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OPERATIONS STRATEGY AND COST MANAGEMENT

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ARTICLE

In the globalized world, companies seek for new operations strategies to ensure world corporate success. This article analyzes how the cost management models – both traditional and activity-based -, aid the planning and management of corporate globalized operations. The efficacy of the models application depends on their alignment with the competitive strategy. Companies must evaluate the nature of the competition and its competitive priorities; they should then define the necessary and sufficient dependence level on costs information. In this article, three dependence levels are presented: operational, decision support and strategic control. The result of the research shows the importance of alignment between the cost management model and the competitive strategy for corporate success, and confirms the adequacy of the activity-based costing model as a supporting tool for decision taking in a global strategy. Case studies in world class companies in Brazil are presented.

Keywords: Strategy; Competitivity; Global Operations; Economic Management; Activity-Based Costing.

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1 INTRODUCTION

This article aims to discuss how the cost management models — both traditional and activity-based—, can support operations planning and strategic management in globalized corporations. The article also intends to verify the adequacy and efficacy of the application of the activity-based costing method for planning and controlling globalized operations.

Today there is a great world movement of capitals and productive resources seeking for more favorable locations to attain their corporate goals. These changes are motivated by a competitive logic, in which companies may decide about re-directing capitals, equipment and people all over the world, in their search for new markets and for more economic locations. In this context, companies need to clearly identify their competitive strengths and weaknesses.

The information on the profitability of products, processes and trade channels in different countries - and even in inter-countries operations -, are indispensable for the project and for making new businesses feasible. The adequate structuring of the processes and products engineering in globalized manufacturers favors the assessment of production costs in different markets, by means of performance indicators that take into consideration not only economic-financial aspects, but also operational, technological and institutional ones.

At present, many works seek to understand how different cost management models may help companies with their choice for more advantageous corporate actions, thus becoming more profitable and competitive.

The alignment between the companies' cost management methods and competitive strategies allows obtaining improvements in globalized operations productivity and competitivity.

2 RESEARCH PROBLEM

The research problem was that of analyzing how cost management models – when using traditional costing and activity-based costing methods -, can support operations management, as well as to verify the feasibility and adequacy of the activity-based management model in the development of a global cost-centered competitive strategy, verifying its efficacy in the companies' global corporate strategy management.

2.1 RESEARCH METHODOLOGY

Firstly, the literature on strategic management, globalized operations management, and activity-based management is reviewed. Multiple case studies were also conducted to demonstrate the efficacy of the use of cost management models aligned to operation strategy.

The purpose of the research was to understand how economic information provides support to competitive strategies, and how the alignment between cost management models and operations global strategy is conducted. Therefore, based on the theoretical references studied, the following propositions are investigated:

Corporate strategy requires economic information in several formats – information on product costs, processes, trade channels, networks and supply chains etc.

The decisions on the different aspects of operations management (planning, organization, decision and control), have to consider mainly economic and financial, besides physical, operational, technological and institutional information.

Economic decisions affect globalized operations day-to-day.

The activity-based management model provides an efficient way for the management of global and inter-regional operation goals.

To investigate the research problem and the propositions posed, the option was for a qualitative research, developed by means of the multiple case studies approach (Yin, 1991).

The research protocol was structured on the research questionnaire presented in Annex I, serving as a base for collecting data in the companies researched, the responses of which supported the case studies that will be presented further on.

The summarized research questionnaire below has the following structure:

Question 1 assesses whether the companies fit the scope of the research. Questions 2 and 3 verify how companies plan their operations and deal with the trade-offs responsible for their competitivity (Wild, 1977; Skinner, 1996).

Questions 4 and 6 evaluate the foreign environment and the global operations strategy of the company, considering the importance of the economic information for the competitive strategy (Fleury and Fleury, 2000 and 2002; Porter and Millar, 1979; Flarerty, 1996; Bolwijn and Kumpe, 1990). Questions 7, 8, 11 and l3 evaluate how the company uses costs information in operations management, investigating the impact of decisions on global and regional strategy (Porter and Miller; Porter, 1991 and 1996; Buffa, 1985; Kaplan, 1984; Grundy, 1996; Tayles and Drury, 1994; Nagle and Holden, 2003). Finally, questions 5, 9, 10 and 12 verify the economic model and the costing method used, considering its alignment with operation strategy. The questions also deal with the relevance of the activities economic information for planning the global cost-centered operation strategy (Cooper and Kaplan, 1988 and 1991; Kaplan and Cooper, 1997; Aderoba, 1997; Gunasekaran et al, 1998 and 1999; Grundy, 1996; Nakagawa, 1994; McGuigan, 2001; Pindyck and Rubinfeld, 2005).

