Management control in internationalized Brazilian companies: analysis of six case studies

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Abstract

Gomes, Josir Simeone (2009): **Management control in internationalized Brazilian companies: analysis of six case studies**. ***Adv sci. appl. Account.*** **2** (1), 1001-1011.

The first objective of this study, specifically related to accounting science, is to determine whether the internationalization of a company's operations has an impact on its management control systems. Literature review on the subject revealed that (i) authors approach it in a basically similarly way, but also (ii) showed some differences, specially to what concerns the cultural characteristics of the countries involved. We report and analyze six case studies of Brazilian companies with international activities. Investigation was guided by the premise that, as the geographical scope of a company's operations enlarges, its administrative complexity also grows, demanding the adoption of new and more sophisticated controls systems. Evidences collected in cases indicate that, in certain situations or instances, the expected goal of management control systems in the new context, as well as its sophistication, may not be achieved. Our second objective is to call attention to the Taketani and Osada epistemology, which provides an important support to the kind of work we did. The epistemology states that to collect, to analyze, and to compare different descriptions of a phenomenon is a necessary step in the construction and evolution of knowledge in a certain area, and considerably accelerates the process. This makes us confident that our approach represents a promising advance towards a steady and consistent growth of knowledge in the field of accounting science.

Index terms: management control - developing countries - business strategy - internationalization

Received: 2008/07/11 *Peer reviewed:* 2008/11/19
Reformulated: 2008/11/28 *Recommended**: 2008/12/15, by Piotr Trzesniak ***Published:*** **2009/03/31**

1. Introduction

The presentation of this article has two objectives. One is related to knowledge in accounting sciences, and follows closely a previous work of the author (Martinewski and Gomes, 2001a). Adding two new cases to four already presented in the latter, the purpose is again to examine if, as the geographical scope of a company's operations enlarges, its administrative complexity also grows, demanding the adoption of new and more sophisticated control systems. This process becomes more critical when internationalized companies have accomplished direct investments in other countries, due to the need of expansion of the scope of the control on financial and human resources allocated abroad. A unique control system is not compatible with the differences in the cultural characteristics of the various countries, requiring the use of additional mechanisms to deal with the new scope of businesses. Such premise is based on Dyment's (1987) thoughts, that the administration of a globalized company should be significantly different from a domestic one, and even from a multinational one, and its management control system structure should be adequate to a global strategy.

The second objective is a totally new one, and concerns *building* accounting science. It intends to bring the epistemological approach of Taketani and Osada (Sakata, 1971; Osada, 1972; Trzesniak et al., 2009) to the attention of the researchers in the field and to illustrate one of its features. In its essence, this epistemology defends that science grows from everyday experiences, from informal, self-learned, undocumented *know-how*, which would be a kind of "zero-th" step or stage. The next (first) *necessary* step is then *to observe, to describe* and *to preserve* (in some kind of permanent *midia*) information on the reality one is interested in. Later, when a "critical mass" of descriptions becomes available, analysis begins, thus starting the third step. Abstraction and conceptualization will then be the main challenge, eventually leading to

An online scientific journal published simultaneously in Portuguese or Spanish and English by the
Associação Nacional de Programas de Pós-Graduação em Ciências Contábeis (http://www.anpcont.com.br).
General Editor: Piotr Trzesniak (2007/2009)
**To be published, articles must be recommended by one of the editors or by a member of the Scientific Advisory Board*

scientific theories. To collect, to analyze and to discuss case studies certainly fits very well in the transition from the first to the second step of this proposal for the construction of knowledge, making us confident that our approach represents a promising advance towards a steady and consistent growth of accounting Science.

2. The globalization and the new social context

Important environmental changes, occurred in recent decades (like the increase of uncertainty, the size of the organizations, concentration and alliances, and the decline of manufacture; Otley, 1994), led organizations into a more open, international and dynamic social context, in which competition grows and modifications are constant and fast, what inevitably deeply influenced management control systems. Among other consequences, speed of changes brought to the companies a growing difficulty to forecast the future. According to Otley (1994), a model to foresight, which is used to evaluate the potential effects of action alternatives, is the heart of any control system; any reduction in the capacity to forecast the consequences of changes reduces the organization capacity to control its destiny.

3. The management control in internationalized companies

The pertaining literature (see Anthony and Govindarajan, 1998; Maciariello and Kirby, 1994; Merchant, 1998, among others) gives a relatively similar *basic* treatment to the subject of the management control of internationalized companies, but also points out some differences (Merchant, 1998, p.769).

According to Anthony and Govindarajan (1998), the planning and controlling processes of a multinational undertaking are, in principle, similar to the one of a domestic enterprise; however, they must be specifically designed to attend the multinational context. The authors say that the cultural differences may have a great influence in the way the information generated by the system is used.

