BENCHMARKING AND BALANCED SCORECARD: CASE STUDY OF THE BRAZILIAN ELECTRICITY DISTRIBUTION SECTOR

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ABSTRACT
This paper explores one aspect of the benchmarking program that has been developed by the Brazilian Electrical Energy Distribution Companies Association (ABRADEE) at the Institute of Economic Research Foundation (FIPE). It presents the methodology adopted in the choice of information to be used as a benchmark. The methodology developed is a combination of the concepts of benchmarking and balanced scorecard.

INTRODUCTION
ABRADEE is the organization that congregates the companies of the electric power distribution industry. In Brazil, the electric power distribution is conducted by 63 independent, either state run or private capital, companies (DistCos) that provide electric energy (aprox. 332 TWh) to around 60 million consumers. From those 63 companies, 49 participate in ABRADEE. They are responsible for supplying 99% of the Brazilian market, being present in all regions of the country.

In 1999, ABRADEE established a partnership with FIPE, an institution related to the School of Economy and Administration of the University of Sã o Paulo (FEA-USP), to conceive and judge the ABRADEE Prize. This prize awards the members of ABRADEE on the account of: technical financial indicators and consumer satisfaction, in addition to specific evaluations in social responsibility and management quality. The ABRADEE prize has the purpose of being a dynamic motivator for the progress of the ABRADEE member companies, contributing to the improvement of the electric sector and the quality of life of the Brazilian population.

With the prize, ABRADEE would be using its connection with the associated companies to promote improvements in accordance with the sectors directives. That includes quality improvements, developing and implementing practices of quality culture and social responsibility in its member companies.

The ABRADEE Prize, from 1999 to 2003, has made clear the performance disparities amongst companies and the need for other mechanisms of interaction between companies that would allow for the exchange of experiences, promoting the progress of them all. The answer to that challenge was the creation of the ABRADEE Benchmarking Program, of which the ABRADEE prize became a part of. The main benefits of the Program are:

• the development of a methodology to gather and analyze qualitative and quantitative information with respect to electricity distribution in Brazil.
• the selection, development, and dissemination of knowledge, thus facilitating a better understating of the electrical power sector and offering insights for the development of business plans.
• the facilitation of negotiations between the sector and regulatory organizations in achieving relevant and achievable performance targets to be defined by the National Agency of Electric Energy (ANEEL), as required by Brazilian government policy. The idea is to avoid measures that can lead to perverse results (Kerr, 1975).

Benchmarking is an obvious framework for those purposes. It does not provide answers, does not suggest priorities nor prescribe actions (Fitz-enz, 1993). However, this program should also be used to suggest priorities aligned with ANEEL future requirements.

The challenge was to transform the evaluation system in a management tool capable of contributing to the transformation planning and adding to the competitiveness of the companies and the sector.

The balanced scorecard was then chosen as a methodology to organize information to be gathered because of its power to link actions to strategy and suggest improvement priorities.

Although this benchmarking program deals with only one sector with a single product produced in a similar way and under the same regulatory rules, it is certain that the individual companies have their own particular strategic objectives. However, in this program it is not possible to consider the particular strategies of each public and private company. Hence, this benchmarking program helps companies to identify opportunities for performance improvement, with the understanding that they are strategic for the sector as a whole. From the balanced scorecard perspective, useful benchmark measures are those that deal with critical success factors. The methodology developed by Kaplan & Norton (2000)
was useful in the discussion, selection, and organization of those strategic critical factors. Measures and practices were thus selected with a view to summarizing desired performance and allowing companies associated with ABRADEEE to succeed.

When a balanced scorecard is designed for an industry, it is necessary to choose measures and practices that summarize required industry performance. In this case, the benchmarking process should help companies to excel on what the group of companies must excel.

However, benchmarking should not become an obstacle to creativity on the part of companies in their search for excellence. Companies should adopt and adapt practices to solve their own problems in order to reach the desired industry performance that is fundamental for all. The purpose of the program is not to prescribe actions. Each company can learn with others but should consider the different circumstances under which the companies adapted and were successful. Different market conditions (product, work force, geography) require different solutions.