2.2 RESEARCH LIMITATIONS

This article presents, by means of case studies, the results deriving from the use of economic models that employ cost management models including both traditional costing methods, such as the activity-based costing in the integration between the global corporate strategy and the cost-centered operation strategy. Nevertheless, the study contains limitations that may trigger future researches.

The problem of a qualitative study lies in the difficulty in generalizing results (Westbrook, 1995). Therefore, the conclusions presented are restricted to the three case study conducted, and generate some knowledge on the relationship between the concepts of strategy, global operations, competitivity and activity-based economic management, defining a concept of costs information dependence degree for the formulation of the operation strategy — operational control, support and strategic decisions.

3 GLOBAL OPERATIONS MANAGEMENT

Companies present different strengths and weaknesses, even when producing similar products, and may choose various ways to be differentiated from their competitors. That is, they have to opt among a varied list of production methods, take decisions concerning market segmentation, besides defining their operational alternatives to competition. Thus, the company's manufacturing management mission is to configure the production system through a series of consistent choices that reflect the priorities and the implicit commitments of its competitive situation (Skinner, 1996).

The present globalized industrialization stems from the integration of production systems with markets. Thus, the transnational companies, stimulated by this world economic reality, are spreading throughout all countries in the world, sometimes with the implementation of new units; others with the acquisition of local plants. This reconfiguration transforms the transnational companies into dynamic poles. Depending on their strategic focus and on the economic planning of the host countries, their activities may develop competencies not only in their countries of origin, but also in the developing countries. This interaction among transnational and local companies means a new international division of competencies (Fleury and Fleury, 2000).

The aim is clearly to develop and to create sustainable competitive advantage, finding new ways that may guarantee not only markets participation, but also opportunities that provide growth and company continuity (Porter and Millar, 1979).

The international market opening has encouraged nations to specialize in certain production segments, with different production models and in specific industries. The strategy is that of creating competitive advantages, opening new markets, using scale economy, rationalization, standardization of projects and products manufacturing.

However, so that they can be profitable in the global economy, companies must have full knowledge that their decisions really add value for stakeholders and for clients. It is acknowledged today that costs information alone is not enough to determine profitability; management methods deal with quality criteria, productive flexibility and innovation as factors with the same importance as knowledge of the costs involved (Flaherty, 1996).

Nevertheless, in their researches, Bolwijn and Kumpe (1990) concluded that most of the manufacturing companies present cumulative evolution in the employment of strategies. At first, companies developed competency in costs; they then started their quest for attaining competitivity in quality. Next, the response time between manufacturing and clients needs were equated. After managing to establish good competition parameters in these three criteria, companies sought to acquire flexibility in the productive system to, finally, become innovators.

Sometimes companies have few options to determine their competitive strategy (Fleury and Fleury, 2002). This happens when there are many entrance barriers, when clients rigidly specify the necessary products and services, and when, in a way, they also determine the price limits (perceived values). Companies, therefore, besides analyzing how their competitors are operating, must search new ways to be differentiated, respecting regional policies and needs. Analyzing these concepts under the new global competition environment point of view, it can be verified that, for many of these companies, the initial development of a cost-centered strategy is a fundamental factor for the successful implementation of the new plant, independently of the present stage of competition of the main office and of the other plants.

On account of that need, some transnational and multinational companies are developing and planning activity-based costing systems, aiming to provide new tools for the global costs strategic management. They thus intend to create rules and standards to coordinate the processes and the global production activities, establishing indicators to manage raw-materials purchase decisions, labor costs per activities, planning and control of the productive process and quality, new products development, products mix, processes improvement, activities that add value to the product, profitability per product, regional profitability, among other decisions, besides establishing management and global performance indicators.

4 STRATEGIC COST MANAGEMENT

The development of a competitive strategy is, in essence, the development of a broad formula for the way a company will compete (Porter, 1991).

It is very important for the company to define its work network, to identify its competitive strengths, to plan tasks for each strength, to make a forecast of the necessary resources, to establish the goals and then construct a framework on the probable profitability (Porter and Millar, 1979).