Maciariello and Kirby (1994) emphasize the importance of the strategy adopted by the organization for its international operation, to make it possible to determine the successful key factors relevant to that strategy. Just after the determination of these factors it will be possible to decide on the autonomy degree, as well as on the management system adequate for the control of this operation.

For Merchant (1998), the control of a multinational organization is much more complex than the one of a domestic organization for basically five reasons.

- multinational organizations present an established three-dimension structure; besides the *functional* dimensions (production, marketing) and the *product line*, there is the *geographical extent*. As previously mentioned, the organization must adapt its control system to each national (and even to local) culture in which it operates;
- the organization has to face (or may face) the necessity of determining international transfer prices;
- the exchange problem;
- usually, there is a high information asymmetry between the corporate management and the people of the businesses abroad that, in general, know the peculiarities of their environment better (laws, tastes, habits, risks). The high asymmetry may limit the use of action controls due to the difficulty that the corporate management has to make an adequate judgment;
- distances and different languages and time zones hinder frequent visits and communication between the central management and the foreign units; this difficulty can be decreased by the evolution of information technology, which created faster and easier communications.

Dyment (1987), on the other hand, emphasizes the difference between the concept of a traditional *multinational* company and of a *global* company. According to the author, the first refers to organizations that operate at several countries under local organizational strategies and structure; differently, a global organization obtains competitive advantage through a coordinated strategy that includes all the countries in which it operates. This distinction proves that the management control becomes a subject more complex than previously mentioned. Similarly, Prahalad and Doz (1993) affirm that the growing power over several industrial branches of a small number of global competitors implicates the need of the multinational organizations to develop a global strategy (in complement to the varied local strategies) to succeed.

In short, the purpose of the management control in a global organization should be to verify whether the global strategies are being implemented with success. A mistake in adopting an adequate control system for a such strategy may lead the company to focus the wrong elements and, as a consequence, the aimed strategic advantage may not be achieved.

However, the adaptation of the management processes to the global environment can be complex and slow. Bartlett (1993), in his study on the internationalization process of companies of the pharmaceutical sector, points out that growing pressures from local governments and global competitors force the organizations to develop and to integrate their management accomplishments at a local as well as at a global level; to accelerate the changes in both fronts, these multiple accomplishments and perspectives must interact in a flexible way. In general, it was taken for granted that changes in the companies' organizational structure would be the main action to adapt the decision making process; nevertheless, to catch the subtlety and complexity of a flexible multidimensional process, just by changes in the formal structure, is not an easy task. According to the author, the studied companies carried out a gradual process of changes in the *people*, in the *relationships,* and in the *processes*, which were introduced in a more casual and less traumatic way (than a formal restructuring). Instead of focusing attention in the structure itself, the managers of these organizations considered basically the nature of the decision making process that the change aimed at. These organizations developed flexible multidimensional decision, making processes demanded by their strategic environment without changing their formal structure. Bartlett (1993) concludes that a process of adaptation to a global environment based on the evolution of the organization seems to reach the same objectives, being less traumatic than an adaptation process based, primarily, in the formal restructuring of the organization.

4. The companies herein studied

To achieve the established objective, we analyzed the case studies of the companies *Chadler Industrial da Bahia S. A.*, *ABC Engenharia S. A.* (disguised name), *S. A. White Martins* and *Souza Cruz S. A.*, all from the Martinewski and Gomes' (2001a) study; *Petrobrás* (Rodrigues et al, 2002; Rodrigues, Gomes, and Bufoni, 2003); and *Vale do Rio Doce* (Braga and Gomes, 2002)[#1]. Part of the information given in the case studies is now (2009) outdated, but we left it as it was at the time they were done. As said in the introduction, our focus is to put together and to compare instances of the *internationalization phenomenon*, rather then to describe the present conditions of companies. Moreover, from the epistemological point of view, what matters is the *content*, the *process* described in the cases, which would not be *essentially* changed by any update. Nevertheless, at some points where *at present* or *nowadays* had been used by the original authors, we included the year between parentheses.

4.1. The case of *Chadler Industrial da Bahia* *(Martinewski and Gomes, 2001a)*

Chadler is a company dedicated to the cocoa processing and is the raw material supplier for several of the major world's chocolate manufacturers. As basically an exporter since its foundation, it was obliged to shut down its factory in the metropolitan area of Salvador, Bahia, in 1994, and installed a plant in the United States. Thus, it would be located closer to its consumer market, besides taking advantage of an easier access to its raw material (the cocoa importation was more difficult in Brazil) and to the easy financing offered by its new location. Parallel to this, the company observed a series of other advantages in the operation abroad, in relation to the operation in Brazil - which was nevertheless maintained, by renting a factory in the interior of Bahia. Among the advantages of the new location, it can be mentioned the simpler tributary structure, also the simplified labor legislation, the lower cost of raw material, lower maintenance costs, and lower financing costs for the production and investments.

