

## **An innovative distance learning approach using business simulation in Brazilian top business schools**

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Educação a Distância nos Sistemas Educacionais  
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*The use of business simulators has been widespread for many years in business schools, in all parts of the world, as a good opportunity to the students to practice the methodologies and managerial tools learned during the classes. The business simulators are naturally one of the most suitable learning approaches that provide students the experience of learning by doing in a risk-free environment. When is necessary a large scale application of business simulators, for a large number of students groups geographically scattered, taking place in the same period of time and involving, also, a large number of instructors make up a great challenge to e-learning vendor, e-learning consulting and, mainly, to the user organization. This article presents a successful experience with the use of the Web Marketplace simulator in one of the top and large Brazilian business school. Using an effective learning methodology, an adequate but non-expensive support of information technology and international logistics, excellent results have been achieved. This experience involved simultaneously about 600 students organized in 19 groups, located in 4 different cities, oriented by 15 different teachers and it was possible to guarantee a good standardization of the learning process.*

Palavras-chaves: Business Simulation, MarketPlace TecTrain, MBA ESPM, blended learning

## I. Introduction

Although the history of business games has been traced back to the use of board games and war games in China nearly 5000 years ago [Wolfe & Crookal (1998)], modern business simulation dates back to 1955 when the RAND Corporation developed one applied to U.S. Air Force logistics system [Faria (1998)]. From this moment, the number of business simulation grew rapidly achieving more than 95% of AACSB (American Assembly of Collegiate Schools of Business) member business schools by the 1990's.

This fast growth of the usage of business simulations among business schools in USA could possibly be a response to the critics pointed out by Behrman & Levin (1984), according to which business schools place too much emphasis on quantitative analysis, tools and models with too little emphasis on qualitative thinking, complex trade-offs, and creativity; focus too much on theory and not enough on implementation; too much on short-term performance and not enough on long-term success; too much emphasis is given to career and corporate goals and too little to interpersonal relationships and social ethics and finally too much to separate disciplines at the expense of integrative problem solving and management.

The effectiveness of business simulation methodology based on learning by doing experience in a risk-free environment highlighted by Cadotte (1995) may justify the application of some sort of business game among almost 60% of U.S. according to Bertsche et.al. (1996), playing a critical role in optimizing corporate behaviour by giving managers the opportunity to experiment, test their assumptions and learn from their mistakes with focus on the long-term outcome of their decisions. Most recently, business simulation methodology has been also worldwide applied to distance learning as shown by Cadotte (1995), Lundy (2003), Chapman (2004) and Aldrich (2004).

As Cadotte (1995) pointed out, technology-based business simulations offer students the opportunity to practice a number of important business skills:

- a) Strategic Planning and Thinking with the appreciation of market opportunities and corporate capabilities;
- b) Strategy Management with solid cross-functional understanding of the business company;
- c) Leadership, Teamwork, and Interpersonal Skills;
- d) Budgeting and Cash-Flow Management with an understanding of financial statements and cash flows;
- e) Understanding and Delivery of Customer Value

Therefore the use of technology in business education has become increasingly important. Technology can be used to bridge temporal and/or geographical gaps in

supplying education, render education more convenient, increase the instructor's efficiency and facilitate communication between instructor and students as well as among students. It could be also employed for teaching a larger number of students that otherwise might not be possible.

This paper presents the case study of a successful implementation since 2001 of Web MarketPlace business simulation in Brazil among top national business schools located in the city of Sao Paulo, and then details the innovative and outstanding case study of Web MarketPlace at ESPM (Sao Paulo Advertising School). Using innovative teaching methodology and international logistics, positive results have been achieved with a suitable standardization in the application, control and evaluation assured. Almost six hundred students organized in nineteen groups, led by 15 teachers in four different cities at the same time were involved.

## II. Web MarketPlace in Brazil

What is Web MarketPlace? It is an international top web business simulation developed in United States by Innovative Learning Solutions Inc, with several levels of difficulty, participants are organized in different teams running their companies in a dynamic and international market, developing high level business, team building and strategic skills. MarketPlace received a Gold Award for Excellence in E-learning in the Simulation category during the Online Learning 2003 Conference & Expo.

Table 1 – Web MarketPlace around the world 2002-2003

Year	N. of Countries*	N. of Organizations		N. of Groups		N. of Participants	
2002	13	88		2.762		3.891	
2003	23	137		3.740		9.835	
Number of participants per level of difficulty							
Year	Introduction to Marketing	Strategic Marketing	Venture Strategy	E-commerce	Business Management	Integrated Business Management	Strategic Corporate Management
2002	1.380	1.172	0	0	621	718	0
2003	1.712	2.215	518	328	902	1.341	2.819
Average time spent per player in each quarter (in minutes)							
Year	Introduction to Marketing	Strategic Marketing	Venture Strategy	E-commerce	Business Management	Integrated Business Management	Strategic Corporate Management
2003	43	66	92	109	107	94	117

The implementation of Web MarketPlace in Brazil since 2001 has been exclusively in charge of national training consulting TecTrain specialized in corporate training and business education supported by state-of-the-art business simulations and distance learning technologies internationally developed by its strategic alliances in USA and Switzerland.

