BALANCED SCORECARD IMPLEMENTATION FOR STRATEGY MANAGEMENT: VARIATION OF MANAGER OPINION IN REAL AND SIMULATED COMPANIES.

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ABSTRACT

This paper compares and contrasts opinions of managers from real and simulated companies on the topic of BSC implementation for strategy management. Results indicated that there were noticeable similarities and difference in the motives for implementing the BSC and the major challenges during implementation, both groups revealing satisfaction with this tool, with higher levels of satisfaction reported from real companies. Based on these findings, it can be concluded that this business game structure was effective on providing elements of real company challenges and integration of BSC in simulations should be encouraged.

INTRODUCTION

Originally proposed by Kaplan & Norton (1992) as a tool to monitor corporate performance, the balanced scorecard potential has developed and evolved into a strategic management instrument. Soon after its creation, the concept was widely disseminated and implemented by executives and the academia throughout the world (Kallás & Sauaia, 2004). The method's efficiency has elicited distinct opinions among companies in diverse implementation environments. An annual study conducted by Bain & Company (2004) interviewed executives from 708 companies from five continents; the balanced scorecard was used by approximately 52% of top executives in 2003. Additionally, responders registered their level of satisfaction with this tool as of 3.8 (range, 0-5).

The use of a balanced scorecard in business games is a novel initiative that has drawn the attention of researchers of business games and simulations. First introduced by Sauaia (2001), it was later discussed by Dickinson (2003, 2004), Pray *et al.* (2003), and Kallás & Sauaia (2004). This study aims to verify whether simulated environments provide students experiences and challenges similar to those faced by real company managers. The chosen theme of analysis is strategy management with a balanced scorecard, a complex process that represents a major challenge for most organizations.

REVIEW OF LITERATURE

The BSC (balanced scorecard) is not derived from strategic management concepts. Its origin is related to the limitation of the traditional performance measurement methods, whose usage without complementation gives managers limited view of companies' strategic performance and future value creation (Kaplan & Norton, 1992). This point is also one of the strategic planning problems raised by Ansoff *et al*. (1976:8). Nevertheless, following its evolution, the instrument has become an important strategic management tool. More than a trivial measurement exercise, the BSC motivates breakthrough improvements in critical business areas, such as product development, internal processes, customer relations and marketing (Kaplan & Norton, 1993).

The BSC is a management tool that presents the corporate vision and strategy through a strategy map that includes goals and performance measures organized according to four distinct perspectives: financial, customer, internal-processes, and learning & growth perspectives. These measures should be interconnected in order to communicate a small number of general strategic issues, such as the corporate growth, risk reduction, or productivity enhancement (Kaplan & Norton, 1997).

After the onset of this management tool and initial applications to North American corporations, not only authors but also executives realized that its scope had expanded beyond the original concept (Júlio & Neto, 2002:181; Campos, 1998:64). In fact, Kaplan & Norton (2000a:18) noticed that certain companies that adopted BSC successfully revealed a consistent pattern for strategic management, named as *Strategy Focused Organization*.

In a website based study conducted by the Balanced Scorecard Collaborative, 300 respondents from various industries (approximately 50% users of the BSC) listed the main reasons that drove their organization to the BSC and

Exhibit 1 – Reasons for implementing the BSC (Downing, 2000)

strategy focused organization (Downing, 2000). The reason most frequently given is "alignment between strategy and the organization" (two-thirds of the responses). Other reasons are presented in Exhibit 1 and reinforce the perceived benefits of the BSC not only as a measurement system, but as a strategic management tool.

After ten years since its onset, a set of studies analyzed its results and benefits. Kallás & Sauaia (2004) conducted a business games experiment showing a positive impact from the BSC implementation. Additionally, Kallás & Coutinho (2005) identified positive correlation between use of the balanced scorecard and company value in the Brazilian stock exchange.

RESEARCH PROBLEM

Based on the wide acceptance of BSC and the concerns of several authors regarding its actual contribution, the question that arises is: Does the opinion from managers of simulated and real companies differ about implementation and impact of the balanced scorecard?

The purpose is to reject the following hypothesis:

- o H_{0-1}: Obtain competitive advantage is **not** the main reason to adopt the balanced scorecard in manager's opinion.
- o H_{0-2}: The opinion on the balanced scorecard application will **not** be positive (satisfaction level less then 6 on a 0-10 scale).

RESEARCH METHOD

The chosen method of research data collection was a paper questionnaire survey. Sampling of real companies was based on certified Balanced Scorecard Collaborative (Kaplan & Norton's organization) implementation. Sampling of simulated companies was based on companies formed by students of the class "Business Policy" (EAD-

472) offered by the undergraduate program of Business Administration and Accounting courses at the Faculty of Economics, Administration, and Accounting at the University of Sao Paulo (FEA/USP) – Brazil.

