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BUSINESS INSIGHTS: THEORY AND PRACTICE WITH THE AID OF A BUSINESS SIMULATION

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ABSTRACT

This paper discuss some of the reasons companies go international. A group of Brazilian students running 8 simulated companies in an International Business Simulation (MMG – The Multinational Management Game) was observed and some ratios were compared. Partial results indicate that international companies were more profitable than domestic companies, even working in a much more complex environment.

REVISION OF LITERATURE

A nation's competitiveness depends on the capacity of its industry to innovate and upgrade. Companies gain advantage against the world's best competitors because of pressure and challenge. They benefit from having strong domestic rivals, aggressive home-based suppliers, and demanding local customers (Porter, 1990). In a world of increasingly global competition, nations have become more, not less, important. Differences in national values, culture, economic structures, institutions, and histories all contribute to competitive success.

Companies achieve competitive advantages through acts of innovation – new technologies and new ways of doing things. But while every successful company will employ its own particular strategy, the underlying mode of operation is fundamentally the same.

Innovation can be manifested in a new product design (R&D), a new production process, a new marketing approach, or new way to conduct training. Much innovation is mundane and incremental, depending more on accumulation of small insights and advances than on a single, major technological break-through. It always involves investment in skill and knowledge, as well as in physical assets and brand reputations. When competitors are slow to respond, such innovation yields to competitive advantages.

Information plays a large role in the process of innovation and improvement – information that either is not available to competitors or that they do not seek. In fact, to succeed, innovation usually requires pressure, necessity, and even adversity: the fear of loss often proves more powerful than the hope of gain.

The presence of strong local rivals is a final, and powerful, stimulus to the creation and persistence of competitive advantage. Too many companies and top managers misperceive the nature of competition and the task before them by focusing on improving financial performance, soliciting government assistance, seeking stability, and reducing risk through alliances and mergers. Today's competitive realities demand leadership. Leaders believe in change; they energize their organizations to innovate continuously; they recognize the importance of their home country as integral to their competitive success and work to upgrade it. Most important, leaders recognize the need for pressure and challenge. They are prepared to sacrifice the easy life to difficulty and, ultimately, sustained competitive advantage: not just surviving, but achieving international competitiveness.

This paper describes the use of a business simulation – The Multinational Management Game – adopted in a Business Policy course to investigate how Brazilian students deal with international operations in a simulated setting. According to International Management theories, the MMG simulation seemed to create a very realistic international environment and can be considered well representative of a global environment providing knowledge, skills and abilities to students.

MANAGING ACROSS BORDERS

The study of Multinational Companies (MNC) is a relatively new field, with much to be learned. Historically, at least in the United States, management studies have tended to focus on domestic companies and the study of multinational management has been consider as a narrow and special area of interest engaging a handful of managers, students, and management academics. In Europe and Japan, in contrast, while management research and education received less attention in general, there has been relatively greater sensitivity to the international dimension. This situation changed significantly during the 1970s and particularly the 1980s. In an increasingly interdependent and inter-connected world economy, *international business has now become the general case* (Bartlett and Ghoshal, 1995).

The most fundamental distinction between a domestic company and a MNC derives from the social, political, and economic context in which each exists. The former operates in a single national environment where social and cultural norms, government regulations, customer tastes and preferences, and the social and economic structures of a business tend to be fairly consistent. While differences do exist among different parts of the same country for most, if not all, of these factors, they are nowhere near as diverse and conflicting as the pattern of demands and pressures the MNC faces in its multiple host countries. The one feature that categorically distinguishes these intercountry differences from intracountry ones, however, is that of *sovereignty* (Behrman and Gross, 1988). Unlike the local or regional bodies within countries, for most issues, the nation-state represents the ultimate rule-making authority against which no appeal is feasible. Consequently, the MNC faces an additional and unique element of risk: the political risk of operating in countries with different political philosophies, legal systems, and social attitudes toward private property, corporate responsibility, and free enterprise.