As a consequence of the simplicity of the tributary and labor structures, the company could maintain a simpler administrative structure than a company of similar size in Brazil, as well as a simpler accounting, with smaller volume of entries. This reverts to a smaller volume of administrative expenses. The other issues revert to lower production costs, besides allowing investments to enlarge productivity, reducing costs even more.

The company is managed by the *board of directors*, composed by three members of the controlling family, which defines the strategy, the investment decisions and the mix of products. The top management of the operational units is responsible just for decisions of operational level. The company did not have formalized strategic planning and it did not elaborate annual budgets. However, the existence of short and medium term informal objectives was observed. The company's operations control is made, basically, through accounting and financial reports, and the central concern of the administration is the production and the cost level. The factories have no responsibility centers and the performance evaluation is made through the production level and the achieved results. There is no formal motivation system, nor rewards for managers and employees, but the directors receive bonuses based on informal evaluations.

The company has a family control structure (Gomes and Amat-Salas, 1999), emphasizing the personal relationships. There is no formalization of the control elements, the financial information being the main controlling instrument.

[#1]The indicated references, available from the author, give the details on how the information presented in the following sections was obtained.

The control of the foreign unit reproduces - but on a more simplified basis - the control of the national operation. In fact, the simplicity of the control system is its main characteristic, due mainly to the size of the company and to the proprietors' direct involvement in the routine of the company.

4.2. The case of *ABC Engenharia* (Martinewski and Gomes, 2001a)

This company operates in the sector of project management and is the largest in Brazil, in the segment of industrial projects. The internationalization of its activities has started due to the necessity to attend the demand of one of its customers that would start the construction of a plant in Argentina, in 1993; so, the company opened a subsidiary in this country. The mission of the company is to attend the needs and demands of its customers for specialized services of administration to implement any kind of project. Thus, the company may provide the customer's full satisfaction, and its continuity and growth, allowing its employees' and shareholders' personal and professional accomplishment. In the execution of its activities the following targets must be achieved:

- *results:* reach the customer's goals (term, cost, safety, and quality);
- *moral:* working atmosphere (the employees' satisfaction and motivation, the concern with education and training, and the search for excellency);
- *ethics:* expected behavior of the members of the company (honesty, loyalty, integrity and independence);
- *style:* manner of conducting operations (dynamism, flexibility, cooperation and participation).

The statute of the company foresees the complete dedication of the partners to the company. The project managers act functionally together with the divisions they are linked to, and regarding the matrix organization with the support areas and with the administrative and financial management. There is no formal strategic planning; however, objectives and goals are defined for a five-year period, based on the shareholders' experience and sensibility. The short and medium term planning are defined annually, with detailed objectives and monthly goals for the following year; moreover, they present the objectives and generic goals for the second subsequent year.

The planning process begins on a top level management, and the objectives and goals are communicated formally to all the sectors of the company, so that they may present their proposals to reach the global goals. Such proposals are afterwards discussed with the management, being formalized or revised; it is a highly interactive process. In the half of the year, the objectives and goals are revised and updated for the remaining period of the year. Each operation - or project in process - is considered a result center. The following up of the activities is made through accounting, financial, human resources and commercial reports. The main concern is the performance of the company and the goals of quality of the rendered services. In the performance evaluation, financial results and results for the customer (in terms of real quality, period and cost) are taken into account. The new Argentinean subsidiary, in respect to the deep studies and analysis, made no substantial change in the company's control system.

The company adopts the practice of distributing 15% to 20% of the net operational profit to its employees; however, there is not any process of individual performance measurement. The company does not have even a structured career plan; this is due to the nature of its activities, which are subject to fluctuations. However, for those outstanding employees there is the possibility of participating in the society.

It was observed in this study that the company adopts an *ad hoc* control structure (Gomes and Amat-Salas, 1999), suitable to its performance in a quite competitive social context. It was noticed a high decentralization and autonomy degree provided to the project managers, characterizing a company of high professionalism. Since it is an organization with non-routine activities, focused on innovation, there is a natural difficulty in formalizing procedures and behaviors. Nevertheless, great importance is attributed to financial indicators related to the projects - such as revenue, costs and gross margin - and to the achievement of the goals established in the budget, without the use of non-financial indicators. Despite the internationalization process have not affected the company's control system, it is important to notice that it is, in many points, in agreement with what establishes the literature regarding the management control of services companies.

The company's moving to a foreign country seems not to be a strategic decision, but just the taking advantage of a business opportunity. An interesting consequence of the internationalization process was the expansion of the domestic businesses, due to new businesses accomplished in other countries.

4.3. The case of *White Martins* (Martinewski and Gomes, 2001a)

Controlled by Praxair, Inc., White Martins is the Brazilian leader of the industrial gas market. It operates in the production and distribution of industrial gases and correlated activities, covering the sectors of welding, production of heavy equipment, and of carbon dioxide. Its internationalization process began in 1992, with the acquisition of an Argentinean company, an industrial gas producer. Nowadays (1999), White Martins is a holding that controls companies in almost all South American countries, with US$ 1,7 billions revenue. The mission of the company is to be recognized by the customers, shareholders and employees as the world's best company of the industrial gas segment.