Since 1995 Brazilian research with business games was conducted in a Business Policy course as reported by Sauaia (1998:227). A Total Enterprise (TE) simulation was performed in this class, where the students managing companies had to define prices, investment volume, wages, and other identical decisions taken in real companies. These simulations were compiled in the MMG software that simulates market conditions from certain parameters and generates results for the teams, which, based on these results, made their new decisions for the next period (Keys *et al*., 1992). In this class an experiment was conducted on the implementation of the balanced scorecard (Kallás & Sauaia, 2004). Advised by a specialized consultant, students of the experimental groups were familiar with the concept and, at the end of the experiment, the students responded to a survey about use and satisfaction.

Survey questionnaires were chosen for both real and simulated managers of companies. Questionnaires were chosen due to simplicity of the questions, speed, and application costs. For the experimental environment, considering that all company managers met on a weekly basis, the application of the questionnaires were administered simultaneously to all respondents after the final simulation while information was still fresh in the students mind. Additionally, the presence of the teacher ensured a high response level. Access to the professionals of real companies was facilitated by the Brazilian Balanced Scorecard Collaborative affiliated company.

Two questionnaires were prepared, one for each group of respondents. Questionnaires were quite similar, since the research objective was to compare the groups. The differences were made to guarantee the real understanding and contextualization for the questions.

Exhibit 2 – Motives for BSC implementation – real x simulated companies

Variable	Real Companies			Simulated Companies			p^*
	25%	Median	75%	25%	Median	75%	
Learn more about the issue	1,0	2,0	3,0	2,0	3,0	4,0	0,022
Obtain competitive advantage	2,0	3,0	3,0	3,0	4,0	4,0	0,022
We were lost. Anything would help	1,0	1,0	1,0	1,0	2,0	3,0	0,066
My competitors were using	1,0	1,0	1,3	1,0	1,0	1,5	0,984
To have a decision making system	3,0	3,0	4,0	3,0	3,0	3,0	0,309
To improve the decision making process	3,0	3,0	4,0	3,0	3,0	3,5	0,518

* Mann-Whitney U Test

Exhibit 3 – Difficulties on BSC implementation – real x simulated companies

Variable	Real Companies			Simulated Companies			p^*
	25%	Median	75%	25%	Median	75%	
Built the strategy map	2,0	3,0	3,0	3,0	3,0	3,0	0,163
Identify metrics	3,0	3,0	3,0	2,0	2,0	3,0	0,496
Define targets	3,0	3,0	4,0	2,0	3,0	4,0	0,618
Analyze BSC data	2,0	3,0	3,5	2,0	3,0	3,0	0,919
Scarce time to dedicate to BSC on decision making	3,0	3,0	4,0	3,0	3,0	4,0	0,150
Mobilize everybody to work with the BSC	3,0	3,5	4,0	1,8	3,0	4,0	0,267
Link BSC with budget	2,0	3,0	4,0	3,0	3,5	4,0	0,259
Conciliate strategy and operational analysis	3,0	3,5	4,0	2,0	3,0	4,0	0,264

* Mann-Whitney U Test

ANALYSIS OF RESULTS

Regarding the main motives of BSC implementation, differences and similarities were noticed between real and simulated company managers (). Simulated company managers have pointed out "obtain competitive advantage" and "learn more about the issue" in a more positive way than the managers of real companies. It is possible to state that only those items had higher scores in the simulated companies group. On the other hand, both groups emphasized the motives related to the improvement of decision making. The differences can be originated at different contexts for both groups. While students were supposed to learn and develop competencies and skills, the professionals of real companies were supposed to carry a much greater responsibility in their roles. This may have driven the professionals more intensely to achieve corporate objectives. The objectives of the real companies were very similar to those reported in research conducted by Downing (2000). Also some facts to explain the differences are:

- **Differences between personal and professional maturity levels**. While simulated company managers were 23 year old undergraduate students, on average, managers of real companies were, mainly, mature professionals at the managerial level.
- **Differences in competitive positioning for both groups**. While simulated companies were at the initial operation phase in the experiment (first 7 years of operation), real companies were solid and mature.

Therefore, regarding the hypothesis H_{0-1} (Obtaining competitive advantage is **not** the main reason to adopt the balanced scorecard in the manager's opinion), the answers contain two conclusions:

1. For simulated companies it is possible to reject H_{0-1}

2. For real companies it is not possible to reject H_{0-1}

Regarding the BSC implementation difficulties, answers from real and simulated company managers are examined in . It can be observed that:

- "Build the strategy map" and "identify metrics" were not considered as high difficulty levels, mainly in the group of real companies.
- Target setting has been shown as a more difficult activity, mainly for real companies. However, it is still positioned as a medium difficulty level on the majority of opinions for both groups.
- Data interpretation was considered as an activity of low or medium difficulty. One point that corroborates this answer is the fact that the BSC was developed to give managers a more simplified means to analyze data (Kaplan & Norton, 1997).
- The issue of time constraint was the unique point were the average was exactly the same for both groups. This suggests that the way the experiment was conducted provided a similar environment for simulated companies as the one faced by real organizations.

