

Abstract Number: 015-0482

**INTERNATIONALIZATION STRATEGY OF THE BRAZILIAN COFFEE
INDUSTRY: ANALYSIS OF OPERATIONAL ANTECEDENTS**

Authors information:

Mr. Chen, Yen-Tsang

Escola de Administração de Empresas de São Paulo (EAESP)

Fundação Getúlio Vargas

Av. 9 de Julho, 2029

CEP 01313-902 – São Paulo - SP, Brazil

Tel: +55.11.8219.8327

e-mail: yentsang@gvmail.br

MR. JOÃO RAFAEL CAIRO NABAIS CONDE

Escola de Administração de Empresas de São Paulo

Fundação Getúlio Vargas

Av. 9 de Julho, 2029

CEP 01313-902 – São Paulo - SP, Brazil

Tel: + 551172985698

Email: jrcnconde@uol.com.br

joao.conde@gvmail.br

POMS 21st Annual Conference

Vancouver, Canada

May 7 to May 10, 2010

ABSTRACT

The history of Brazil is highly related to coffee production; it was considered the “Green Gold,” and for a long period it has defined the *modus vivendi* of the Brazilian society. Taking into account the importance of this product, we explored the internationalization strategy of Brazilian coffee from the perspective of the operational antecedents (quality, dependability, flexibility, speed and cost). This study has employed a qualitative research method using multi-case studies and deep interviews with coffee producers in Bahia and São Paulo. This study found that the Brazilian coffee producers lack a consistent internationalization strategy, despite the high level of exportation, and the industry arrangements do not provide enough conditions for coffee producers to implement their own internationalization strategy. To conclude, this study proposes a sustainable internationalization strategy according to the level of the maturity of the producer operation and relating each strategy to its corresponding operational antecedents.

Keywords: Brazilian coffee, Internationalization Strategy, Operational Antecedents

INTRODUCTION

The history of Brazil is closely linked to coffee production. This was the main product to be produced in Brazil in the nineteenth and early twentieth century and it was considered the "green gold", and has defined the *modus vivendi* of Brazilian society. This product has instigated research and studies and several papers were presented at conferences, meetings and symposium, such as: Internationalization and competitiveness of manufacturers of roasted and / or milled coffee: the impact of integrated sectoral project to promote coffee exports in 2009, in SIMPOI (Production Management, Logistic and International Operation Symposium).

The importance of this product is reflected in the actions and policies of the government. By launching a national policy for production and export of commodities, Brazil stands out as a leader in world production of coffee; however, through interviews with some coffee producers, we see that they are unfamiliar with the strategy of internationalization and its process. Is in this context of global and international development strategies, this work is conducted.

This study was inspired by the concepts proposed by Paiva e Vieira (2009) and Braunscheidel e Suresh (2009). The first study showed that internationalization is impacted by operational and strategic decisions and the second argues that market orientation and learning orientation are considered antecedents of an agile supply chain to mitigate and reduce risks. Thus, the present work discuss about the operation strategies and development of competitive priorities as antecedents for internationalization, in this case the term antecedent can be interpreted as a necessary condition.

As elements of the essay, two independent coffee producers in the State of Bahia and a specialist in agribusiness were interviewed, and secondary data were collected from the coffee industry in order to realize a sectoral analysis. The work begins with a review of theoretical concepts of the schools of business strategy and operation strategies, followed by a discussion of the reasons and process of internationalization, and then a connection between the operation and the antecedents of internationalization. After the theoretical discussion, a brief report with some comments on the coffee industry, followed by the collected data, and to finalize, the discussion and application of theoretical propositions. It is noteworthy that the approach of the present work involves the link between the individual coffee producer and the strategies of internationalization, as well as its role in the coffee industry. For this reason, issues such as public policy, theories of international trading and international finance are not involved.

THEORETICAL OVERVIEW

Business Strategy and Operation Management

The Positioning stream, according to Porter (1979b), focuses their model on the achievement of operational efficiency as a factor of the implementation of winning strategies by employing unique and sustainable positioning, which can be: cost leadership, differentiation or focus. Meanwhile, the stream of Resource Based View, according to Barney (1986, 1991), Prahalad (2003), Wernerfelt (1984), the superior performance of the firm is based on the control and ownership of resources: valuable, rare, imperfectly mobile and imperfectly copyable. Another key factor is the ability to develop the resources internally in the company and the characteristic of the complementarities of the resources, in addition, the historical factor is crucial in defining the characteristics of the resource of the firm (path dependency) (Dierickx & Cool, 1989).

By changing the level of analysis, in the area of operations, Wheelwright and Hayes (1985) suggest an evolutionary process of competitiveness based at the operations. They advocate that the operation in its most advanced stage can contribute proactively in the defining of business strategies. Taking this proposal of Wheelwright and Hayes (1985) into consideration, in order to carry it on, it is necessary to advance into the strategic alignment between business strategy and operation, and this alignment is translated in terms of competitive priorities (Wheelwright, 1984). In order to have them aligned, several different decisions must be made, and for Skinner (1969) this is incontestable, once the limit of the resource or mutually exclusive options force a company to discard an alternative when he has decided for another. This author says, "*you cannot have it both ways*" (Skinner, 1969).

This limitation of resources and mutually exclusive operational options is called trade-off. This paradigm raised by Skinner (1969) is questioned by Hayes and Pisano (1994), Noble (1997) and Ferdows and De Meyer (1990) which introduced the cumulative capability model, or "Sand Cone" model. This model suggests that to keep a sustainable and consistent growth it is necessary that a company follows a consistent sequence of capability development such as: (a) quality, (b) Dependability (c) Speed (d) Flexibility (e) Cost. Reminding, this work does not advocate the unique sequence of development of operational skills (Flynn & Flynn, 2004).