The company's strategic management model is based in *processes*. Multifunctional teams support this model, stimulating the flow of information and bringing more agility to the design of solutions focusing the business and the customers' needs. As a consequence, the company has been restructured under new priorities of market segments (as food, beverage, and metallurgy). This strategy (denominated *strategic marketing process*) is based on the concept of varied approaches to each market, emphasizing the need of new competitive marketplaces to identify growth opportunities. Another program, the *operational excellency program*, which emphasizes actions that increase the operation efficiency - for instance, cost reductions, project execution time reduction, and optimization of purchases - was also established.

The main objective of the company's management control system is to facilitate the process of making strategic decision and its subsequent follow-up, to assure the execution of the company's objectives, and making possible the decentralization of operations. Indicators to forecast and compare the evolution of businesses are used, enhancing the *profitability*, the *liquidity*, the *return on investment*, and the *customers' satisfaction*. Excellency indicators are also used, as plant utilization degree, plant coverage level and quality level of the rendered services. Information on the principal indexes of evolution of each organization's business unit is also presented in a simplified and integrated way, by customers and by business segment groups. The financial control emphasizes the result, proposed by the operational budget - that sets the goals and guidelines quarterly and annually - and by the five-year strategic plan. The business units are structured in *profit*, *investment* and *cost centers*. The mechanism of transfer prices is adopted to facilitate the autonomy of each center, as well as to improving their effectiveness. Such characteristics give to the control system the typical structure of *control by results* (Gomes and Amat-Salas, 1999). The organization forecasts the profit sharing, according to an assemblage of incentives, recognitions and rewards, based on the attainment of the sale and profit goals, in the managerial accomplishments (if they exist), in the professional abilities, and in the employee's relationships. The criteria for the measurement, evaluation, and rewards are formulated annually by the *holding*. It establishes a group of clear goals, quantified in a financial and non-financial basis. The evaluation of the business units and of its managers is carried on based on the attainment of results, which are compared to the budget and the previously established goals.

The company's internationalization and the major complexity of the company's operations contributed to the need of restructuring areas of the company, to activate the import and export processes. One of the changes was the unification of the import and export areas and the relocation of some of their employees to the purchase sector. Operations, for their turn, were gathered by product line. Later on, a new restructuring was made, then gathering operations by performance area.

4.4. The case of *Souza Cruz* *(Martinewski and Gomes, 2001a,b)*

British American Tobacco, an English group operating in several activity sectors, controls Souza Cruz, an outstanding company in the sector of tobacco and cigarettes, holding over than 80% of the Brazilian market of cigarettes and being the world's largest exporter of tobacco. It is also outstanding as one of the main taxpayers in Brazil. The headquarters limits the international performance of the company to the Latin America and Caribbean areas. His performance is made through exportation of cigarettes and tobacco, and through direct investment in a productive unit in Cuba, result of a joint venture with the Cuban government. The necessity of the headquarters - although not an American company - to avoid doing investment in Cuba, with fear of eventual sanctions by the USA, explains the link of the Cuban unit to the Brazilian operation. The assertion for the choice of Cuba is its position as the Central America's largest market, presenting a great-repressed demand, and the presence in this market is considered strategic, in case of the opening of the Cuban market.

The company's planning is prepared based on general result goals, established by the principal shareholder (financial and marketing expectations, paid tax burden, debt level, among others), being evaluated in accordance with the results obtained; the Brazilian operation is divided in business units appraised for its cost (for instance, delivery cost, cost for cigarette sold). Such units have autonomy only in the commercial sector, but not on its cash flows, being completely monitored concerning the flows of revenues, the results, and the credit policy, among others. The evaluation and reward system emphasizes the teamwork, trying to identify the result of the team and the individual contribution to it. Thus, information of quantitative and qualitative character is collected. In the management level, for instance, each manager's team evaluates the quality of the rendered service. The company adopts a system of rewards for the operational teams, involving prizes that motivate the familiar sociability; for the management level, the rewards are basically of financial character.

The company does not use a formal structure of indicators that links the operational level to the strategy of the company, however the company controls its performance using the market and financial indicators. Due to its typical activity, the image of the company in the market and its relationships with the community is constantly appraised.