- The issue of total group mobilization was one of the most difficult items, mainly for real companies. In simulated companies, as the groups were small (5 students), normally the decision for implementation was based on consensus. Probably this point caused answers to reflect a lower level of difficulty.
- The link between BSC (and strategy) with budgeting was the main difficulty for simulated companies, but not one of the biggest difficulties for real companies.
- The conciliation of strategy and operational analysis was one of the major points listed by managers of real companies, but not from students. One probable motive is that in the experiment, this kind of differentiation could not be performed in a proper way.
- By the statistical test, it is not possible to state that any item analyzed had higher scores for any group.

Regarding the benefits of BSC application, it was found that:

- Based by the average, benefits pointed by real companies' managers were higher then simulated companies, even in the "overall company performance". The exception it the item "performance analysis". When it comes to the statistical test, however, it was not possible to state that any item had a different score when two groups are compared ().
- Negative benefits were not noted by managers of real companies. On average, the overall impact of both groups was considered positive.

- Opinion regarding the return on investment (ROI) is positive for both groups (), but not statistically different.

- Both real and simulated companies' managers revealed a pronounced satisfaction with the BSC implementation, equal or higher then 6.0 (Exhibit 6). According to statistical test, it is possible to affirm that, for this study, the real companies managers satisfaction were higher then the simulated companies' managers satisfaction. However, it is not possible to affirm that the distribution of the answers were different.

Therefore, it is possible to reject the **H$_{0-2}$ hypothesis (**The opinion about the balanced scorecard application will **not** be positive (satisfaction level less then 6)**)**

CONCLUSIONS

The shows a synthesis of the main similarities and differences between the opinions from real and simulated company managers regarding implementation and impact of the balanced scorecard.

These research findings indicate some conclusions regarding the opinion of simulated and real companies' managers:

Exhibit 4 – Impact of the BSC application – real x simulated companies

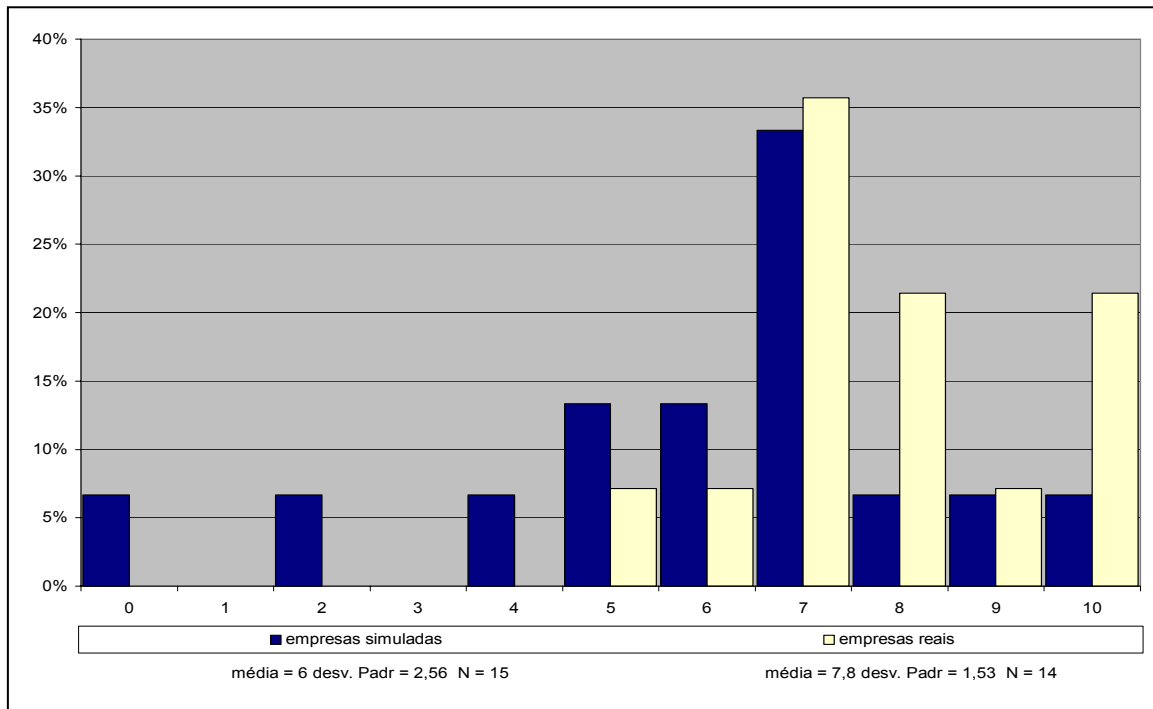| Variable	Real Companies			Simulated Companies			$p*$
	25%	Median	75%	25%	Median	75%	
Decision making	3.0	3,0	4,0	3,0	3,0	3,5	0.347
Budgeting	3.0	3,0	3,8	2,0	3,0	3,0	0.238
Performance Analysis	3.0	4,0	4,0	3,0	4,0	4,0	0.611
Learning about strategy	3.5	4,0	4,0	3,0	4,0	4,0	0.437
Alignment	3.0	3,0	4,0	3,0	3,0	4,0	0.647
Internal communication	3.0	4,0	4,0	3,0	3,0	3,0	0.069
Discipline	3.0	3,0	4,0	3,0	3,0	3,0	0.422
Overall company performance	3.0	3,0	4,0	3,0	3,0	3,8	0.432