Summarizing the concepts discussed up to this point, it is possible to suggest the complementarity of the ideas of these two streams of business strategy and a dynamic relationship between business strategy and operations, as illustrated in Figure 1 and described below:

- a) The firms are located in an industry, their positioning define the rule and the guideline on which they will base their business strategies (Porter, 1979a, b).
- b) Having identified the position to be adopted in the industry, the business strategy is refined into operational strategy through the concept of competitive priorities. (Wheelwright, 1984).
- c) The combination of the historical events of the company and the development of the skill concerning the competitive priorities along the time (Ferdows & De Meyer, 1990) will generate idiosyncratic resources (Barney, 1991; Dierickx & Cool, 1989; Schroeder, Bates, & Junttila, 2002). These resource or processes will contribute with the operation making them more competitive (Wheelwright & Hayes, 1985).
- d) With a more competitive operation, it is possible for the managers focus the business strategy at their operations. In this way, they can positioning differently in the industry achieving higher performance.

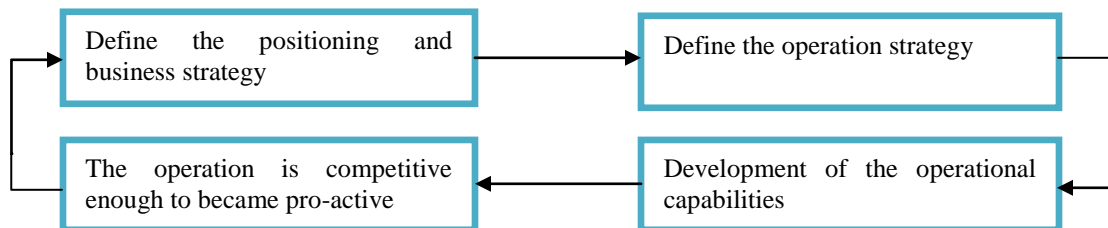


Figure 1 – Sequence of the relationship between business strategy and operation strategy

Internationalization

When dealing with this topic it is important to question the reasons that lead companies to internationalize, it is much simpler one company to act in their own country than in a foreign country. Just the fact that to develop their activities even if only once in a foreign market, the firm in question is in disadvantage compared with competitors in that market such as: familiarity

with the culture, customs, preferences and institutions, among others. Researches developed previously on this subject concluded that firms tend to internationalize by some reasons such as: finding new markets, sales issues - economies of scale and scope -; the search for resources in foreign markets, the demand for skills that make them more competitive in its home market, and reducing their risks (Mariotto, 2007).

Regarding the types of internationalization and international business they are presented as: import and export, licensing, franchising, management contracts, joint ventures, direct investment and portfolio investment (Mariotto, 2007).

On the export process, it is important to analyze the main reasons and motives that lead companies to exchange goods with other countries. Circumstances such as the devaluation of the currency of their country of origin may be a favorable point to export. Another relevant point is the saturation of the domestic market as well as the existence of more profitable opportunities abroad. It is essential that exporting firms defines appropriate strategies for the choice of foreign markets and how the performance will be held throughout the process, in which case, what is the appropriate distribution channel and who will manage the process, the company or a trading company, for example.

Depending on the interests and objectives of the firm, it may have activities exclusively on the domestic market; it can act only in the foreign market by exporting goods or services, and can also make direct investments (greenfields and brownfields); in this last point the firm will become a multinational company. The dynamics of this process of searching for new markets and opportunities that give rise to the multinational company is called internationalization.

It is also important to present the process of internationalization of the firm according to the Uppsala internationalization process model because of its theoretical contribution to the field of study. The work developed at the Uppsala University, Sweden, led to the internationalization of Swedish enterprises and its great breakthrough was the transposition of International Business studies beyond the limits of economic theory to make use of the Organizational Behavior Theory.

The international firm in view of the Uppsala internationalization process model is an organization characterized by processes based on learning that presents a complex and diffuse structure in terms of resources, competences and influences. Recent studies have also brought important contributions to topics such as hierarchies, political view of the multinational company and the entrepreneur's participation in the internationalization process of the firm (Hemais & Hilal, 2002).

The studies from the Swedish university were the first to describe a logical and sequential behavior for the internationalization of enterprises. Their classic model is based on the gradual learning that the firm obtains from the foreign market and the commitment that it has with this. The order to which the firm establishes its operations would be, according to Uppsala, the ease with which the host country's mindset approaches to that acquired by the company in their international assignments. This readiness, if it is possible to say, is called the *psychic distance*.

While it is great recognition of the contributions made by the Uppsala internationalization process model, there are many criticisms mainly because it cannot explain in complete all the processes of internationalization achieved by companies on a global basis. However, aspects related to knowledge, capabilities and commitment ought to be highlighted.

Once discussed the reasons that lead companies to launch into international ventures, it is interesting to understand the process by which companies go abroad. According to Johanson and Vahlne (1977), firms follow a pattern in the process of internationalization labeled *establishment chain* as seen in the Figure 2.