A second major difference relates to competitive strategy. The purely domestic company can respond to competitive challenge only within the context of its single market; the MNC can, and often must, play a much more complex competitive game. Global-scale or low-cost sourcing may be necessary to achieve competitive position, implying the need for complex logistical coordination. Furthermore, competitive interactions can take place on an international field, and effective global competitive strategy might require that the response to an attack in one country be directed to a different country – perhaps the competitor country.

Third, a purely domestic company can measure its performance in a single comparable unit – the local currency. The MNC is required to measure results with a flexible measuring stick as the value of currencies fluctuate against each other. In addition, it is exposed to the economic risks associated with shifts in both nominal and real exchange rates.

Finally, a pure domestic company must manage organizational structure and management systems that reflect its product and functional variety; MNC organization is intrinsically more complex since it must provide for management control over its product, functional, and geographic diversity. Furthermore, the resolution of this three-way tension must be accomplished in an organization that is divided by barriers of distance and time, and impeded by differences in language and culture.

THE MOTIVATIONS TO INTERNATIONALIZE

Besides the desire of travelling abroad, an always seeking goal of management people, the traditional motivations listed by Bartlett and Ghoshal (1995) were classified into two evolutional groups:

1. Traditional Motivations (1950 to 1980)
    a) Secure key supplies
    b) Market seeking
    c) Access low cost factors of production
2. Emerging Motivations (from 1980 on)
    a) Technological changes and raise of the efficient scale of production
    b) Escalating of R&D costs
    c) Shortening product life cycles
    d) Global scanning and learning capabilities
    e) Advantages of competitive positioning

Beyond the motivations themselves they consider of fundamental importance the existence of prerequisites for inter-nationalization:

a) Location specific advantages countries offer;
b) Strategic competencies companies have;
c) Organizational capabilities.

The mentality toward internationalization has evolved through a specific terminology:

1. International orientation: Based on incremental sales and the need for materials supply

2. Multinational: Exploring differences among markets; differences among operating environment; developing of new products, new strategies and new management practices.
3. Global: Creating products for a world market; producing on a global scale
4. Transnational: Responsive to local market and political need; searching for a global-scale competitive efficiency.

THE BUSINESS POLICY COURSE AT USP-BRAZIL

The Business Policy course at University of São Paulo, School of Economics, Business Administration and Accounting is divided into two disciplines, 15 sessions each, delivered in a half yearly basis.

The first part (Feb-Jun) is usually dedicated to discuss Domestic issues in Business Policy I. The second part (Aug-Dec) is intended to focus on International issues in Business Policy II. In 1998 there were about 200 students attending to these disciplines, and grouped into four classes, two in the morning and two in the evening. The theory was presented by one teacher and the practice was conducted by another, the author of this paper with the aid of a business simulation.

THE EXPERIMENT

During the first part of the course – Domestic issues – one of the four Business Policy I classes was taught with aid of "The Multinational Management Game – A Game of Global Strategy", a DOS version of the well known simulation (MMG) were "the students were placed in charge of a USA based multinational company manufacturing and selling over $200 million worth of microcomputers and related equipment per year, in three different markets: USA, EUROPE and ASIA" (Keys *et alli*, 1992). The other three classes had different simulation courses. Brazilian students were grouped into 4 to 6 people per team and were oriented to manage during 6 years computer manufacturing companies based in the USA and operating in a domestic basis.

Their first challenge was to learn the game rules from a student manual written in English, and try to understand the initial conditions of the simulated company at the beginning. About 5 years ago, it would be virtually impossible to adopt a regular text in a foreign language. As students become aware about the importance of knowing languages for international management, they accept more positively the use of books and papers written in English and adopted at school, as they can develop foreign communication skills.

During a briefing session the simulation rules, the industry information, and the economic environment data were presented to students. Teams were freely grouped but had to combine business administration students and accounting students, fifty-fifty if possible. Planning, Marketing, Operations and Finance are the main functional areas teams have to manage in this simulation, considering the fifth role, the leadership, as being played by the CEO. All the default economic indexes and initial parameters proposed by authors were adopted. Students were asked to make a tentative decision before establishing their strategy to get a better understanding of the cause-effect relations between variables and results. To be sure they were operating in a domestic environment, the original decision sheets were altered and displayed only the inputs for USA market. It was included an additional column to control the relative changes occurred in each variable between the new decision and the previous one. To avoid "final game strategies", they were said to keep their company going for the next semester, the Business Policy II classes.