* Mann-Whitney U Test

Exhibit 5 - Opinion about BSC ROI – real x simulated companies

Opinion about BSC ROI (% of valid answers)	Negative	Zero (neutral)	Positive
Simulated Companies	13%	13%	75%
Real Companies	0%	8.3%	91.6%

* p = 0,450 (Mann-Whitney U Test)

Exhibit 6 – Satisfaction level Histogram – real x simulated companies

média = 6 desv. Padr = 2,56 N = 15   média = 7,8 desv. Padr = 1,53 N = 14

* p = 0,041 (Mann-Whitney U Test)
* p = 0,433 (Kolmogorov-Smirnov Z Test)

1. Motives that drove managers to implement the balanced scorecard were similar for simulated and real companies. Nonetheless, a concern was noted from managers of simulated companies, but not from managers of real companies, regarding the final product (obtain competitive advantage).
2. The managers' opinion on main difficulties and benefits had some differences on values, but not statistically significant. However, both groups pointed out impacts on the same processes and affirmed that the BSC application brought a positive impact at return on investment rate. Also both groups have revealed a positive satisfaction (higher then 6.0).
    a. The opinion on the return on investment rate was positive for both groups.
    b. Although the satisfaction level of managers of real companies was higher than that of managers of simulated companies (Mann-Whitney p = 0.041), it is not possible to confirm, however, that the distribution of the answers are also different between the two groups (Kolmogorov-Smirnov p = 0.433).
    c. Both managers of real companies (7.8) and simulated companies (6.0) revealed a positive satisfaction level.

Based on these findings, educators should reflect on the greater importance students placed on the products and outcomes of business simulation (the overall performance of their companies, their grade etc.). Although the product is important, students should be encouraged to notice that the path to achieve results in further executive ventures is in the process of strategic management. Business games should instill in students the importance of the process in achieving the final product. Also, this experiment has shown that the business game structure, even one based on a simplified model, is effective in recreating similar elements of the strategic management process from real companies in the simulation. These key elements were reflected in the similarity of opinion of managers and students for a set of certain items.

Based on these conclusions, educators should be encouraged to invest on integrating BSC to simulation and business games. This integration could be done in the simulation tool, in the courses didactic structure design or, preferable, both. Integrating BSC to business simulations will give more elements to reduce the gap between real life and simulation and also will bring a relevant and updated issue that concerns student's attention.

LIMITATIONS AND PROPOSITIONS

The instruments used for this research are time-consuming and obligate the researchers to be extremely careful when preparing questions that are not ambiguous, because this could confuse and frustrate the respondent. Also, the questions must be elaborated in a manner that does not drive answers (Mattar, 1996:160-161). Based on this assumption,

the main limitations of this study are (i) dependence on respondents' goodwill, (ii) dependence on respondents' memory, (iii) dependence on respondents' sincerity, and (iv) risk of the instrument influencing the answers. For all of these risks, precautions were taken during the research process. Another point noted is that the majority of real companies were at the initial phase of BSC implementation (less than two years from the beginning). This point influenced the perception that most of the benefits are still to come. Furthermore, the respondent profile was composed by professionals that work directly with the BSC. Their answers, therefore, were subjected to biases due to possible impact on the reputation of their job.

For future studies, it is proposed to perform the experiment here reported as follow:
- Administer the questionnaires in the future, when the experience of real companies would be greater and more mature. Also, use a larger sample for the study.
- Apply the research with simulated companies in MBA courses, where the profile of the simulated company managers is equal to real companies.
- Improve the sampling, interviewing not only professionals directly related to the BSC implementation, but professionals also from other areas to avoid the biased answers of BSC specialists.

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