The company should be concerned with creating consistent solutions situated between clients' needs and organizational practices. Skinner (1996) identified the establishment of performance measures, such as quality, production speed or attendance, reliability, flexibility and costs, as the practical aspects of competitive advantage.

Buffa (1985) already stressed that the formulation of a manufacturing strategy, it would be important to consider all aspects of operational decisions, which he classifies into six great components:

Positioning of the production system;
Decision on capacity and location;
Technological products and processes;
Work force and production planning;
Strategic implications of operational decisions;
Vertical integration and suppliers.

These components are the basic elements for formulating the production strategy, once they provide a broad scenario for choosing the feasible alternatives. Each of the latter will have its effect in the long run in the company's competitive scenario and will also cause impacts on costs, on quality, on products feasibility and on the production flexibility intensity.

Therefore, the development of a corporate strategy is the rationalization and the intertwining of the different activities that will provide support to competitivity. Hence, all competencies must be considered in the formulation of the different internal strategies, such as, for example, the production strategy and the costs strategy.

Costs Strategic Management, in turn, concerns costs management, be it for the financial and profitability analyses of the products, be it for verifying and assessing the short and long-term business profitability. To attain these objectives, an efficacious and efficient cost management is necessary, and should be coordinated with the business strategies, so as to provide sustainable competitive advantage.

Strategic Costs Management also significantly contributes to efficiency in analyzing value for the stakeholders, in a possible alteration of organizational behavior and to minimize the risks for the company.

Porter (1996) deals with the issue identifying the company's need to assess the competitors' performance and to establish a difference that may be preserved. That is, going beyond what its competitors do, the company needs to add more value to the clients, or create value comparable to that of its competitors, however, at smaller costs. The essence of the strategy lies in the activities - the choice for the company's activities performance, as opposed to its competitors' activities performance.

By means of the critical analysis of activities, the companies must identify which indicators performance should be monitored, allowing for commitment decisions, ensuring the advantage to facilitate the good use of opportunities and of market changes, or also, they must choose different activities and establish the necessary performance, aiming to conduct them in a better way than that of the competitors.

Most of the large companies seem to ignore the fact that their cost systems have not updated to face the present competitive environment; the methods used to assess products costs are irremediably obsolete (Kaplan 1984).

Owing to the difficulty in precisely identifying the costs of products in the traditional costing models, a large number of companies fail to incorporate these fundamental pieces of information as a strategic issue. There is now the need of developing new costs assessment tools, aiming to guide the corporate strategy, that is, an accurate piece of cost information, in a simple way, may provide competitive advantage to a company.

Cost management, for quite some time, was a forgotten island in corporate strategy. In recent years, nevertheless, cost management succeeded in increasing its importance in opportunities prospect ion. Strategic costs management offers wider understanding of processes for managing expenses, both for financial performance measures and for identifying competitive advantages (Grundy, 1996).

Tayles and Drury (1994) believe that information systems must be developed and planned aiming to see to the needs identified by the strategic view of the objectives. This directly affects the interface between the marketing, production and accounting management departments, which have to acquire knowledge on the production, so that the performance and costs indicators systems obtain efficacy.

Several factors may influence the planning of the costing system; it is not simply the competition degree that influences the planning of the system, but the nature of competition, which, in theory, is determined by the choice of competitive strategy.

In a cost leadership strategy, the costing system has to be planned and developed to identify the potential areas for cost reduction. Smaller costs are obtained by better use and smaller material loss, by a lesser level of losses along the process, by the minimization of re-works etc.

Costs management may provide rules for the selection of clients, for market and products segments, important factors for the success of global operations. This information, associated to the activities of each productive process, generate the company's profitability map and allow for defining the best competitive strategy for different countries and markets, seeking to attain regional objectives and maximizing the global corporate result.

5 ACTIVITY-BASED COSTING (ABC)

The activity-based costing emerged with the aim of aiding managers with the new competitive environment, introduced by the new production technologies and by the emphasis on the client. Kaplan and Cooper (1997) reports that the costing models used beforehand did not count on control and accuracy mechanisms that could guide the companies when making decisions concerning:

Products and services planning that meet clients' expectations and may profitably be produced and delivered;

Point out where improvements in quality, efficiency and speed are necessary;

Advise collaborators in their learning and in the continuous improvement of activities;

Guide the decisions concerning products mix and investments;

Choose among different suppliers alternatives;

Support price negotiation, products manufacturing, quality, delivery, and services for clients;

Decision-taking concerning market and clients segments.