The Cuban unit, for its turn, has high autonomy in relation to the Brazilian Souza Cruz, with control over its cash flow and its revenue, and being able to define the prices in the Cuban territory. On the other hand, the Brazilian headquarters defines strategic matters, as investment policy, marketing strategy, and territorial expansion policy, regarding exportation for other countries. The evaluation of this operation, besides taking into account the financial aspects (return on the capital, on the assets, among others), involves also the relationship between the company and the Cuban government. A relevant characteristic is that the Cuban workers present much higher instruction degree than their equivalent ones in Brazil, having a good management perception, fact explained by the few working opportunities offered by the Cuban economy - especially, in multinational companies. This would also explain the employees' high level of satisfaction, in spite of the fact that wages are significantly inferior to those of Brazil. Due to the characteristics of the Cuban system, there is a tough control of the compliance to the tributary and labor legislation - which foresees significant responsibilities for foreign companies and the participation of community councils in decisions regarding the remuneration, vacations, prizes, dismissals, etc. To deal with such characteristics and avoid cultural conflicts, the company has been investing in the Cuban supervisors' training, keeping only a small number of Brazilian employees.

Considering that the Cuban unit is basically an "assembler" of cigarettes, which imports practically the whole necessary material for the production, the question regarding the definition of transfer prices is imposed. The price defined by the Brazilian Souza Cruz complies with the fiscal legislation, and the total cost is allocated to the transferred products plus a mark up of 15%; however, the Cuban unit has autonomy to buy tobacco from other manufacturers, providing the product complies with the demanded specifications and the price is lower than the one established by Souza Cruz.

4.5. The case of *Petrobrás* *(Rodrigues et al., 2002; Rodrigues, Gomes, and Bufoni, 2003)*

Petrobrás - Petróleo Brasileiro S. A. - was created in 1953 through the Law 2.004, which established the monopoly of the Federal Union about the integral activities of the Brazilian industry of petroleum. Today, its main activities concern the creation of units for exploration, production and provisioning infrastructure for the oil, gas and energy industry, acting in a free, open and highly competitive market.

Besides of the holding activities, the Petrobrás system includes five independent subsidiaries with their own managements, interlinked to the holding. According to the model of organizational structure, approved in October, 2000 by the administrative board, the company started to explore four business areas: (i) *E & P* (exploration and production), (ii) *Provisioning*, (iii) *Gas & Energy* and (iv) *International*; it has two support areas, *financial* and *services*; and also the corporate units linked to the president directly. Besides improving every operational aspect and the results of the company, this structure opens space for the employees to develop their potential and benefits their aggregated value to the business.

Starting 1972, Petrobrás formalized its performance abroad with the creation of International Petrobrás S. A. – Braspetro, which got free decision about all signed agreements. In its 37 years, whether acting alone, through its subsidiaries and branches, or associated to the largest companies of petroleum of the world, Braspetro was present in four continents and 32 countries. Nowadays (2003), it acts in Angola, Argentina, Bolivia, Colombia, Cuba, Ecuador, United States, Equatorial Guinea, Libya, Nigeria, Peru, United Kingdom and Trinidad-Tobago. Its activities are concentrated in the segments of *upstream* (exploration and production), *downstream* (refine, marketing and commercialization, transport and logistics), *engineering services*, and *perforation of oil wells*.

Identifying an opportunity in the government strategy in the period 1974-79, of pursuing positive results in the Brazilian international trade balance, Petrobrás created another international subsidiary, Petrobrás Comércio Internacional S. A. - Interbrás, which was extinguished in 1990.

Through the strategic plan for the period of 2000-2010, Petrobrás demonstrates larger attention to its international performance. The expansion of the sales of natural gas from 6% to 21% in 2005, in an integrated and international way, and the organizational model, that includes the international area as one of the four main business areas of the organization, confirms this new policy.

Concerning control mechanisms, the company uses the concept of *business unit* or *center of responsibility*. There are about 40 units of businesses, operating with more autonomy to administer budget and investment, linked to the previously mentioned four main areas.

Even thought the company defines the goals and the areas, the business units are responsible for the results. The performance evaluation is made through financial and non- financial indicators, and the employees have profit share in the results obtained by the company. The most employed non-financial indicators are related to safety, health, environment, and production. Another observation, regarding performance evaluation, is that the company is implementing balanced scorecard, which will include all organization.

4.6. The case of *Vale do Rio Doce* (Braga and Gomes, 2002)

Incorporated on June 1, 1942 as a state-owned company and privatized on May 7, 1997, the Companhia Vale do Rio Doce (CVRD) is the largest diversified mining company in the Americas, with a market capitalization of approximately US$ 11 billion. Composed by a holding company and more than 50 affiliates and subsidiaries, CVRD has its shares traded in the São Paulo Stock Exchange (Bovespa), New York Stock Exchange (Nyse) and at Madrid Stock Exchange (Latibex).

CVRD is the world's largest producer and exporter of iron ore and pellets, and one of the leading global producers of manganese and alloys. The company also produces bauxite, gold, kaolin, potash, alumina and aluminum. It is a major cargo transportation player in Brazil, owning and operating several railroads and ports. Besides two hydroelectric power plants, CVRD is currently (2002) building seven additional ones. It also has stakes in steel and fertilizer companies in Brazil and abroad. CVRD is also the largest exporting company in Brazil, with a volume of US$ 3.3 billion in 2001, which means approximately 80% of its sales (according to its annual report).

