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MANAGERIAL AND CULTURAL PRE-CONDITIONS FOR SUPERIOR PERFORMANCE IN A GLOBAL SETTING: AN EXPERIMENTAL STUDY WITH THE AID OF BUSINESS GAMES

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ABSTRACT

IN THIS PAPER, WE ANALYZE THE VARIOUS STRATEGIC APPROACHES ACTUALLY ADOPTED BY THE BRAZILIAN MANAGERS OF 23 FIRMS SIMULATED IN A SET OF BUSINESS GAMES. FOR THE PURPOSES OF THIS PAPER, THEIR APPROACHES ARE CLASSIFIED AS LOCAL OR GLOBAL. BASED ON A REVIEW OF LITERATURE AND AN EXPERIMENT CONDUCTED BY THE AUTHORS, IT WAS CONCLUDED THAT THE ABILITY TO TRANSLATE A GLOBAL VIEW INTO OPERATING POLICIES IS PARAMOUNT, AND THAT THE IMMEDIATE PRESENCE OF A GLOBAL STANCE, AS REFLECTED IN THE PLANS SUBMITTED BY THE TEAMS, AS WELL AS IN THE ABILITY TO MANAGE CONFLICTS AND DIVERSITY, ARE IMPORTANT DETERMINANTS OF PERFORMANCE.

INTRODUCTION

In a not so very remote past, the management of business firms took place in a local setting, and concerned itself mainly with the raising of the more cheaply available resources. Labor, raw materials, physical location and capital were the reasons for which firms decided to locate in one country as opposed to another, and represented the crucial inputs for locally successful management.

That era is now in the past, for at present strategic decisions are no longer based simply on the good use of local inputs. Opportunities, internal capabilities, interest in global markets, and the possibility of better coordination of the best and better advised managers and their differentiated capabilities are increasingly important aspects in the decision-making process.

As a consequence, there are changes in the more suitable managerial profile. A search for Global Managers is thus initiated; a search for professionals with expertise in the characteristics of the countries in which the various subsidiaries will operate. Global Managers represent a professional category in a process of rapid development all over the world, especially in industrialized nations. In spite of that, developing economies have also contributed towards meeting such a worldwide demand.

Brazil, for instance, has undergone constant internal economic threats for the last 25 years, and this has given the native and foreign managers operating there a kind of "war training", forcing them to acquire a wide variety of managerial skills. As a result, and also as an outgrowth of the major changes taking place in North America and Europe, a concern with the development of global executives has been growing and is being incorporated by a few Brazilian universities in the revision of their curricula, strengthening their International Business programs.

The managerial team must count on some kind of support for a pro-active stance and for dealing with the major changes now taking place and detected in a very turbulent environment, in the decisions made by firms, and in governmental actions throughout the world.

The territorial scope of planning has ceased to be national and has become global; the same has occurred with national capitalism.

To obtain bigger profits, enhance market leadership and increase share price nationalism gives way to a global outlook. The economic integration of nations located in the same continent is proof in itself.

The integration experiments of the EEC, NAFTA and Mercosul indicates an acceleration of a globalization process that, in the words of a Sumitomo executive (Sora, 1992), implies "an approach that takes the world as a territory without nations and frontiers".

According to Sora, the firms which are adapting to the global approach should identify customer needs (with quality and value being more important than price), concern themselves with the natural environment, provide for autonomous decision-making, and facilitate international capital flows.

In this paper, we analyze the various strategic approaches actually adopted by the managers of 23 firms simulated in a set of Business Games. For the purposes of this paper, their approaches will be classified as Local or Global

GLOBAL VERSUS LOCAL ORIENTATION

Among the organizations preparing themselves for global competition, a launching platform is being built on the following ingredients:

- flexibility,
- decentralization, and
- proximity to customers.

The logic of this new breed of organization would no longer be centered on national origin, but on groups of global managers better identified with their firms than with their countries of origin (Reich, 1991). Negotiations would be based on different models.

The old actors which interacted with the traditional counterparts - Government-government, business-business - will tend to display cross-interaction patterns. This has resulted from traveling on a long internationalization road, and which we are still traveling on as the century nears its end. According to Ohmae [1989], multinational corporations have passed through a series of five successive and distinct phases:

Phase I

Domestic success frequently led to exports to other markets. The temptation to export was immediate, since that produced sales volume increases with little additional effort. During this first phase, the firm entered into associations with local commercial outlets in other countries, thus setting up its distribution channels. Traders exported goods while sales were entrusted to exclusive distributors.