Table 2 – Web MarketPlace in Brazil

Year	N. of Participants	N. of Groups	N. of Organizations	Name of Organizations
2001	127	29	2	Alcoa América Latina; Ibmec Business School
2002	277	57	2	Ibmec Business School, FGV-EAESP
2003	886	136	4	ESPM Business School, Ibmec Business School, FGV-EAESP, Trevisan Faculty

The start-up and initial delivery of Web MarketPlace was made at Ibmec Business School - business school specialized in finance and capital markets - in the city of Sao Paulo with Executive MBA's students, training more than five hundred executives and entrepreneurs organized in almost 110 groups since 2001.

One year later, Web MarketPlace was implemented at FGV-EAESP - business school specialized in general business administration - with financial support of national private equity fund TMG, training almost two hundred executives and graduate students in almost 35 groups until last year.

In 2003 Web MarketPlace was also implemented at Trevisan Faculty - national faculty specialized in auditorship - training almost 50 students in almost 10 groups.

At the same year, after this significant background for the application of Web MarketPlace in Brazil, it was personally designed and implemented in a large-scale outstanding initiative at ESPM, one of the top and largest national business school specialized in teaching management, marketing and communication.

### III. Setting

ESPM was founded in 1951 as “Escola de Propaganda de São Paulo” (São Paulo Advertising School) offering in a pioneer manner a freely structured course on advertising. Over the years, to keep up with the market, the course incorporated a Marketing field of knowledge to finally become a college as from 1971. At the beginning of the following decade, the ESPM was also recognized as a Business School, establishing itself as a center of excellence in the teaching of management, marketing and communication.

### IV. Link to Business Priorities

Web MarketPlace was personally designed to ESPM Executive MBA, a continually updated program fine tuned to the international circuit of business schools. With the re-design of the structure of the course as from 2003, the ESPM Executive MBA began to reckon with areas of concentration and supplementary areas equivalent to the Majors and Minors of international programs, in addition to an area common to all options, the so-called Business Administration area.

Prior to Web MarketPlace, the solution adopted as the final task for conclusion of the program, was the utilization of the classical methodology of setting up the strategic planning for a company or business, encouraging students to speak and write about what they are learning, establish relationships with former experiences and apply theoretical concepts to real business life.

**Table 3 –Figures of Web MarketPlace at ESPM Business School (Second Semester 2003)**

City	N. of Groups	N. of Participants (in % of total)	N. Professors
Sao Paulo	56	74%	13
Campinas	12	16%	03
Sao Bernardo do Campo	04	05%	01
Alphaville	04	05%	01
<b>Total</b>	<b>76</b>	<b>570</b>	<b>15*</b>

\* Two professors were in charge of both classes at Sao Paulo, Sao Bernardo do Campo and Campinas

ESPM Business School identified some reasons and market pressures to change the used methodology and to expand the scope of the final project of the course, including the managerial activity of a business in practical terms.

- a) Students Demand for practical application of their conceptual in a real business environment;
- b) Professors Request for the utilization of business simulators;
- c) Need to expand the large scale use of e-learning thereby linking it with traditional learning due to the great growth of the number of students;
- d) Retrieval of the quality and creativity of the final papers taking into account the growth in the number of students and groups, with focus on a greater standardization of the evaluation of the final works;
- e) Need for unification of the programs in the different cities for better academic management as well as a need to facilitate and speed up the operational work of the school promoting efficiency and quality.

In this context, the use of business simulation is obviously a good solution. However, the feasibility of their use and the management of this operation in extreme situations, where there is a constraint of information technology resources, limitation of the number of qualified and experienced instructors, coupled with the need of application simultaneously to a large number of groups geographically scattered represents an enormous challenge to be faced by the teaching organization. Under such circumstances, there is an additional challenge to ensure adequate standardization in the application, control and evaluation that would certify learning.

In order to implement Web MarketPlace at ESPM Executive MBAs, TecTrain was expected to provide:

- a) the international top business simulation available;
- b) the possibility of blending both traditional and distance learning;
- c) personalized training to professors and permanent coaching and students.