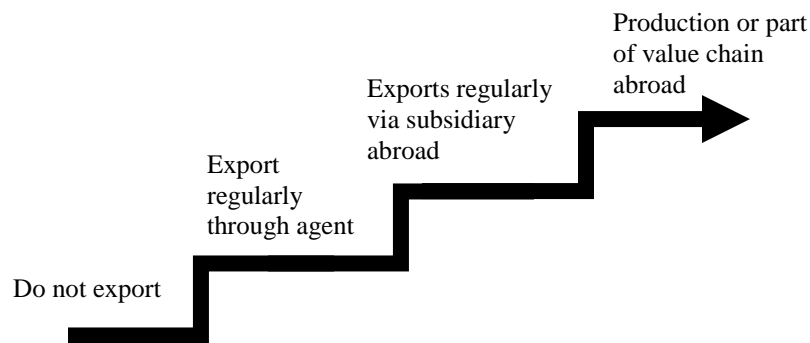


Figure 2 – Establishment chain - Sequence of Internationalization strategy (Source: Johanson e Vahlne (1977))

The internationalization of Brazilian companies is late when compared with developed countries multinational companies. Several hypotheses are known to explain this issue; the first is given the size of the domestic market. The second refers to the mechanisms of protection for the government industrialization in the twentieth century which restricted the entry of foreign companies in Brazil and access to the managerial best practices developed abroad by Brazilian organizations. Macroeconomic factors also influenced the late internationalization of Brazilian companies, such as monetary policy and currency exchange rate instability during the 1980's and 1990's which reduced the incentive for internationalization by increasing the purchasing power of middle class (Rocha et al ., 2007).

According Tanure et al. (2007), the need to maintain growth rates in the context of continuous saturation of the domestic market seems to be the main reason behind the internationalization efforts of the large Brazilian companies. In the case of foreign direct investment, the authors state

that cost issues, inputs, markets, competences and tariff barriers are motivating factors for the relocation of production activities.

In a research conducted in 2005 by Cyrino, and Tanure Penido, it was found that Brazilian companies often start the process of internationalization toward countries with lower psychic distance, confirming the Uppsala internationalization process model. Although 21% had begun by European countries, many of them opted for the Iberian countries and / or Catholic Europe, whose psychic distance in relation to Brazil are lower than those of other European nations (C Yrineo; Tanure ; Penido, 2005 *apud* Tanure et al., 2007).

Because they are *late movers*, Brazilian firms tend to internationalize to nearby markets, because even to theorize the phenomenon, it is a recent issue with few studies conducted and many to be developed. However, it is interesting to note the failures in internationalization to near countries in terms of psychic distance and success in psychic distant countries.

Despite this, Johanson and Vahlne argue in a recent article (2009) the business environment has changed since 1977 and it is seen nowadays as a network where the web relationships have a great impact on foreign market selection. When it refers to the fact that international business is less a matter of country-specificity and more a relation-specificity, the *liability of outsidership* is discussed as the root of uncertainty rather than the liability of foreignness (psychic distance) in relation to the relevant network.

Internationalization Antecedents

The term antecedents may be interpreted as a necessary condition, according to the meaning suggested by Braunscheidel e Suresh (2009). Similar to that study, it is expected that each stage of the internationalization process (Johanson & Vahlne, 1977) requires one or a combination of operating antecedents.

To discuss the internationalization antecedents, it will be adopted here the model proposed by Wheelwright e Hayes (1985), see Figure 3, in which exists four stages of maturity of the operation, ranging from the inceptive stages up to the driver of business strategy. As well as the maturity of the operation, the internationalization process can assume a sequential nature (Johanson & Vahlne, 1977), and this sequence has as purpose to reduce the risk and increase the probability of success in these entrepreneurships. Thus, for each stage of internationalization is expected a corresponding stage of maturity of the operation, in which there will be a set of competitive capabilities developed. Reminding that it is not defended in this work a unique sequence of internationalization stages nether a unique sequence of operational capability development. (Flynn & Flynn, 2004). It is adopted in the present work, as purpose of essay, the sequence suggested by Ferdows and De Meyer (1990) and Johanson e Vahlne (1977).

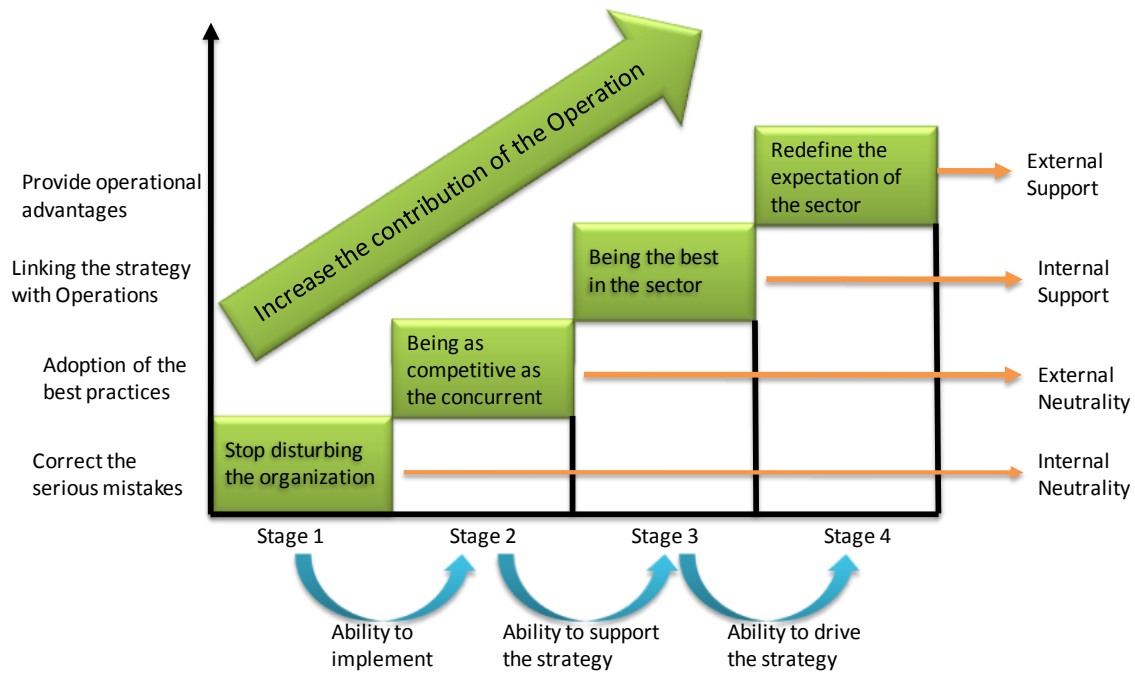


Figure 3 – Stages of operation maturity.