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Phase II

As the number of distributors grew, it became ever more interesting to get to know the market and improve access to customers, leading to local marketing, sales and service operations.

Phase III

This phase began when the firm recognized that production in the home country had become prohibitively expensive and difficult. New production units might be set up in the same market where sales were made, or in another country for better use of functional capabilities. However, that unit would still rely on headquarters for policies concerning prices, cost, and volume. This was not an integrated operation.

Phase IV

Research and development, engineering, and finance would be transferred so that the firm could operate fully in the foreign market, thus competing on equal footing with local businesses.

Phase V

This is the globalization stage, at which firms conclude that it is much more economical and appropriate to manage basic R&D as well as financing activities using a worldwide perspective. In addition, key managers identify more strongly with the firm than with the country in which they work.

According to Porter, Prahalad and Doz, as indicated by Drouvot (1992), a taxonomy of firms may be posited according to two basic types of forces: global integration and local adaptation.

In global integration, key elements include: investment intensity and scale of manufacturing at a world industry level, R&D expenditures set in relation to worldwide revenue, economies of scale in purchasing, production and marketing, multinational customers (homogeneous demand), low transportation cost when compared to the value of goods, comparative advantages in certain countries and major pressure on cost (fierce competition).

The key aspects that characterize forces toward local adaptation include, in turn: differences in terms of distribution/marketing systems, high cost of logistical support infra-structure, major tariff and/or non-tariff barriers, preferred treatment of national production, needs and desires which are specific to each country. Whereas in the locally oriented firm there are independent competitive advantage ingredients, in the global firm they determine its competitive position in all countries in which it operates.

METHODOLOGY: HYPOTHESES AND DATA COLLECTION

Just to mention one recent source of inspiration, Segev (1987) used Business Game as a tool for determining the correlation between strategy (in terms of content) and the process of strategy formulation. Using as a framework the types created by Miles and Snow and by Mintzberg, Segev concludes for the existence of such a correlation (as simulated in a Business Game). Some of the issues involving the use of questionnaires and simulation through business games raised in that paper, led to the adoption of specific provisions in the methodology we employed in our study.

Teaching objectives and scenario

Given the present international context, which appears to call for a global approach to business management, as well as the current conditions in Brazil, which require the same approach in

view of her opening up to international trade, we decided, two years ago, to change the traditional way in which we administered the Business Game in our undergraduate program, making an attempt at developing in our student body an international business outlook.

Until then, as it is customary, we had used a single game for all students, with the aim of reinforcing, through simulated practice of previously acquired knowledge, the managerial skills required for executive activity, as well as the attitudes we believe desirable in a businessman or businesswoman. It is worthwhile pointing out that in our program the Business Game is offered as the practical half of the Business Policy course, involving one weekly session of ninety minutes during the last two semesters of the entire program. This means a total of 30 meetings.

Starting in 1990, we decided to change that *modus operandi*. Since then, students play a single game during the first semester, in the traditional way. In the second semester we add a second game to the first one, begun in the previous semester. Thus, each team now manages two different firms, each with its own market, in addition to a holding company, which holds majority control of the two (industrial) firms.

Our goal, with such a change, was to provide our students with the experience, even if simulated, of managing a transnational group of firms. In this sense, when adding the second firm, we tell the students that the group controlling the first firm has decided to go international and, for that purpose, has acquired a company overseas, through an exchange of shares.

At the same time, a holding company has been set up, headquartered in the home country of the second firm, for controlling both firms and for managing financial flows between them.

In 1992, we further decided, in order to give the experiment a little more realism, to have all documents involved in the operations of the second firm and the holding company written in a foreign language (English), as well as to force the students to write in that language.

Thus, all analyses, decision statements, plans, and so on have to be produced in English, just as if the students had actually moved to a foreign country. It is worth noting that, along with the introduction of such changes in the number and models of games used in the program, we also made changes in the role of instructors.

In the second semester, instead of having students deal solely with their own classroom instructor for negotiating terms for their firms (financing, raw materials, etc.), all three instructors responsible for the course (the authors of the present paper) became alternative suppliers of all negotiable inputs, thus multiplying the options available to each team.

Since the teaching objective was that of adding an international to traditional goals, the game thus structured should have led to gains by the teams adopting a global perspective in their activities, as opposed to a strictly local outlook, which would have emphasized only the separate optimization of performance in each local unit.