This group made six yearly decisions during the first part of the course. A debriefing session conducted by students as a seminar presented step by step their initial considerations, the goals established at the very beginning and the results they were able to produce under the default economic parameters. They were asked to explain at the seminar if the company was well prepared to the future if the students remained in charge of the managerial roles.

CRITICAL INCIDENTS

During the Domestic Operations – first 6 years - there was no incidents created by the game administrator. The main challenges students had to face were the simulated companies themselves and the economic environment. The only critical incident created to challenge teams was related to establishing priorities concerning to industry information. During the three beginning years students didn't get information about competitors to prevent strong influences among team strategies. From the third year on, the Industry Reports and the Scoreboard Reports were sold to companies interested in monitoring their competitors and the scoreboard. These reports were put apart from results during the first two years to avoid full disclosure of information. Some companies immediately bought both reports and some did it one or two years later.

The results in Exhibit 1 show three out of seven key ratios provided by the simulator. Only four companies competing in each domestic operated industry remained in the second part of the experiment, the international operated industries. XPTO and FOUR TOPS were the top companies in their industries.

EXHIBIT 1
SCORES FOR DOMESTIC OPERATIONS–4 OUT OF 5 COMPETITORS PER INDUSTRY

Cum Points	Com-panies	Market Share per Year						Debt to Total Asset per Year						Return on Equity per Year					
		1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
1530	Chips	.19	.19	.27	.21	.21	.17	.38	.49	.30	.11	.02	.00	.11	.04	-.03	-.04	.06	.11
2090	XPTO	.19	.22	.19	.23	.24	.23	.31	.25	.21	.25	.15	.00	.13	.12	.12	.21	.19	.18
1750	Lost N	.18	.24	.20	.17	.15	.19	.34	.19	.08	.00	.00	.19	.04	.18	.14	.08	-.05	-.09
1690	Maca	.24	.18	.16	.19	.21	.24	.39	.31	.34	.34	.29	.12	-.18	-.02	-.06	-.01	.09	.25
351*	Avrg	.20	.21	.21	.20	.20	.21	.36	.31	.23	.18	.12	.08	.08	.03	.04	.06	.07	.11
1260	Star C	.16	.24	.22	.24	.21	.14	.34	.36	.38	.40	.29	.50	.05	-.10	-.06	-.11	.50	-.09
1440	Wism	.21	.24	.23	.19	.25	.22	.32	.32	.30	.38	.56	.55	.09	.06	-.05	-.22	.55	.07
1720	Pine	.24	.16	.25	.17	.15	.16	.34	.33	.32	.00	.09	.30	.04	.07	.07	.10	.30	.09
2170	FourT	.25	.23	.23	.27	.25	.29	.31	.28	.18	.05	.00	.00	.13	.14	.16	.17	.00	.14
330*	Avrg	.22	.22	.23	.22	.22	.20	.33	.32	.30	.21	.24	.34	.08	.04	.03	-.02	.34	.05

Obs.: *Normalized average (divided by number of companies in the industry)

THE DEBRIEFING SESSION

During the seminar teams presented their hole management process including:

a) roles played by each member: organization;
b) initial diagnosis: tentative decision;
c) Strategic plan: general strategy;
d) Yearly results: strengths and weaknesses;
e) The future of the company: continuity.