CVRD's managerial model incorporated different icons of management control, thus fitting into an internationalized view of the company's activities. As follows, the long list of awards received by CVRD confirms the recognition of its strategic standards, appraisal, and transparency: (i) *The best mining company of Latin America*, by *Global Finance* magazine; (ii) *The best corporate borrower of Latin America*, by *Euromoney* magazine; (iii) *Mining company of the year*, by *Brasil Mineral* magazine; (iv) *Award of good relationship politics with the shareholders*, of the National Association of Stock Market Investors (Animec); and (iv) one of the *20 best companies of the emergent market in corporative management quality* in February 2002 by CLSA Investment Bank.

From a corporate control standpoint, CVRD is currently (2002) conducting international research to determine the best financial and accounting procedures in order to list all provisions regarding to environmental coverage. As mining exploitation and depletion of natural resources occur, the idea is to immediately have a provision available for the coverage of all future environmental and economical reconstruction costs in the extraction areas. On December 31, 2001, the company provided R$ 68 million in resources. This kind of procedure, in addition to CVRD's social responsibility program and its drive to minimize environmental damage, reflects the concern of the company's international clients with the company's level of ethical commitment needed for this kind of operational activity.

The fact that 80% of CVRD's revenues are derived from exports and indexed by the US dollar, creating a so-called "natural hedge", shows the influence of internationalization on the monitoring of management practices. On the other hand, 60% of the costs are expressed in *reais* (Brazilian currency). One of the most important managerial tasks is the trade-off between revenues and costs in different currencies as well as the comparison of the liabilities that need a financial hedge. It is still necessary to take into consideration that the immediate impact of a strong financial oscillation on the exchange rate results in a negative effect in accounting terms, since liabilities are updated against financial expenses. On the medium-term, there may be a recovery and on the long-term, there may be a significant economic and financial gain. Moreover, CVRD's iron ore sales contracts reflect the characteristics of the wholesale sector while long-term contracts are renegotiated annually. Lastly, the materialization of the exchange gain on the revenues is made in accordance to the shipment of products.

Curiously, iron ore prices, CVRD's main product, have presented incredible stability over the last 20 years, thus underscoring the importance of the monitoring of exchange rate impact on the company's finances. CVRD, mindful of the aforementioned characteristic and to any eventual changes on the iron ore international market prices, is implementing a management system based on the methodology of *risk amount calculation*.

CVRD's controllership policy went through major changes over the past years. Up to 1994 and 1995, the entire concept of controllership was centralized in the corporate headquarters and was scarcely automated. Even though there was a considerable use of computer technology in place, the systems had no usable interface and it depended strongly on stratified analyses in the operation areas, in addition to a large amount of manual input into the system.

In response to a radical course change in the last years of public ownership, the corporate headquarters ceased to control controller's activities and henceforth became responsible for determining technical guidelines and the handling of incoming data. In 1994/95, therefore, there was a general decentralization, which assigned the controlling power to managers on the operational side. As a result, even non-operational personnel allocated in the accounting and financing departments of the production areas, began to report to regional officers.

The changes taking place within a regional managerial model enhanced the local strategy for each business area, including the controllership area. Back at the corporate headquarters, however, the information usually arrived overdue and, as a result, many corporate actions did not receive all the necessary attention, whereas local actions were usually well taken care of.

A conceptual change in the whole company (and consequently in the controllership area) took place as discussions about company privatization advanced. However, in 1999/2000, two years after privatization, the whole controllership policy was restructured, and the corporate headquarters regained command of controller's actions, thus centralizing controlling activities again. At the same time, new investments in systems and personnel training were made (and are continuously being implemented) in CVRD.

Considering that CVRD shares trade in three different stock markets in three different continents, Brazilian and international accounting practices that follow the same technical criteria must be adopted. Nevertheless, some peculiar features clearly differentiate the local practice from the international one, and may affect company's accounting result in one format or another.

Due to the change in the international accounting practices coming from the Financial Accounting Standards Board, the interest paid in the acquisition of an investment (goodwill) will no longer be depreciated. The Brazilian accounting practice still admits deferral in accordance with the investment term, generating the expense in more than one accounting year.

The alignment of the accounting practices concerning *interest over own capital* allowed CVRD to use this tool in order to reduce its tax cost, optimizing its free cash generation and shareholders compensation in the period following its privatization.

Internal systems process accounting information, costs and management follow-up. The cost system is based on costing per activity, where an activity is defined as a single business unit. The Controllership area generates about 90% of CVRD's management information.

A stronger focus on product profitability replaced the Brazilian government's business directive. Other long-term indicators were added to the usual ones, among them an internal standard, known as *GVA* (value generation to the shareholders), which settles a minimum standard of internal performance per CVRD area. Presently, CVRD has several overseas investments that hold synergy to its main activities, which in turn lead to the study and knowledge of new accounting and financial follow-up demands.