The activity-based costing economic model, therefore, aims to include important costs information to the new competition framework, creating a tool to support corporate strategy decisions.

ABC is founded on the assessment of all the necessary activities along the process, from production (manufacturing or service) to product delivery to the consumer, identifying the resources consumed by these activities by means of different costing drivers, valuing the products individually and adequately. Essentially, in the ABC costing system, the products consume the activities necessary for their production (Aderoba, 1997). In that method, the knowledge of the whole productive process is fundamental, as is the understanding of how the system adds value to products. The ABC system is based on the resource consumption in the activities; these resources adequately include the costs of machinery, direct and indirect labor, equipment, auxiliary tools, indirect materials, advertising, governmental fees, etc, consumed by specific activities.

Thus, besides providing strategic information, aiding the continuous improvement of the process, the system offers data on the activities that do not add value, monitors quality, provides tools for decisions on prices flexibilization, controls costs, profitability and performance of products, providing sustainable competitive advantage for the companies using it, as compared to the traditional costing systems (Cooper and Kaplan, 1991; Kaplan and Cooper, 1997; Gunasekaran et al, 1998 and 1999; Chalos, 1992; Grundy, 1996, Nakagawa, 1994).

At present, this costing model has been used by transnational companies viewing the supply of a management and control instrument to determine the cost-centered global competitive strategy. This occurs by the standardization of processes, activities, control of joint costs, decisions regulation on the purchase of materials and suppliers, planning taxes in different countries, assessing the use of production capacity in tune with the global corporate strategy, supporting the identification of competitive priorities and of business opportunities in each market.

Therefore, combining the information on the non-financial indicators of the activities control and of the activity-based costs information may build a profitability map, of activities and products, in all the markets where the company acts. In today's competitive world, the performance and costs information on the activities is the key for the continuous improvement of the business profitability.

6 CASE STUDIES

Three case studies were conducted in transnational companies located in the city of Sao Paulo (Brazil), viewing the establishment of parameters for an assessment between strategy operation and costs, analyzing how the economic models and costing models help to integrate the regional strategy operation decisions and the global corporate strategy.

6.1 CASE STUDY 1

The first case study refers to a company in the chemical sector that produces raw materials for tire production. It is now the world market leader and takes the second position in the national market, with a participation of about 30%. The present regional goal is to keep the leadership, conquered by means of quality and cost-oriented strategies. As a second goal, the company has been expanding its activities in the country with the acquisition of new businesses, viewing an increase in the products mix and the flexibility of the productive process without harming the present market share. The company has factories in 25 countries and sales offices in 112 countries. The regional operations do not integrate a global operations management, being the total responsibility of the CEO in each regional unit to choose an adequate strategy. The central office establishes the business goals for each unit and controls them by means of non-financial indicators reports. The financial result is charged in the form of royalties and dividends. At present, a change in the internal market competition is expected with the coming of a strong world competitor, which started its production in 2002 with a high technology industrial plant.

The production process derives from the combustion at high temperatures of different types of oils and additives, varying according to the specific characteristic of the product to be produced. Therefore, the process costs are variable, being higher or lower, depending on the quantity and on the final product specifications.

The final product is obtained in physical quantities and the control indicators are determined in kilograms, such as quality, process performance and waste control measurements.

The production and costing control systems are not integrated. The company implemented the full costing system, a compulsory requirement of the Brazilian tributary system for verifying the taxes due. This traditional costing system uses distributions for allocating the values of indirect and fixed costs to the products, usually taking the number of machine-hour or direct labor-hour as the reference factor. The company, nevertheless, elaborates, in electronic spreadsheets, a budget and economic management report aiming to identify products profitability and business profitability, and the data generated by this full costing system serve as data base for these reports.

The costing system implemented satisfies the requirements for which it was developed: stock control and for fiscal effect; nevertheless, the regional board is worried about the change in competition and needs new alternatives to establish the products sales prices, data which the present system cannot offer.