#### Why Web MarketPlace?

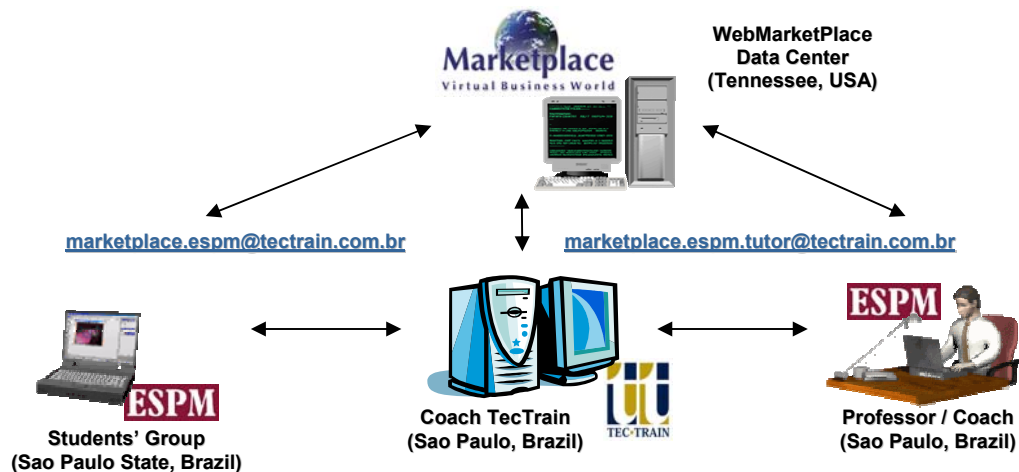
Marketplace simulator promotes strategic thinking and team dynamics through a rare combination of strategic business instruction and compelling market challenges within a true-to-life simulated environment [Cadotte (1995)]. There are five hallmarks to its learning methodology:

- a) In-depth treatment of all functional areas of business;
- b) Heavy emphasis on the interconnectedness of business discipline;
- c) Continual application of strategic planning and execution skills;
- d) Repetitive practice of business fundamentals;
- e) Ongoing opportunities to demonstrate leadership, teamwork, and interpersonal skills.

#### V. Design and Delivery

Beginning in last October 2003, Web Marketplace was applied at the same time to 570 ESPM Executive MBA students, organized in 19 classes and divided in 76 groups, guided by 15 different professors. The classes were organized into 4 units of ESPM Business School, located in the state of Sao Paulo, including the cities of Sao Paulo (14 groups), Campinas - 100 km from São Paulo (3 groups), Alphaville - 30 km from (1 group) and Sao Bernardo do Campo - 20 km from (1 group).

Figure 1 – Web MarketPlace International Design at ESPM Executive MBA



Although available computer science laboratories existed in the units, the number of computers and of accesses to the Internet were totally insufficient to all of the students and groups. In the classrooms there was just one access point to the Internet, possible

of being just used by the instructor. None of the students had their own notebook and the most of them didn't dispose, also, of wireless access or of large bandwidth access to the Internet. On the other hand, to make possible a suitable coaching of groups by respective professors during one night class a week (of 3 hour-class), the number of groups per class should be at most equal to four, composed for up to 8 participants due to the great number of students per class.

In spite of the international and Brazilian previous experience with Web Marketplace, that simulator had never been applied in those extreme conditions, nor with a such high number of simultaneous students and groups. These shortcomings created a unique challenge to Tectrain consultancy and support of professors and students, including:

- a) Prior to Start-up: Instructional design, Choice of the WebMarketPlace level, Professors training, Professor Kit development and Student Kit development.
- b) After Start-up: General Coordination, Back office support, Continuous improvement, Professors coaching and Students coaching.

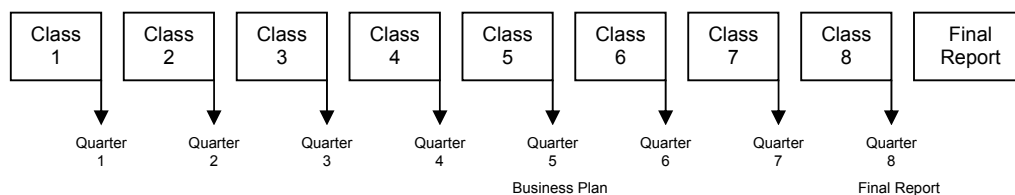
## **VI. Implementation**

By concluding the instructional design, the development of personalized content and all three ESPM professors training events, Web MarketPlace (Business Management level) was ready to be pioneering implemented with ESPM Executive MBA students during the second semester of 2003.

All nineteen classes located in four different cities of Sao Paulo state were carefully scheduled including distance learning activities, meeting classes with the respective ESPM professor and delivery of e-mail coaching by TecTrain backoffice. Furthermore, all Web MarketPlace course materials were installed at ESPM Intranet allowing Executive MBA students to download them even before the first class, while the fifteen ESPM professors responsible for Web MarketPlace classes received their teaching material either in paper and in a mini CD-ROM including all presentations, handouts, best practices, syllabus, tests and coaching tips.

