions. More in the short term, because the rice market is of a rather high volatility. The network adopts procedures to follow the implementation of the actions and the achievement of the objectives. Periodic meetings are held for follow-up, corrections and adjustments of what was initially / previously formulated. At the meetings, the strategies designed to reach the proposed objectives are always evaluated. The network periodically reviews monitoring indicators in actions and targets.

Members' actions are aligned with the strategy of the Network: Façade, Layout, Suppliers, Promotions, and Product Mix, etc. Façades and Layout are definitions of each particular company. Promotions and mix of products in some cases identify each other. As for the suppliers, they always search for the same for everyone, looking for profit in purchases. In some cases, this goal is not achieved due to the difference of machinery between the associates.

The Network has motivational mechanisms for the strategic alignment of its members: internal communication actions, endomarketing, gamification, e-mails, personal contacts, etc.

#### 4.4 *Organizational Structure*

There is a link between decisions taken in a decentralized way and decisions taken centrally. The Network consists of Working Groups that integrate each other. The decisions taken in this working group are made known to all. Contractual instruments of the network are disseminated, adopted and

reviewed / updated periodically. The Network has its Bylaws – Code of Ethics – and the decisions deliberated in the meetings are recorded in minutes and passed on to the members.

The Network has a description of the roles and responsibilities of the directive and advisory functions. The knowledge, the skills, and attitudes of candidates for board positions are considered in elections and hiring. Whenever the Executive Board is renewed, its respective boards and support teams are renewed so there is greater interactivity among the members. They are very serious about the formation of new leaders and the alternation of leadership.

In the Bylaws, the purpose of the Networks is defined as: "Arrozeira do Sul Network – The Association of Rice Processing Industries has the purpose of assisting, guiding, instructing and stimulating cooperation among the associates with regard to processing activities, trade, import of rice and derivatives".

Internal Regulations determine that the admission of a new associate shall be defined by the Board of Executive Officers and by the Ethics Board, and shall be subject of approval or refusal at a general meeting. Regarding the realization of partnerships, the Internal Regulation says that whenever possible, partnership should be favored with companies that are part of the Cooperation Networks Project. The Regulations also establish that the purchases operation must be carried out directly by the associates. The Network plays only the intermediary role of the business. However, there are some negotiation processes only feasible with the participation of all, generating some conflicts among the members of the network, since it requires a long process of negotiation.

The code of Ethics establishes that members must commit themselves to maintaining a high ethical level in established business relations, they must supervise actions that contradict the Bylaws, the Regulations and the Code of Ethics.

#### 4.5 *Earnings*

Being part of the Network provided the associated companies the reduction of costs and risks, and a condition of Cleaner Production: operational costs, transaction costs and investments risks. It has also provided the companies to increase competitiveness through consultancies in the field of law and taxation, and it has tightened the relationship between members in a very broad way.

The involvement in the Network provided the reduction of costs and risks, and a favorable condition of Cleaner Production for the associated companies. The Network provided infrastructure and specialized services to increase the competitiveness of associated companies through consultancies in the areas of law and taxation, and narrowed the relationship between associates in a very broad way. There are members up to 300 km away, but with strong participation in the events carried out by the Network.

There was an increase in the revenues of associated companies after the completion of the Network by searching for new internal and external markets, and increase of the profitability of the associates, and improvement in the facilities of associated companies, including the implementation of Good Manufacturing Practices (GMP) manuals in all affiliates. Through the practice of group meetings, some members have been engaging their children in the commercial environment to gain experience of coexistence in group and leadership formation. The use of various tools in information and communication technologies helps Arrozeiras do Sul achieve success.

Another fundamental factor about its success is that the Network has as manager a highly trained professional coming from the private market, a former manager of a large private bank. Since the consumer market is dynamic in its states and status, collective decisions become more frequent. However, the manager assumes, on his own account, decisions considered routine and those of an urgent nature.

As for sustainable management, as well as environmental actions, there is huge concern regarding the preservation of nature and pollution of the environment. Managers concern and actions for alternative solutions and ways allows an appropriate destination for this type of waste. The network action, according to the participants, will facilitate the development and operation of strategies that minimize

the environmental impact, by mobilizing efforts in the search for alternatives for the development of by-products from the rice husk.

The actions developed by the industries within the Network are at an intermediate stage between Cartesian logic and the logic of sustainability. The evolution process for the sustainable paradigm will consist in the search for practices that prioritize the idea of the interaction by the organizations incorporating a long term vision that contemplates the three dimensions involved in the tripod of sustainability – social, environment and economic. This evolution will require the efforts of all those involved to apply collectively the decisions being deliberated by the industries participating in the Southern Rice Network (ESTIVALETE et al., 2006).

So, how does the formation of social capital take place in the analyzed network? How have the companies that formed the Arrozeiras do Sul Network created competitive differentials for their cooperative in terms of innovation and social responsibility? And how are these initiatives geared towards sustainable logic? Certainly, there are some old and new challenges for managers and participating members of the Arrozeiras do Sul Network to find out (D'OLIVEIRA et al., 2015).

## 5 Conclusion

The idea of agglomeration emphasizes the role of public authorities as a facilitator between enterprises, and the role of the public sector should be to adapt and encourage the strategic planning process with companies in the Network Structuring processes. Therefore, what is expected of the public sector, in partnership with the private one is an action in order to create conditions and provide support for new economic activities, so it contributes to the improvement of regional innovation capacity.

The intensity of the connections should be the management's target so not only the flows are established but, mainly, they maintain them. By signs shown in different studies, the propagation of innovations, frequency of contact between parties create less risk, lower cost, and more comfortable living conditions.

The network depends on the frequency of contact and the quality of information among its parties in order to spread innovation, meet the objectives and interests proposed. The Arrozeira do Sul Network has been an example on how concepts and academic proposals meet the financial success of the companies involved. The decision of its members in the way they act in their daily lives and extraordinary actions reflect the practical and academic studies stated in this work.

Therefore, alternative ways are very important in order to improve performance for small and medium-sized Brazilian companies, especially in Cleaner Production. For much of the investment in innovation and technology directs to projects in large companies like many multinational ones, which have their own research centers in other countries.

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