GOING INTERNATIONAL

At this part of the experiment the simulation started from the very beginning whit the same economic indexes and initial parameters adopted in the first part. There were 8 companies in each new industry because of the number of students taking the Business Policy II classes. The total number of 40 companies were grouped into 5 industries distributed in four classes, two in the morning and two in the evening. Each industry was represented by 1, 2 or 3 companies in the same class. Competition were established among students in all classes. Critical Incidents adopted during the first 6 years were the same. Besides the Industry Report and the Scoreboard, a newsletter – *Computery* - were edited and sold. Some of the incidents created during the international operations are listed below:

a) Facing the bug of millenium: additional investment in R&D and a <u>recall</u> to fix obsolete products sold.
b) New government elected in Germany: changes of minimum wages, and raising of income tax;
c) ACM – American Common Market – Integration of the north and south American markets;
d) European Currency – establishing of a common currency for the European Community;
e) Asian currency strongly devaluated because of the rupture of the financial market;
f) Hurricane provokes a blackout: decision making with no new reports;
g) Economic changes in Malaysia: additional taxes (income tax and tariff);
h) Growing of minimum wages in Malaysia;
i) Mergers and Acquisitions between companies
j) UN – United Nations sets a deadline for externalities: doubles the price of equipment;

The results in Exhibit 2 show three out of seven key ratios provided by the simulator. Only four companies competing in each industry remained in the second part of the experiment. XPTO and FOUR TOPS got one more time the higher number of cumulative points. Comparing Exhibits 1 and 2 we learn that in an international setting companies achieved:

a) Lower average Market Share because there was 8 companies in the international setting and only 5 in the domestic one.
b) Higher initial Debt to Total Asset ratio and lower final ratio, decreasing more rapidly then in the Domestic Operations, from the first to the sixth year;
c) Higher average for Return to Equity ratio what could mean a better performance in an International setting then in a Domestic Operation.

CONCLUSIONS

Results indicate that after participating in a 6 year Domestic Business Simulation, students seemed to be aware about the rules and the operational activities in a Business Simulation. Besides that, the opportunity to work on a 6 year International Business Simulation environment helped the companies to become much more profitable, even being operated in a higher level of leverage, as indicated by statistics in Exhibits 1 and 2.

International operations seem to compensate the effort to manage a company under a much more complex condition. An environment full of challenges was created with the aid of a business simulation and additional materials. The learning objectives were oriented toward the anticipatory learning process and helped students to be aware about turbulence present today in the world economy.

As we agree with these ideas we realize that competitive learning through experiential learning could be adopted more frequently and practiced in Brazilian Business Schools. Business Simulations may probably represent the answer to the need for 21st Century Education. The more dependent on international relations is the wealth of nations, the more important are theory and practice in International Management and International Business disciplines for the Business Administration.

EXHIBIT 2
SCORES FOR INTERNATIONAL OPERATIONS : 4 OUT OF 8 COMPETITORS PER INDUSTRY

Cumulat Points	Companies	Market Share per Year						Debt to Total Asset per Year						Return on Equity per Year					
		1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
2710	Chips	.10	.13	.14	.19	.13	.08	.42	.26	.15	.04	.03	.01	.34	.34	.27	.35	.23	.21
3230	XPTO	.14	.12	.14	.09	.10	.15	.35	.29	.12	.03	.06	.04	.21	.34	.30	.42	.30	.33
2600	Lost N	.16	.18	.15	.17	.17	.14	.70	.65	.62	.44	.43	.14	.30	-.25	.21	.21	.10	.30
3080	Maca	.14	.16	.15	.13	.13	.16	.33	.32	.29	.23	.32	.13	.24	.31	-.04	.35	.27	.26
363*	Avrg	.14	.15	.15	.15	.13	.13	.45	.38	.30	.19	.21	.08	.27	.19	.19	.33	.23	.28
3090	Star C	.15	.13	.12	.16	.20	.17	.39	.33	.45	.25	.17	.10	.18	.08	-.02	.46	.34	.39
3290	Wism	.17	.16	.16	.17	.17	.17	.29	.22	.21	.22	.16	.14	.30	.18	.35	.27	.36	.36
3200	Pine	.14	.13	.20	.13	.11	.18	.29	.20	.15	.00	.08	.00	.36	.39	.22	.36	.23	.23
3540	FourT	.19	.13	.13	.20	.23	.27	.25	.27	.19	.09	.09	.04	.29	.21	.33	.34	.33	.26
410*	Avrg	.16	.14	.15	.17	.18	.20	.31	.26	.25	.14	.13	.07	.28	.22	.22	.36	.32	.31

Obs.: *Normalized average (divided by number of companies in the industry)

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