In the stage (1) of operation maturity, the focus of the operation must aim to correct the serious errors that exist in the operation; so the purpose is internal neutrality, that is, the operation should stop disturbing the organization. By making the connection with the internationalization strategy, at this phase, it is not recommended to export, once the business strategy should focus at the survival within the internal market, as it surely Will be at competitive disadvantage compared to other competitors and should not lose its focus trying to compete with other international competitors (Porter, 1979b). In term of competitive priorities, it is suggested to the producers to improve the quality of process and product and increase the robustness of their process (Ferdows & De Meyer; Grossler & Grubner, 2006; Noble, 1997).

When moving from stage (1) to stage (2), it is assumed that the producer already has its processes robust enough to avoid serious errors and can begin to adopt best practices that exist at the industry. At this stage, the company's strategy is to neutralize the competitive advantage of their

competitors. In terms of operational capability, a suggestion for the company is focusing on the development of delivery reliability and product conformity. Connection this stage to the internationalization process, as the company is as competitive as their local competitors, it can consider internationalization as a mean to explore the abroad consumer market, avoiding, this way, the direct competition with local competitors. Thus, it is suggested to link this stage of operation with a strategy of exportation through an agent. This strategy is recommended once the company can achieve the internationalization mitigating the risk with the agents.

Following the evolutionary sequence, to reach the stage (3), it is expected that the producer already has an operation more superior than its competitors at this stage it can rely on its operation to create business strategies and develop operational skills such as agility, flexibility and speed in delivery. The producer may also try internationalization through the creation of subsidiaries for the sale or sales representatives abroad. As he has accumulated experience with the export agents, the risk of failure of internationalization is reduced Remembering that the suggestion to develop agility and flexibility are in tune with the propositions of Braunscheidel & Suresh (2009), since this stage of operation maturity, the producer has to be oriented towards the market and learning, which are antecedents to development of agility in its supply chain.

Finally, moving towards the stage (4), the operation becomes a source of competitive advantage and business strategy can focus on that to define new positioning. At this level, the company can develop skills related with operational cost reduction and innovation, and it is possible for the producer to make its international presence is most outstanding by implementing foreign subsidiaries with production processes. It is assumed that at this operational step, the processes

are robust enough to avoid the variability of the processes and supported by an agile supply chain.

In summary, the proposals suggested in this paper are the linkage between internationalization, operations management and skills of the operation, as shown in Table 1

Sequence				
Operation Management (Wheelwright & Hayes, 1985)	Stage 1 – Internal Neutrality e Correction of the serious mistakes	Stage 2 – External Neutrality Adoption of the <i>best practices</i>	Stage 3 – Internal Support and linking to the business strategy	Stage 4 – External support and operation as competitive advantage
Capabilities (Ferdows & De Meyer; Grossler & Grubner, 2006; Noble, 1997)	Quality and process robustness	Conformity of the product and reliability of delivery	Speed, agility and flexibility	Cost and innovation
Internationalization Johanson e Vahlne (1977).	Not recommended	Exportation through agent	Exportation through subsidiary abroad	Creation of the subsidiary with production process

Table 1 – Proposition about the connection between operation capabilities and international stages.

METHODS AND RESULTS

The chosen method to guide the present work and to verify the proposition is a qualitative research based on case studies. Deep interviews were realized with specialist in agro-business in São Paulo and two coffee producers in district of Barra do Choça – Bahia. Afterwards, the secondary data of the industry were employed for analysis. For the individual interviews, it was adopted a semi-structured questionnaire script in order to explore the key characteristic of the coffee industry as well as its dynamism

Industry Description

a) Industry Scenario

The history of Brazil is closely linked to the production of coffee, while this was the main product to be produced in Brazil in the nineteenth and early twentieth century and is considered the "green gold". In 2008, according to the ABIC - Brazilian Coffee Industry Association, Brazil is the world's largest producer of coffee with a production area of 2,169,795 ha and 5,463,055 thousand crops, the main producing states are Minas Gerais.

Still according to the 2008 data collected at ABIC, it is produced in Brazil approximately 46,000 thousand sacks of 60 Kg of processed coffee, in which, 35,484 thousand sacks of "Arabica" type, which is the main type produced and 10,508 sacks of "robusta".

Table 1 – Brazilian coffee production in 2008 (clean and sorted coffee) (Source ABIC, 2008).

States	Coffee plantation	
	Area (ha)	Coffee crops (thousand)
Minas Gerais	1,048,172	3,223,892
Espirito Santos	489,592	1,065,049
São Paulo	188,495	407,608
Paraná	96,92	329,900
Bahia	125,033	9,538
Rondônia	155,972	276,070
Mato Grosso	15,007	36,017
Pará	12,917	31,001
Rio de Janeiro	13,562	26,080
Others	24,125	57,900
Brazil	2,169,795	5,463,055

According to ABIC, the main purchaser countries of Brazilian coffee, in beans, in 2008 are respectively: Germany, The United States of America, Italy, Belgium, and Japan. Meanwhile, the

main importers of Brazilian soluble coffee are: The United States of America, Russia, Ukraine, Japan and United Kingdom

b) Structure of the Coffee Industry

The structure of the coffee industry is composed mainly buy small produces according to the Table 2.

Table 2 – Participation in the production by the number of companies (Source ABIC, 2008).