A portfolio of practices and capabilities will lead to short-term and long-term success only if the administration has a global and systemic understanding of the business. The combination of benchmarking and balanced scorecard concepts is an interesting and effective way of facilitating this. This combination also leads to the production of information that is useful in accomplishing necessary improvements in the individual companies and the industry in general.

APPLICATION EXAMPLE

For the companies to benefit from the comparisons and learn from each other, the Benchmarking Program identified the most critical aspects of the sector and created a database with the best practices related to those critical aspects, that way contributing to the advance of the companies individually and the advance of the sector as a whole.

The methodology developed in partnership with FIPE was innovative in terms of the definition of critical factors as well as the assembling of the Good Practices Database. The concept of Balanced Scorecard was used to create a Strategic Map, sorted by various themes and perspectives, based on which the practice research could be conducted.

The mechanisms of the Balanced Scorecard related to unfolding the strategy in objectives based on cause-effect relations showed themselves to be more adequate to portraying the sectors’ challenges, identifying the critical factors for success that should be dealt with by the whole of the companies.

The themes selected to compose the strategic map of the electric power distribution sector were: (i) excellence in operational management; (ii) excellence in the management of regulatory and institutional challenges; and (iii) excellence in corporate governance.

Based on the experience gathered and on the many operational results yet to be achieved, it was defined that the Benchmarking Program would begin with the theme Operational Excellence.

This theme, for being very complex, was further divided in sub-themes: Supplying Quality; Revenue; Commercial Losses; Technical Losses; Defaults (breaches of contract); Security, Sales and Purchase of Energy.

Strategic maps were then designed by theme in order to understand the way in which the performance of certain activities contributes to the achievement of objectives in the four critical dimensions of the balanced scorecard: (i) financial; (ii) clients; (iii) internal process; and (iv) learning and growth. The strategic maps show the causal relationship between objectives and performance. Appropriate measures of performance for each objective (quantitative or qualitative; leading or lagging) were then identified. All aspects of these themes were discussed from all perspectives — identifying the main targets for all companies. This is illustrated in Figure 1.

The approach of Neely et al. (2002) to the customer perspective is that “in today’s competitive environment excellent service is quickly becoming an organization’s <license to practice> as opposed to a competitive advantage” (p. 13). In that paper, excellence in service is measured by “complaints per customer (%); “complaints per order (%); “order value of complaints/turnover (%); “orders delivered on time (%)”, “orders rejected during warranty period (%).” This trend was also considered in the benchmarking program for the Brazilian electrical energy distribution sector, and various aspects were captured in the several themes. The measures, however, were adapted to industry specifications. For example, in the Customer Service theme, the measure was based on a “billing errors indicator”, corresponding to “complaints per customer” and “complaints per order”. In the Energy Supply theme, the measures were “duration and frequency of interruption” and “dissatisfaction of customer with interruption”, corresponding to “orders not delivered on time”.
With the matrix, it is possible to describe the purpose of measures by perspective as in Neely et al. (2002), in addition to the description of the causal relationship among perspectives within the themes.

Commercial losses, for example, are one of the major commercial problems. In a simplified form, it became apparent that it was necessary to train readers (learning and growth process) in order to improve the measurement of consumption (internal process), to reduce fraud (client process), and to reduce the commercial losses measured by the difference between delivered energy and billed energy (financial process).

**CURRENT DEVELOPMENTS**

In the second stage of the ABRADEE Benchmarking Program (2006 to 2007), the goal was to conduct a brief revision of the map to be able to organize what is considered a fundamental tool in the program: the Best Practices Database. The objective is to represent, in a way, the actions that have been considered good practices in the industry. The intention is not to be an exact prescription, but to indicate the path to good results. An action that is positive to one company may not be adequate to another company facing different realities and demands from the local community and government. The Best Practices Database has the intent of being an instrument of information exchange amongst companies and, also, a promoter of interaction in the discussions upon how to adapt the practices to different realities.

Another innovative aspect of the method used to gather the best practices was participative organization in the process, with two validation levels (theme groups formed by specialists and more general groups formed by management specialists) and two information gathering stages. It was elaborated based on the strategic map for the companies. Therefore, it is not a simple compilation of practices.