Among the changes introduced by CVRD in its new management and control process, there is a strategic goal to reach a market value of US$ 25 billion in five years. In this case, market value can be defined as CVRD share value in stock markets. Comparatively, this amount is today (2002) about US$ 11 billion. In other words, the company has more than doubled its value through the implementation of new strategies and management transparency, so that the market can capture and incorporate this new price level.

CVRD transfers iron ore to Europe, where the product is processed for regional resale at its pelletizing mill in Bahrain. These operations are subject to transfer pricing aspects, either by costs allocation and financial results, or by the effects of the taxation imposed by the Brazilian federal revenue service. With the goal to achieve a perfect costing and compliance with legal requirements, those operations classify as sales, and are dealt with as regular export transactions.

Up until recent years, the pricing structure of the products transferred as sellable goods was expensive and practically unfeasible. Brazilian tax costs were very high at the time and caused exports final price to increase. Fortunately, due to the enactment of new legislation (*Lei Kandir*), which diminished taxation over Brazilian exports, taxes such as *PIS* (employee's profit participation program), *Cofins* (tax for social security financing), and, in some cases, *ICMS* (value-added tax on sales and services) and *IPI* (excise tax), were no longer charged.

As CVRD has exploitation sites located in tax incentive regions, it is entitled to exemption or reduction of income tax and social dues over the so-called "exploitation profit" (part of the production sold and produced in the incentive area).

Presently there are no more significant taxation savings derived from those fiscal incentives, due to the end of its grace term of 10 years. Only the new projects and expansions (reinvestments) may apply for fiscal benefits.

Interestingly enough, CVRD has kept the same client-base for the past 30 years, with very few exceptions. Lately, CVRD has developed a specific marketing operation for the Chinese market, which successfully resulted in the acquisition of a new client in the iron ore sector in 2001 and confirmed the company as an important international player.

The study done shows that we can identify the theoretical basis for a strategy and global control management at CVRD. Although it was a typical export company, it performed like a multinational company from an organizational point-of-vies up until recent times.

There was no directive focusing on the foreign market as a corporate strategy. As a state-owned company, its market management guidelines were as important as the fulfillment of government obligations. The ends determined and controlled operational costs and made measurements on a monthly basis, all in line with an annual budget.

CVRD's move towards internationalization and privatization is commonly mistaken as a single phenomenon. The coinciding periods and new market pressures induced by new competition caused the company's new orientation towards new foreign markets and the change of company ownership to occur simultaneously.

5. Analysis of the studied cases

Analysis of the management control systems of the companies herein studied reveals that:

In the first case (*Chadler Industrial*), in spite of being a direct investment in a unit located abroad, the control system is exercised according to the same or even simpler mechanisms than the ones used in the national operations. The latter have even quite simple characteristics, showing that the company did not adopt sophisticated models, as recommended by the literature on management control in a globalized environment under aggressive international competition (Dyment, 1987). This can be explained by the partnership and administrative structure that foresees the owners' direct participation in the decisions of the company. Another factor that contributes to this situation is the consolidation moment of the unit, which becomes quite dependent on the resources - in this case, management - provided by the headquarters (Prahalad and Doz, 1993). Another interesting point regards to the exposure of the negative items regarding to the *Brazilian cost*, pointing out the great improvement of the economical-financial performance, presented by significant reduction of its operation costs and by the increase of its productivity.

The second case (*ABC Engenharia*) suggests that the company's choice for internationalization did not significantly affect the management control system. In some aspects, this disagrees with the basic research premise that the internationalization *would* implicate changes in these systems (Dyment, 1987). To what concerns service companies, however, many important points on the control system adopted by the company keeps it quite close to the recommendations of several authors of the area (see, for instance, Anthony and Govindarajan, 1998), mainly with respect to the appropriate consideration to the intellectual capital. One of the reasons that there was no impact of the internationalization on the control system is that the moving cannot be characterized as a strategic decision of the company, but rather an *advantage taking* of an opportunity in a due time. This is reinforced by the fact that the Argentinean branch operations are practically paralyzed.

An interesting point in the case of the studied company is that it has extended its domestic businesses due to the new businesses accomplished in other countries. As an adviser company, whose customers' portfolio is a significant factor to do new businesses, the international exposure seems to have aggregated value to the business, making possible the realization of new important national projects that before the internationalization were assisted by foreign adviser firms.