Group	2007/2008		
	Monthly Volume (sacks)	Participation (%)	Number of producers
1-999 sacks	63.011	6,79	307
1000 - 2999 sacks	70.342	7,58	39
3000 - 9999 sacks	127.652	13,76	25
above 10000 sacks	666.971	71,87	10
Total	927.976	100	381

According to Table 2, the participation of the production is concentrated practically in 9.1% of the companies, representing almost 84% of the total production. This production, approximately 50% are directed to internal market and 50% to the external market. (Source ABIC e IPEA, referent to 2007)

The annual production of coffee, approximately, 39% is purchased by the coffee cooperatives, 38% by the exporters, 13% by the brokers and 1% by the trades (source: Center of Agrobusiness of University of São Paulo, 2008). According to IPEA (Institute of Applied Economic Research), the volume of exportation of coffee in 2008 is approximately 26 millions of sacks, and the cooperatives are in charge of, approximately, 8% of the total amount. (Source: IPEA, year 2008).

c) Description of type of the coffee and the production cycle

There are basically two types of coffee, *Coffea arabica* and *Coffea robusta*. The *C. arabica* presents a superior quality and it is planted in highland above 800m, meanwhile, the type *C. robusta*, can be planted in lower altitude. The plantation of *C. robusta* is less sophisticated; generally one person commands the harvester and another one at the ground to collect the grains.

Commercially there is, also, a mix of the both type mentioned above (blending), in this case, the beans of the both types are roasted and milled and then, mixed into a proportion to obtain taste, smell and desired visual.

d) Operation Description

The Brazilian coffee industry has always been focused on the volume of production, and having this in mind, the producers try to increase the production through the mechanization of the farm. One example of this mechanization is the adoption of the harvester; these machines are a framed structure where the plantations pass beneath it. A vibrating bar acts on the plant making the beans fall, then they are collected by a set of retractable plates that are placed under the plant. The collected beans transported to the cleaning system inside of the machine by an internal transporter at the horizontal and vertical direction, where dirties are removed by a ventilation process. The regulations of the working angle of the machine make possible its usage in several type of spacing among the plant.

To be able to employ this type of the machine, the coffee plants are planted with spacing of 380 cm x 70 cm, that is, each row of café has a width of 70 cm and spacing between them of 380 cm, configuring aspects of a fence

After the harvest, the coffee cherries (beans) are submitted to a wash process where they are classified in: (a) Green (picked before the beans are ready) (b) Float (Dried beans, bad or unripe); (c) Cherries (good one with high content of sugar). After the wash process of the coffee beans and have them classified, they are sent to a process named “pulp removing”. At this process, the beans are dried and reducing their moisture from 35% to 18%. And to finalize the drying, the beans are spread under the sun on a large concrete patio to reduce the moisture from 18% to 12%. Today there are patio that use asphalt instead of concrete due to the capacity of heat absorption of this material, then increasing the efficiency of the process.

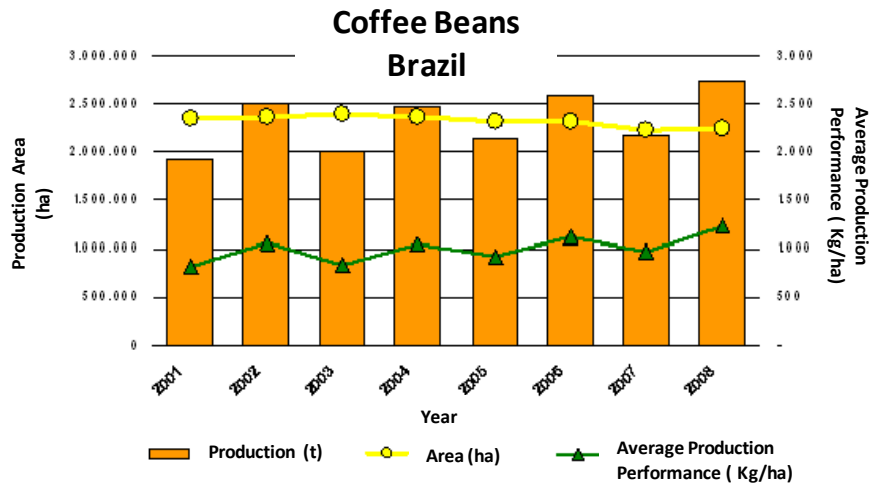
Once having the beans dried, they are cleaned and sorted (*milling*). The purpose of this process is to remove the last layers of the beans (parchment) and release the cotyledons.

Once the parchment is removed, the coffee beans are sorted and classified in the following way:

- a) The cotyledons are not split – unique bean: When the cotyledons are not split, these types of beans are called MOCHA, which are considered high quality.
- b) Those that have the cotyledons split are classified according to the sieves that are used:
 - i. When higher the number of the sieve, higher is the quality, once the use of the finer sieve represents that the beans are smaller or broken. The first sieve used in Brazilian coffee producer is the 17/19
 - ii. Once they are sorted and classified, the beans are put into a sack of 60Kg ready to be sold. One interesting point is the final process of classification and sorting take place normally inside of the coffee cooperatives.

Biannuality.

Traditionally, the coffee production has one year with higher production and another one lower, this phenomenon is called *biannuality*. In the lower performance year, the reduction can reach 18% to 20% when compared to the higher production year. The causes of this phenomenon are several, since the way that the picking (bean collecting) up to climate factors, but in general is done in purpose in an alternated year to provide recovery time for the harvest.



Graphic 1 – Effect of biannuality of coffee production (Source: IBGE)

RESULT ANALYSIS

To proceed with the analysis of the data obtained in the interviews; this paper will use the concepts proposed at the theoretical reference, where the stages of the operational maturity was linked with the internationalization process development. As the coffee chain is extense, it is simplified in this paper to demonstrate how a producer that has not yet been in the state of internationalization can follow this path.