Between the Start Date and the Final Date, all 570 Executive MBA students would have around eight coaching meetings with their respective ESPM Professor, wrap-up their online decisions through eight sequential quarters (including Marketing, Production, R&D, Finance, Accounting, Logistics, Sales, Human Resources decisions) and conclude their MBA course by summarizing these initial two years and also forecasting their financial statements and market performance for the next year in a business plan final report submitted to the Evaluation Board (constituted by the professor of the group and by two ESPM MBA professors) that should behave as investors evaluating the management of a business, during 8 quarters, by the students' group.

Figure 2 – Web MarketPlace Wrap-ups at ESPM Executive MBA



To evaluate the performance of each group of students in the Web MarketPlace the following requirements was defined:

- a) result of a Balanced Scorecard of the company managed by the group;
- b) quality of a Business Plan elaborated in the quarter 4;
- c) each student's individual participation;
- d) evaluation of a Final Report, presented to an Evaluation Board.

## VII. Business Impact

The results of the pioneering learning initiative at ESPM Executive MBA with the application of the business simulator Web Marketplace, in the described extreme conditions, were outstanding according to the depositions given by the founder and partner of TecTrain, by the Principal of ESPM and by the Manager of the Project in ESPM and also to the students' several groups performance evaluation, time spent worksheet and opinion research.

Table 4 – Web MarketPlace Students' Performance Evaluation at ESPM Business School (Second Semester 2003)

Classes	Evaluation		
	Balanced Scorecard	Evaluation Board	Final Average
A	8.6	8.8	8.7
B	8.0	8.9	8.5
C	7.4	7.5	7.5
D	7.3	8.4	7.9
E	7.8	6.7	7.3
F	7.8	8.3	8.1
G	7.0	8.0	7.5
H	7.3	8.0	7.7
I	8.8	8.0	8.4
J	7.0	6.9	7.0
K	6.3	8.0	7.2
L	8.8	8.4	8.2
M	7.5	9.0	8.3
N	7.0	7.8	7.4
<b>Average</b>	<b>7.5</b>	<b>8.0</b>	<b>7.7</b>



Those results demonstrate the good performance of most of the classes, presenting a medium final evaluation of 7.7. It is worth to emphasize that the participants of all of the Evaluation Boards made countless praises to the participants of the groups, during the presentations of Final Reports, registering the good learning level and the seriousness with that they behaved.

In order to appraise the students' opinion on the simulator experience, was applied for all of the classes a questionnaire to verify the satisfaction level and the students' evaluation as for 3 groups of requirements. The questionnaire was applied for a sample of 340 students of the groups of the unit of São Paulo of ESPM Business School, being obtained complete answers for 187 questionnaires.

The final results display the excellent level of the students' satisfaction, regarding the great majority of the investigated requirements. It is worth to highlight that the requirements of larger satisfaction index and that obtained the students' better grades were Modification of Attitude and Personal Growth, what demonstrates a good reach of the objectives of the simulator.

**Table 5 – Web MarketPlace Students' Opinion Research at ESPM Business School (Second Semester 2003)**

Issue	Average Evaluation	
	Satisfaction (in % up to 100%)	Grade (up to 4.00)
<b>A – Results Obtained in the Simulator</b>		
01. Improvement of Managerial Activities	94.1	3.6
02. Modification of Attitude	96.3	3.6
03. Conceptual Learning	86.0	3.3
04. Practice on Use of Concepts and Instruments	91.7	3.7
05. Facilitation of the Learning	91.9	3.5
06. Personal Growth	95.9	3.7
07. Professional Growth	95.6	3.6
<b>B – Involvement and Motivation of the Student</b>		
08. Intensity of Study	94.9	3.5
09. Contribution for the Group	99.4	3.8
10. Opening for the Learning	99.1	3.8
11. Participation in the Activities	99.1	3.8
12. Use of the Acquired Knowledge	99.4	3.8
<b>C – Contribution of the Author</b>		
13. Conceptual Support of the Advisor	94.0	3.6
14. Form of Orientation	93.6	3.6
15. Approach with the Reality of the Students	94.6	3.7

## IX. Conclusion

The ESPM Business School Web MarketPlace Case-study shows that is possible to reach outstanding business and learning results using business simulations under restrictive situations, when the available computing and instructional resources are poor and is necessary to manage a great number of groups of students geographically

scattered. In 2004 Web MarketPlace will be applied in both semesters in almost 50 Executive MBA classes with more than 900 students located in different cities of Sao Paulo state as well as in other Brazilian states. That innovative learning case may be used as a worldwide reference for other business schools and enterprises that operate under similar conditions.

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