In the third case (*White Martins*), the degrees of difficulty and complexity of the operations were emphasized, requiring great care from the areas responsible for the control of the typical activities of commercial trade. This case exemplifies, in a quite appropriate manner, the main aspects mentioned in the management control literature regarding the need of using broader control indicators to deal with the growing complexity. It is worth mentioning that, according to Brazilian standards, White Martins is characterized as a large size organization, with units spread all over the country and the continent; consequently, it is obliged to use quite more complex management control system than the previous cases. It is also interesting to observe that the process of adaptation of the control systems seems to follow the pattern of reorganizations of the formal structure more than the gradual process of changing people, relationships and processes, as described by Bartlett (1993). According to the collected results, the importance of considering significant the situation and organization variables (in complement to the usual financial measures) is observed, to attend to the interests of the several organizations' collaborators, in an efficient and effective way.

In the *Souza Cruz* case, in spite of being a case of direct investment in an abroad located unit, its control is based in the same mechanisms used to control the national operations. Although a wide set of control indicators is used, there is no link between them and the strategic objectives, so the company stands far from the sophisticated models recommended by the literature on management control in globalized situations under a stirring international competition (Dyment, 1987). The fact of being an unit in its consolidation phase makes the foreign unit still dependent on resources - in this case, strategic management - provided by the headquarters (Prahalad and Doz, 1993). It is remarkable that the decision to invest abroad was a strategic decision of the group's top administration - trying *to occupy empty spaces* in an important virtual market - and not exactly of the study of this company, what explains the great autonomy of the Cuban operation in relation to the Brazilian one.

In the *Petrobrás* case, the obtained results indicated change from the bureaucratic control system to the control based on results. The different phases of the internationalization process resulted into different impacts upon the company management control system. The new model of organizational structure evidences this tendency when presenting decentralization for centers of responsibility with always growing autonomy levels, besides the performance evaluation to provide participation in the results obtained by the company to the employees.

Concerning the internationalization of its activities, Petrobrás presents characteristics of a global company, once it does not possess the reproduction of the national units in other countries and nor flexibility to transmit the experiences that appear for all the organization, what makes it to differ from multinational and transnational companies characteristics. The objective of the company is to acquire competitive advantage in terms of costs and incomes through operations in global scale and, although being present in several countries, their critical activities concentrate in one or only a few ones.

It stands out that the changes in the management control of the company are related to the end of the monopoly of Petrobrás in Brazil at the end of the 90s and to the new phase of the internationalization process. This is due to the new scenery in which the company is inserted, which requests more sophisticated control systems, taking into account, on one hand, the increase of the internal competition (because the company started to compete in Brazil with great multinationals) and, on the other, the international competition, fruit of its internationalization.

Finally, in the *Vale do Rio Doce* case, in response to corporate transformations over the past years, the management processes and management follow-up systems have incorporated important aspects of a global company. Many transformations were smooth due to CVRD's experience in exports and in negotiations in foreign currency. Privatization was essential for this movement as a fast management model concerned with creating value to the shareholder replaced the state-owned model, which was slower and overly formal. Privatization and internationalization certainly has been materialized into a change in global strategy and into the improvement on new business opportunities.

6. Summary

Through the study of six cases of internationalized Brazilian companies, this work aimed to confront proposed paradigms with practice. As it can be observed, the results obtained, although not general rules, reinforce the conclusion of a previous studies (e. g. Martinewski and Gomes, 2001a,b), that there are circumstances in which the internationalization of a company's operations does not necessarily involve sophistication and greater complexity of the management control system. According to these results, it is possible to see the importance of considering the significance of the contextual and organizational variables, besides the usual financial metrics, so as to serve the interests of the different stakeholders in the organization in an efficient and effective way. As a subject still very little explored in the area of management control, the conclusions of this study enhance the perspective of new researches in the accounting and management control areas - mainly those that taking into account differentiated methodology offer the possibility of data generalization - in order to explore the reasons which lead to verify that the behavior foreseen by Dyment (1987) did not occur in Brazilian companies with international businesses.

Concerning the epistemology of Taketani and Osada (Osada, 1972; Trzesniak et al., 2009), this contribution is at the very beginning of the third step, *ordered descriptions,* just collecting reports of studies of the *internationalization of companies* type, with focus on *management controls*. These are two constructs present in all the described cases. Our feeling is that only six instances are still to few to advance further, but some suggestions for analytical approaches can already be made. For instance:

- to establish degrees of internationalization, from just *importing* or *exporting a few items* to *effective actuation in several Countries and continents*;

- to examine if internationalization was a slow and gradual process or the result of a new and aggressive policy of the company's top administration, and to establish paradigms for each one of these instances;
- to introduce a *timeline*, and to compare companies at the same temporal and/or operational stage of internationalization.

Rodrigues et al. (2002) discuss models and concepts which may be helpful for the first two initiatives.

Knowledge and Science are ways that go further than just forecast the future, which is decisive for the survival of a company, as stated in section 2. Knowledge and Science allows humanity to *control* the future in its benefit. Investigation and research on the internationalization of companies and the establishment of the management actions that make the internationalization successful will allow new initiatives to get its expansion more quickly and with a greater probability to achieve the expected positive results.

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