Analysis of the Industry and Operation

When analyze the composition of the industry through the model proposed by Porter (1979a), it is possible to notice that the bargaining power of the producer is relatively low when compared to his customers , once, practically 85% of production is absorbed by three large buyers, cooperatives, exporters and brokers. This positioning has lead the coffee producers to compete, for a long time, basing on the efficiency of the production and this competition had lead them into a trade-off scenario (Porter, 1996). In addition to this characteristic, the status of commodities assumed by the coffee reinforces this adoption of competing through production efficiency.

A regular coffee producer does not control the final destination of his product, once his is just at the beginning of the chain and the final market are mediated by agents according to Figure 4:

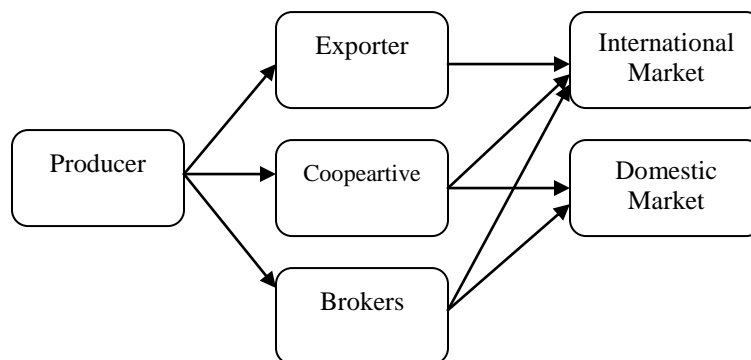


Figure 4 – Simplified coffee industry chain.

Stage 1 of Operation Strategy: Internal Neutrality

In its initial stage, the producer has his process linked to the requirements of these intermediating agents such as quality, delivery, classification of coffee, among others. In this situation, the

producer does not have much bargaining power, once the final product is considered commodity and the competition is held in a perfect market

From the interviews, it is possible to notice that the producers already have reasonable notions of quality, delivery and organization, once these production activities have been performed for several decades. In this case, the suggestion in a more robust process has as purpose the improvement of the quality of the coffee, keep a consistent productive process chain in the farm and avoid wasting. The arguments to adopt this strategy are based at the following benefits that can be obtained:

a) If the beans are collected properly and more carefully, it will avoid them being broken, consequently suffer from oxidation. By achieving this implementation, it will reduce the loss of coffee flavor, and then the coffee producer can obtain a better classification for the beans and higher commercial value of the product.

b) A stricter control concerning the coffee planted, this means, the type of the coffee should be consistent with the regional climate and location. Thus, it is possible to contribute with the identification and certification of the producing region (legitimation and consumer marketing).

Stage 2 of Operation Strategy: External Neutrality

Based on data from the interviews, the producers are already established in this stage of maturity. The producers have their process robust enough to provide quality, thus ensuring the so-called “necessary condition” to export. To export, as seen in Figure 4, it can be done via three options: the exporter, the cooperative and the broker. Beside these three agents, there is also the *PSI*

(Integrated Social Project), which is an initiative of the Brazilian federal government to stimulate the exportation of the small coffee producers.

During this stage, small producers regularly adopt the best practices of the large one or other industries, such as ISO certification, adoption of mechanization, implementing a system of cost control, etc. The adoption of these practices aims to improve the conformity of the products, quality enhancement and improvement of the operational control over the productive area. As is possible to see in the **Figure 5**, the coffee can be classified into three categories according to ABIC: Traditional, Superior and Gourmet



Figure 5 – Quality certification according to ABIC

These certifications, as mentioned before, explain the origin of the beans, and works as certification of product quality. Beyond quality and product reliability, always according to the specification, the producers should start the investment in delivery dependability, this means, ensure that the delivery will be always according to what is requested and respecting the delivery date. To put this into practice, the investment suggestion, based on the interviews, is the reduction of the effect of biannuality.

As mentioned previously, the effect of the biannuality is a current practice in the coffee industry. However, adopting an analogy of coffee production with a productive machinery of a manufacturing plant, the arguments to invest in the reduction of the biannuality effects are based on:

- a) **Ensure the production flow:** Bringing more reliability at the deliveries and greater predictability of the amount produced;
- b) **Enhancement of the operational component of the production:** Genetic development of the type of the coffee aiming to ensure the superior quality of the plantation, once some of the quality problem are related to the genetic of the coffee seeds;
- c) **Maintenance of the Machine:** Adequate soil fertilization that preserves the land suffers from impoverishment, and an adequate picking process avoiding the premature wear of the plantation.

These three benefits of reducing the biannuality contribute, significantly, elevating the operation from the stage two to three and to achieve this purpose, it is suggested investment in to attack the causes of the biannuality effects, such as:

- a) Inadequate pruning technique that hurts the plant after each harvest;
- b) Inadequate picking (collecting) process that collect the beans that are not mature yet and hurting the plants, consequently undermining the future harvest.
- c) Unwanted grasses that grow at the plantation stealing the nutrients from the coffee plantation;
- d) Seeding decision process without a consistent criteria, this problem will lead to a non synchronization of the blossom generating different period of bean maturity;
- e) Genetic of the coffee that makes the plants have distinct blossom period;

f) Adoption of mechanization of the harvest that impact at the food chain of the insects. Once have it adopted, the spiders that used to live at the plants are removed, and due to this fact, natural predators of the moths that cause damages to the plantation are eliminated, thus a reduced production.

g) Inadequate or not correct soil fertilization process that demands the plantation has a recovery time in an alternated year cycle.

To fight against the effect of the biannuality, significant investments have been done in the harvest process and genetic researches. These researches are normally out of range in term of budget for small producers; however, they have to incorporate as soon as possible the result of these researches. For example, one result of these researches is a new alternative fertilization product that makes the plants more resistant to damages caused by the mechanical harvest.