Each theme group was joined by two members of the FIPE team: one with the goal of assuring conceptual and methodological consistency even making on-time adjustments, the other an energy specialist to assure that no technical issue important to the public interest would be left aside by the group.

The strategy adopted to raise the practices in Theme Groups with the specialists from the companies was well-succeeded. The composition of the groups was top level. The integrants of the Theme Groups, having a deep knowledge of the subjects at hand, and many of them for the first time involved in the Benchmarking Process, engaged in the task with a great deal of dedication and enthusiasm. It is opportune to mention the important participation of the Theme Group coordinators in achieving the results obtained. In the more complex issues, the coordination was indispensable to finishing the work before the deadline.

The themes addressed by these groups to gather the practices were naturally exposed during the ABRADEE Best Practices Seminars (SAMPs). This attitude is perfectly aligned with the underlining goal of structuring the SAMPs based on the good practices in each theme and strategic objectives, making the ABRADEE Prize a part of the seminar, and not the other way around.

The Best Practices Database gathered that obtained 208 different practices in its first effort followed report standardization, using forms in which the practice was described by methodology, dissemination, continuity, applicability and results achieved.

The Best Practices Database obtained by ABRADEE and originated in the theme groups meetings assembled a great amount of information that were consolidated in a Microsoft Excel database and made available to the ABRADEE members. However, the modern tools of interaction provided by the Web 2.0 concept could improve significantly the disclosure and dissemination of
this information, as well as its expansion and transformation into a living element, adaptive and evolutive. As a result, and because of the emergency of new practices, the current database is at risk of becoming obsolete, if means of updating and permanent interaction are not developed. Therefore, it was proposed the development of an interactive web system of ABRADEE’s best practices, that would allow the transformation of the current database in a web system endowed with many interactive functions such as: the shared editing of the practices, insertion of new practices, insertions and editing of comments, surveys of adoption and relevance, organized by moderators and users. By now, it has been developed a prototype of this Interactive Best Practices Database that should be operational by mid 2009.

CONCLUSION

Competition is the driver that led Kaplan and Norton to develop the BSC and also leads companies to implement that managerial tool. The essential of the BSC can be expressed by the fact that a single report should contain information about a business that a competitor must not know, because it necessarily addresses not only the strategy of a company, but also how it will be executed. (Kaplan & Norton, 1996) quoted comments from an executive that told them that if he forgets a BSC report in an airplane seat and a competitor sees it, its company would be in serious trouble.

The BSC is a useful framework for organizing information necessary to manage strategy implementation. Since the work being reported here has been done for an entire industry, it is not possible to aggregate the individual strategies of each company in a BSC. This benchmarking program was elaborated in order to organize information helpful to the progress of companies within the industry. The set of measures are specific to the accomplishment of those strategic objectives, but each company will use as reference those related to its particular strategies. Companies within this sector operate under common regulatory constraints and targets; hence, their particular strategies are necessarily related to them. The difference lies on the existing gaps each one has to overcome to achieve the desired performance. This industry-benchmarking program has been designed for information sharing among competitors.

Through this combination of BSC and benchmarking, electricity-distribution companies will share not general information, but information relevant and essential to their survival. For example, the minimization of commercial losses is very important for the industry in Brazil because of its effect on rates. However, for some companies this is not a problem anymore or is not a problem at all, because of the characteristics of their markets. Therefore, minimization of commercial losses would not appear in their BSC map and benchmarking on this aspect is not a priority. However, this objective is relevant for some companies, and the reduction of performance gaps among them should lead to different actions and practices.

The benchmarking program of the Brazilian electricity distribution industry is in fact a benchmarking program that uses balanced scorecard concepts and not a BSC that uses benchmarking metrics. This is not a trivial question, because erroneously understood conceptual questions produce the misuse of the managerial tool.

The benchmarking program of the Brazilian electricity distribution industry, based on the Neely et al. (2002) approach to data analysis for the creation of a Benchmark Index, and on the balanced scorecard, has allowed the companies to discuss the relevant variables within the industry, and to establish strategic objectives and select benchmarking measures that really matter to all companies, independently of the particular strategy adopted by each. The main result of this process has led to a relevant discussion of what the companies should measure and why. Thus, the set of measures and practices finally selected indicates how the industry perceives its problems and challenges.

REFERENCES