6.2 CASE STUDY 2

The company studied belongs to the chemical sector and makes paints. It is now the market leader in the United States and the greatest paint manufacturer in the world. In Brazil, it oscillates between the third and fourth places. The present regional goal is to increase its market share, with the consolidation of profitable products lines and with cost reduction. The company has plants in North, Central and South America as well as in England. The regional operations integrate the global strategic operations management; the controller detains the information on each market where it acts and determines the objectives, goals and strategies for each product line. The CEO's responsibility at each regional unit is to ensure the efficiency of the operations and strategies defined by the controller. In this case, different financial and non-financial indicators are used to control the business, such as production control tools ("line", "Pareto" graphs etc.), waste indicators and processes times. However, the model does not count on information, already available in other plants of the group, on the costs of activities, on the variations of products costs resulting from quality programs, on changes in the productive process and changes in products.

The production process is relatively simple, consists in paint manufacturing by mixing chemical components and additives, alternating according to the necessary consistency and quality, but counts on imported raw materials that exert great influence on product costs. The costs of these processes are also variable, depending on the final product volume and specifications.

Nevertheless, owing to the fact that the rivals compete with quality and low prices for the basic product, the company opted for making a difference competing with diversification and innovation strategies.

This strategic option demanded a marked increase in fixed and indirect manufacturing costs, which raised the expectation for the development of a new assessment structure for the activities costs, aiming to understand the real costs for the new products.

The Brazilian subsidiary is now starting the plan for a new activity-based cost assessment model. It expects to integrate the physical performance information of the activities with that of costs, aiming to supply information for quality management and parameters for the decisions on choice of new products and process flexibility.

6.3 CASE STUDY 3

The third case study refers to a company in the food sector producing and commercializing ice-cream. It participates in the Brazilian market, exports to Argentina and to Uruguay, is part of a transnational group acting in different markets and in different business sectors. The present aim is to increase business profitability, focusing on clients' satisfaction and on the integration with suppliers. The regional operations integrate a global operations management; the corporate strategy is defined by the controller that detains, besides the macro-economic view of the countries where it acts, all the information on the markets, on the regional processes costs, on activities, on investment opportunities, on the plants logistics, on the legislation in each case, on the productive capacity among other information that drive the global competitive strategy.

The subsidiary informs, in global standard format reports, about its operations so that the controller can assess the business risk the operation conditions of the production plant, defining the regional corporate strategy and the production strategy. The success of this operation derives from assessments and studies on the needs for production resources, identifying the financial and non-financial performance indicators for controlling and monitoring activities and processes, which was made viable by the implementation of activity-based costing.

The aim of this operation is clearly that of creating competitive advantages by the standardization of activities, processes and products, seeking efficiency in production, in scale economy and in projects rationalization.

The productive process follows the world standard, divided into 10 phases: raw materials stocking; mixing; homogenization; pasteurization; cold and air mixture; bottling; freezing; packing; palletizing; finished product stocking. In these processes, there are variable costs concerning the volume and the production time, and fixed costs, such as, for example, stocking.

The activity-based costing system was developed aiming at standardizing activities. The process was divided into phases in the world, (for example: palletization), and drivers were determined for distributing the resources consumed, (for example: number of pallets). This allows comparing all the process activities, analyzed and monitored by the CEOs at each subsidiary as compared to the regional performance in the global context. The responsibility centers and accountancy are unified, add value in the same costing model and use parameters to establish the performance criteria and system indicators.

The productive activities are thus globally detailed and structured, aiming to identify the process phases, the activities costs and the needs for resources, established according to the performance standards, uniformly monitored in all the similar production plants. The system identifies the variations occurring in the process, informs about the alterations in activities and verifies the result of these changes, besides periodically identifying the activities that have to be modified to increase competitivity, not only regionally, but also globally. The system conducts a check list on the performance of regional activities comparing it to the performance of the benchmark company, making new solutions viable and multiplying learning. The system supplies data for decision taking on the establishment of prices in different markets, choices of countries and plants for producing a product; it guides the regional joint actions, aiming to reduce costs, expands the business opportunities and establishes the regional corporate strategies, seeking to maximize the global result.

In this company, the activity-based costing system exerts great influence concerning the distribution model and the logistics between Brazil, Mexico and Chile, identifying the best operation conditions in terms of cost reduction, fiscal incentives and technologies available. Nevertheless, the information as to the operation conditions in each country depends on the result of different factors: governmental and economic policies, natural resources and economic growth, which are constantly altered, hindering the trade-offs decisions.

7 CONCLUSIONS

This article, by means of the case studies and of the bibliographic review of the strategy, global operations management and activity-based costing concepts, confirmed the feasibility of formulating a global cost-centered strategy, as well as the adequacy of the activity-based costing method as a tool that supports sustainable competitive advantage.