Operational Strategy Stage 3 - Internal support

Armed with a more robust, consistent and reliable operation, producers are able to stand against those who do not have the operation with these characteristics. Returning to the effect of biannuality, by reducing this effect producer can provide a constant flow of production over the years and this is a great competitive advantage in relation with competitors that are under the influence of instability of production, since the former can provide more products than the second during the low production period. This additional amount during the valley period can ensure an extra income while other competitors have an average income. Moreover, as the commercial value of coffee are given in the commodities' market in periods where production is lower the price tends to rise as supply is shorter, so that the additional production may represent a far more valuable asset to a producer who suffers the least biannuality impact.

Dating back to the concept of Ricardian rent, the producer who successfully reduces biannuality has in his hands a superior resource for income generation. This concept is also what the School of Resource Based View advocates (Peteraf, 1993; Wernerfelt, 1984).

Returning to the internationalization strategy, to reach this stage the producers has already obtained enough experience in relation to its product abroad, he knows the export practices, therefore he can explore the internationalization through an own representative in the international market. This strategy would eliminate one of the intermediaries reducing various effects over the supply chain, for example, the bullwhip effect. Moreover, adopting this strategy the producer may appropriate amounts that were appropriated by the intermediary agent.

In relation with operational antecedents, at this stage the producer must invest in flexibility and agility of production. These investments will be focused on the variance in consumer demand; for example, a change in consumer behavior or unexpected events in the downstream of the chain. These skills are essential to serve the international market. Furthermore, the variables that influence the demand directly affect the production and the decision of the producer. However, the marketing differentiation will not be possible if the producers do not have enough speed to reach the market or change the form of supply according to customers' needs.

Another way to increase agility and flexibility is the introduction of new machinery for processing coffee. While it is common that the processing is done in a cooperative, having flexibility in mind, it is suggested to introduce mobile processing machine, so the producers does not need to wait to get to the cooperative to receive the grades of the beans. Thus, the coffee goes to the cooperative graded and ready to sack and, consequently, to sell.

Operational Strategy Stage 4 - External support

This stage of operation is considered difficult to achieve and even harder to maintain (Wheelwright & Hayes, 1985). At this level, the operation becomes a source of competitive advantage and business strategy can be focused on it.

Through a more productive farm and more competitive operation than the other competitors, the producer can begin to innovate in function to provide their products. It can go one step further in its internationalization activity. Innovation in this case can manifest by diversifying the quality of coffee required, adaptation of tools for treatment of coffee for home consumption, or take a further step in terms of vertical operation towards the final consumer.

In order to directly reach the final consumer external, producers must bear the brand strengthened, and with the strength of this brand it can be possible to establish a manufacturing facility to meet the final customer directly, for example, coffee roasting or a coffee shop. At this stage, the producers will have the opportunity to redefine the mission of the company based on the competitive advantages offered by the operation. While on stage one, two and three the alleged mission is **to provide quality coffee to the consumer market**, on stage four it can be reformulated **to provide gourmet solution based on coffee**. Based on this broader redefinition of the business, the grower can pass to act in a more comprehensive and focused way to guarantee the needs of the consumers.

An important point that should not be forgotten is the continuous development of the competences acquired in earlier stages to develop a new competence. Regarding the biannuality

factor, the reduction of this phenomenon motivates producers to innovate continuously in the process of harvesting.

DISCUSSION AND FINAL CONSIDERATIONS

Throughout this paper we discussed the need of operational antecedents to the internationalization strategy and these antecedents are not just for internationalization but also for companies to differentiate themselves in terms of marketing (Barney, 1986; Peteraf, 1993; Wernerfelt, 1984). For these authors the competitive advantages in the products market are manifestations of the competitiveness of productive factors controlled by the firm.

Thus, the analysis in the previous part can be summarized in the table 2:

Table 2 – Relationship between stage of internationalization, strategic action and operational antecedents

Stages of Internationalization	Strategic Action	Operational Antecedents
Do not export regularly	<ul style="list-style-type: none"> - Investment in a more robust production process - Stricter control of the type of coffee planted. 	Assurance and Quality Control. Robust process. Reduction of variability.
Exports regularly via intermediary agent	<ul style="list-style-type: none"> - Investment in best practices. - Fighting biannuality coffee. 	Compliance of the product. Reliability of delivery.
Exports regularly via subsidiary	<ul style="list-style-type: none"> - Investment in agility, flexibility. - Agility to respond to unexpected events. - Flexibility to add more value. 	Speed. Agility. Flexibility.
Production facility abroad	<ul style="list-style-type: none"> - Innovation. - Vertical Integration towards downstream. - Amendment of the company's mission, creating new businesses. 	Cost. Innovation.

With this sequence of development, some propositions are suggested to be checked in an exploratory quantitative study.

Proposition 1: The greater the maturity of the operation of the company, the better the performance of the internationalization

Proposition 2: The internationalized companies that have greater maturity of the operation has improved financial performance.

Proposition 3: Maturity of the operation is the antecedent of the differentiation of coffee.

Proposition 4: Maturity of the operation impacts positively on the reduction of the biannuality.

Proposition 5: Adoption of process innovation or product innovation can have a positive impact in reducing biannuality.

Proposition 6: Reduction of biannuality positively impacts on financial performance

Proposition 7: Verify the existence of a fifth stage in regard to the operational strategies proposed by Wheelwright & Hayes (1985), which is related to operations established in a network environment in line with the ideas of Johanson and Vahlne (2009).

Although Brazil is one of the largest exporters of coffee the process is mediated by large cooperatives, exporters and brokers, and within this structure the bargaining power is concentrated in intermediaries appropriating value generated by the producers.

The purpose of this work leads producers to reflect at how they can achieve the foreign market by investing in operation. Furthermore, they explored some arguments by which the market differentiation also depends on the proposed operational antecedents. As advocated by RBV (Barney, 1986; Peteraf, 1993; Wernerfelt, 1984), the advantage in the product market is the manifestation of the idiosyncrasy resources of the company as well as another study by Paiva and Vieira (2009) who also argue the operation (cross-functional decision) can positively impact on internationalization.