The global approach, in this case, leads to gains through (1) the appropriate management of tax aspects, with the equalization of performance by the three firms in each group via the minimization of the total tax burden, (2) the transfer of financial resources from one firm to another so as to minimize interest expenses, and (3) the treatment of all other resources (raw materials, machinery and equipment, and members of the board of management) with a global viewpoint.

Hence, the success of the business group as a whole, as well as of its firms, depends on the effective adoption of a global perspective and the management of the above mentioned

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resources with a view of what is the best outcome for the ensemble of firms, in addition to effective local management.

Thus, we expect the participants to perceive that that is the case, and, by so doing, acquire part of the global approach we believe to be necessary as an addition to the traditional set of skills in today's world.

DESCRIPTION OF THE EXPERIMENT

Given those assumptions, we set out to verify, this year, two fundamental results:

First

whether the use of Business Games as a teaching tool effectively provides for the development of global business management capabilities, and

Second.

whether certain characteristics or skills identified with the "managers" help to determine the performance achieved by their groups of firms.

The literature on the globalization of business firms has emphasized the importance of an organizational climate conducive to the management of international firms, as well as certain characteristics in managers, to make it possible for international management to succeed.

Thus, the business administration courses that try to provide an international view of business to their students invariably end up giving emphasis to the need for developing characteristics such as the ability to understand, coexist and profit from the cultural diversity in the national and market environments to which the various units of a multinational corporation are exposed, the ability to work with other staff members with a different cultural heritage, etc.

In Europe, for instance, these notions are well developed, possibly thanks to the eventual advent of a unified European state, and there the overwhelming majority of business schools has put emphasis on the need for preparing managers with a international point of view. Thus, in order to verify those two aspects we decided to use an experiment based on an application of business games as described in the previous section.

Therefore, in the first semester we employed *The Executive Game* (Henshaw and Jackson, 1 972), thus simulating a first set of activities of a purely local nature. In the second semester, so that we could "internationalize" operations, we added to the preexisting firm a second business, for which we employed *Tempomatic-IV* (Embry, Strickland and Scott, 1 964), both adapted to the Brazilian context.

After four rounds using only *The Executive Game*, we picked the top half of the firms in terms of performance, and transferred them "overseas" that is, we charged them with running *Tempomatic-IV* firms, combined with former *Executive Game* companies, still being run by the one half of the groups that had inferior performance in the first four rounds.

n this process, 50% of the previously existing companies were liquidated to allow for the formation of new teams responsible for running the two industrial concerns comprising each group, plus a holding company. In the beginning of the second semester, as the two-company group, plus a holding company, would start operating, we administered a questionnaire for obtaining data on the ethnic, cultural and educational background of all teams, so that we could ascertain the

contribution of their propensity to manage their firms with a global approach.

In addition, we requested that a business plan be submitted, the analysis of which would permit to determine whether the teams intended to run their groups of companies using such a global approach or not. At the end of four additional rounds, a new questionnaire was used, this time to measure some aspects related to the level of integration and harmony with which the teams had been working.

Finally, from the results obtained during those four rounds, we measured the performance of each team: holding company plus *Executive Game* firm plus *Tempomatic IV* firm. Overall, 180 students took part in this experiment, organized into 23 teams managing 23 simulated groups of business firms, divided into two industries: the first industry, that of the morning session teams, comprised 1 4 groups; the remaining 9, in the second industry, belonged to the evening session. Our universe is comprised of the data for those firms, teams and team members. The variables we used are described in detail in the section that follows.

METHODOLOGY: DEFINITION OF VARIABLES

The following paragraphs describe the variable's that were used in this study.

Performance

In an attempt at verifying the eventual explanation of differences in performance among the 23 teams, the following alternative measures of performance were employed as a dependent variable (variable Y_j) in a multiple regression model, where j = 1, 2 23:

- Total Group Sales,
- Group Operating Income,
- Group Net Income Before Taxes, and
- Group Retained Earnings.

All the necessary data were produced as results from the decisions made by the various teams during the first four rounds during which both games were played simultaneously; in addition, for all four variables we employed the amounts accumulated during those four rounds of play.

Propensity to use a global approach.