It was verified that the activity-based costing method has a methodology that sees to the information needs for the integration between the global corporate strategy and the regional operations strategies, once this method contains, in its structure, financial and non-financial performance measures. However, the efficacy in using this method depends on the degree of relevance of the activities costs information for formulating the competitive strategy, represented in Figure 01.

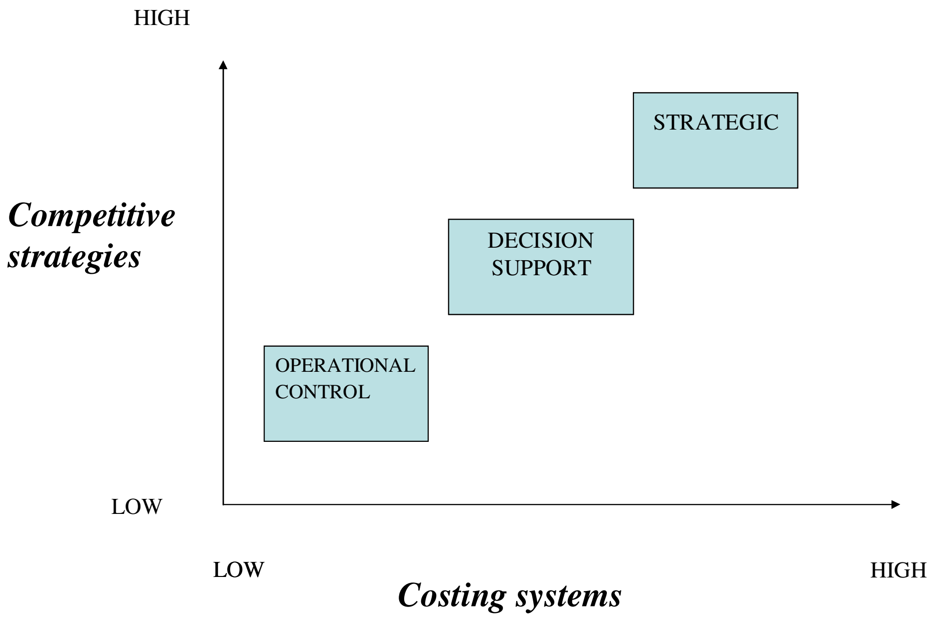

Fig. 01 – Degree of dependence on costs information for formulating the competitive strategy.

The impact of costs information will be greater or smaller depending on the competitive priorities and on the importance of costs for competition. Three dependence levels are therefore identified:

Strategic – a company positioned at this level has its costs assessment system considered as critical activity. The system development and planning are of great relevance, as the success of the corporate strategy will depend on it. The information on activities costs and performance, products profitability and mix, increase in the volume of indirect and fixed expenses, among others, in the global ambit, may even alter the nature of the competition.

Decision support – at this level, the company has its costs assessment system directed towards providing information on products performance, informing on the changes occurred along the process per organizational programs (for example, quality), providing data for sales price formation and fostering productive efficiency.

Operational control– the company positioned at this level may be considered dependent on the costing system for information of the operational day-to-day. The system, therefore, meets the control needs of the stocks and of assessing the taxable profit; however, it is not focused on seeing to support and strategic decisions.

Therefore, companies evaluate the nature of competition and the competitive priorities, aiming to identify their dependence to costs information to define which costing models meet the needs for decision taking, stressing that a simple correct information on the costs of activities may contribute to attain competitive advantages.

8 DIRECTIONS FOR FUTURE RESEARCHES

This article presented the result of case studies in world class companies, analyzing the impact of economic information on operations management and verifying how the cost management models— both traditional and activity-based—, aid the elaboration of global cost-centered operations strategies. The continuity of studies on the issue, which has not been exhausted here, is recommended. The importance of deepening and extending the investigations into the objective and into the problem of this research in other entrepreneurial cases is thus emphasized. It is also considered convenient for future projects to use quantitative researches. Additionally, the survey method may be used for collecting data, by means of interviews or questionnaires, so as to identify the costs information dependence limit and the costing systems models for certain types of companies and periods.

Consequently, a model has to be formulated to allow for the generalization of methods, a fact that, in turn, would contribute to the integration between economic information and activities with the global corporate strategy.

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