This work is limited to discussing the operational factors of the enterprise and how these factors form the antecedents of internationalization. Of course there are other macroeconomic factors that influence the internationalization of the company, such as the level of taxation and protectionism the government but it was decided to leave this discussion for future works.

For the next step of work is suggested to collect quantitative data in a survey for verification of the propositions developed.

REFERENCES

ABIC – Brazilian Coffee Industry Association (*Associação Brasileira da Indústria de Café*).

[Access: May 18th, 2009] Available in: <<http://www.abic.com.br>>.

Barney, J. B. 1986. Strategic Factor Markets: Expecations, Luck And Business Strategy. *Management Science*, Vol. 32(No. 10): 12.

Barney, J. B. 1991. Firm Resources and Sustained Competitive Advantage *Journal of Management*, Vol. 17(No. 1): 22.

Braunscheidel, M. J., & Suresh, N. C. 2009. The organizational antecedents of a firm's supply chain agility for risk mitigation and response. *Journal of Operations Management*, 27(2): 119-140.

Dierickx, I., & Cool, K. 1989. Asset Stock Accumulation And Sustainability Of Competitive Advantage. *Management Science*, Vol. 35(No. 12): 8.

Ferdows, K., & De Meyer, A. 1990. Lasting Improvements in Manufacturing: In Search of a New Theory. *Journal of Operations Management*, Vol. 9(No. 2): 17.

Flynn, B. B., & Flynn, E. J. 2004. An exploratory study of the nature of cumulative capabilities. *Journal of Operations Management*, Vol. 22: 19.

Grossler, A., & Grubner, A. 2006. An empirical model of the relationships between manufacturing capabilities. *International Journal of Operations & Production Management*, 26(5-6): 458-485.

Hayes, R. H., & Pisano, G. P. 1994. Beyond World-Class: The New Manufacturing Strategy. (cover story). *Harvard Business Review*, 72(1): 77-87.

Hemais, C. A. P. G.; Hilal, Adriana. (2002). O processo de internacionalização da firma segundo a Escola Nórdica. In: Ângela da Rocha. (Org.). A internacionalização das empresas brasileiras - estudos de gestão internacional. Rio de Janeiro: Mauad, v. , p. 15-40.

Mariotto, F.L. (2007). *Estratégia Internacional Da Empresa*. São Paulo: Thomson Learning.

Johanson, J., & Vahlne, J. E. 1977. Internationalization Process of Firm - Model of Knowledge Development and Increasing Foreign Market Commitments. *Journal of International Business Studies*, 8(1): 23-32.

Johanson, J., & Vahlne, J. E. (2009). The Uppsala internationalization process model revisited: From liability of foreignness to liability outsidership. *Journal of International Business Studies*, 40(9), 1411-1431.

Noble, M. A. 1997. Manufacturing competitive priorities and productivity: An empirical study. *International Journal of Operations & Production Management*, 17(1-2): 85-&.

Oura, M. M., & Stal, E. (2009). *Internacionalização e competitividade de empresas fabricantes de café torrado e/ou moído: o impacto do projeto setorial integrado de promoção de exportações de café*. Paper presented at the SIMPOI.

Paiva, E. L., & Vieiria, L. M. 2009. International operations and export performance: an empirical study. *Management Research News*, Vol. 32(No. 3): 14.

Peteraf, M. A. 1993. The Cornerstones of Competitive Advantage - a Resource-Based View. *Strategic Management Journal*, 14(3): 179-191.

Peteraf, M. A., & Barney, J. B. 2003. Unraveling The Resource-Based Tangle. *Managerial and Decision Economics*, Vol. 24(No. 4): 15.

Porter, M. E. 1979a. How Competitive Forces Shape Strategy. *Harvard Business Review*, 57(2): 137-145.

Porter, M. E. 1979b. Structure within Industries and Companies Performance. *Review of Economics and Statistics*, 61(2): 214-227.

Porter, M. E. 1996. What is strategy? *Harvard Business Review*, 74(6): 61-&.

Rocha, A.; Silva, J.F.; Carneiro, J. (2007). *Expansão internacional das empresas brasileiras: revisão e síntese*. In: Fleury, A.; Fleury, M.T.L. Internacionalização e os países emergentes. São Paulo: Editora Atlas, p. 183-197.

Schroeder, R. G., Bates, K., & Junttila, M. A. 2002. A Resource-Based View Of Manufacturing Strategy And The Relationship To Manufacturing Performance. *Strategic Management Journal*, 23: 13.

Skinner, W. 1969. Manufacturing-missing link in corporate strategy. *Harvard Business Review*(May-Jun): 11.

Souza, M. C. M., Saes, M. S. M., & Otani, M. N. (2005). *Pequenos produtores e o segmento de cafés especiais no brasil: uma abordagem preliminar* Paper presented at the ANPAD.

Tanure, B.; Cyrino, A.B.; Penido, E. (2007). *Estratégias de internacionalização; evidências e reflexões sobre as empresas brasileiras*. In: Fleury, A.; Fleury, M.T.L. Internacionalização e os países emergentes. São Paulo: Editora Atlas, p. 198-215

Wernerfelt, B. 1984. A Resource Based View of the Firm. *Strategic Management Journal*, Vol. 5(No. 2): 10.

Wheelwright, S. C. 1984. Manufacturing Strategy: Defining the Missing Link. *Strategic Management Journal*, Vol. 5(No. 1): 15.

Wheelwright, S. C., & Hayes, R. H. 1985. Competing through manufacturing. *Harvard Business Review*(Jan-Feb): 12.