The values for the following variables were obtained with the use of the first questionnaire administered in the beginning of the second phase of the game (as the second firm was added, and thus an "international dimension" was created):

- Cultural Diversity, measured as an index combining philosophy of secondary education, religious affiliation and age (CULTDIV_j), and
- Degree of International Exposure, measured as an index combining national origin of parents and grandparents, number of trips abroad, knowledge of foreign languages, national origin of employer, when the student reported being a trainee or employee of any kind of organization (EXPOS_j). In both cases, since questionnaires were applied to individuals, but the unit of observation was the team running a group of three firms in an international setting, the team averages were used.

Harmony at work

The second questionnaire provided us with the team's opinion of how well the members were working together. Following Kim

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and Mauborgne (1991), we expected there to be positive association between harmony and performance (HARMON_j).

Global vs. international approach intended

This distinction pertained to the intentions as uncovered by our reading of the business plans that had been requested. We simply counted the number of instances, in each team plan, indicating some kind of global orientation, as opposed to an international' orientation (which would look at each unit in each market as a separate entity); for example, we verified whether the integration of the three companies was explicitly mentioned in the text of each plan, whether there was any acknowledgement of the possibility of improving overall results with flows between the units, etc. (GLOBAL_j)

Extent to which the transfer of funds was Practiced

Using the notion that policy should affect performance, and given the previous comments, we computed the accumulated value of transfers of funds from the holding company to any of the other two firms in each group, as an indication of the attempt to profit from opportunities in a global setting. (TRANSFER_j)

RESULTS OF REGRESSION ANALYSIS

From the preceding discussion, it should by now be clear to the reader that the various hypotheses were tested with the use of the following multiple regression model:

where all variables have been previously defined, and INDUST_j is a dummy variable representing the possible difference in average performance between the two industries.

$$Y_j = b_0 + b_1 \cdot \text{CULTDIV}_j + b_2 \cdot \text{EXPOS}_j + b_3 \cdot \text{GLOBAL}_j + b_4 \cdot \text{HARMON}_j + b_5 \cdot \text{TRANSFER}_j + b_6 \cdot \text{INDUST}_j + e_j \quad (1)$$

Thus, INDUST_j = 1 for j from 1 to 14 (morning session), zero otherwise (evening session). Obviously, we tested against the null hypotheses of all coefficients being equal to zero, the alternative hypotheses being, in all cases, that the signs of all coefficients would be positive, with the exceptions of INDUST, for which there was no expectation either way, and HARMON, given the manner in which the question was put to the students. In this case, the alternative hypothesis of interest would be that of a negative coefficient.

Table 1, presented below, reports the results obtained when Earnings Before Taxes was used as dependent variable, representing performance.

TABLE 1
RESULTS FROM THE ESTIMATION OF THE MULTIPLE
REGRESSION MODEL

Independent Variables	b	Standard Error	t
Cultural Diversity	1448.99	23882.03	0.061**
International Exposure	-98647.74	33275.10	-2.965*
Global Approach Plan	19324.35	11803.16	1.637*
Harmony	-48031.62	33331.93	-1.441
Transfer of Funds	1.29	0.62	2.083**
Industry Dummy	27191.57	87027.55	0.312
Constant	-72550.42	230597.26	-0.315
R ²	.58		
Adjusted R ²	.42		
N	23		
F	3.652*		

* p < .05 (one-tail test)
** p < .01 (one-tail test)

CONCLUSION

The results reported in Table 1 indicate that the coefficients of four of the six independent variables are statistically different from zero. Judging from the significance levels at which the null hypotheses were rejected, international exposure and the policy of funds transfer displayed greater explanatory power for the differences in performance.

However, the sign of the coefficient of the international exposure variable was not as expected: from the results, it would appear that such an exposure would not have even been irrelevant, but indeed detrimental to performance.

On the other hand, the results for the transfer of funds variable were as expected. As to the other two variables (global' approach to planning and harmony of team work), for which we could reject the null hypothesis of a zero coefficient at the 5% level, the signs were as expected, but, as it may be seen, their contributions to performance are not as strong those of the two other variables just commented upon.

Hence, the overall conclusion seems to be that in a Business Game setting such as the one we employed in the experiment, the ability to translate a global view into operating policy (through funds transfer) is paramount, and that the immediate presence of a global stance (as reflected in the plans submitted by the teams as well as in the ability to manage conflicts and diversity) may also provide a positive contribution to performance.

Finally, the cultural pre-conditions to global management, as proxied by the cultural diversity and international exposure variables either were not important, in this setting, or their results were not as expected.

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