THE BUILDING OF THE BALANCED SCORECARD FOR ACADEMICAL ENVIRONMENTS: APPLICATION IN A GERMAN ACADEMIC UNIT

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Resumo:

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Palavras-chave:

Área temática: *A Medição de Desempenho Gerencial*

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ABSTRACT

Many publications are reporting, in the last years, the benefits of the Balanced Scorecard (BSC) implantation in several types of organizations. However, few texts offer methodologies for the building and implantation of the system, that should be adapted to each context. So, the present article intends to collaborate with the literature, proposing a methodology for using the BSC in academic environments, and offering the report of a BSC building in an academic unit of a German university, where the development was based on this proposal. The article describes the reached results, from the process of strategic discussion to the developed steps for the building. In the end are presented conclusions and criticism to the reached results.

1. BALANCED SCORECARD IN THE ACADEMIC CONTEXT

When the Balanced Scorecard was developed, in the years of the 90's, the objective was to dispose a structured system that would help the managers in the performance evaluation of the companies, considering not only financial measures, but also non-financial measures, that aid to push the future financial outcomes. So, the Balanced Scorecard was structured around four perspectives, as the figure 1 shows.
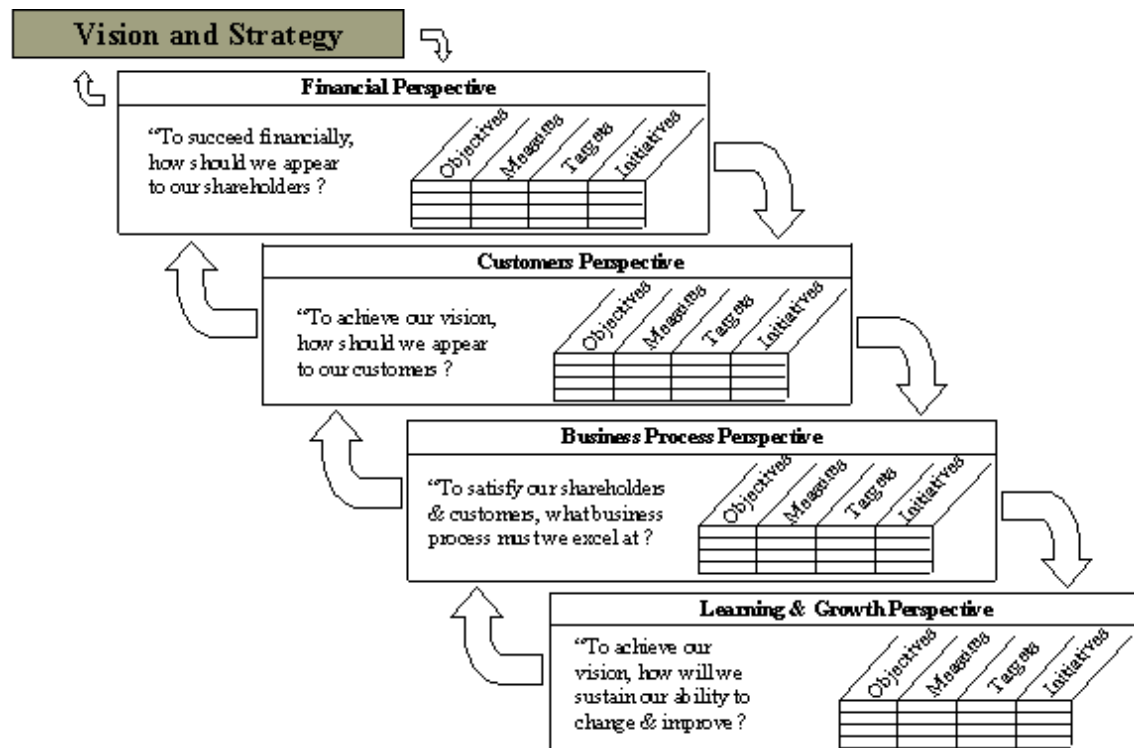

Figure 1: Architecture of the *Balanced Scorecard*. Source: Kaplan and Norton (2000) - adapted.

In the BSC, the objectives to each one of the perspectives are withdrawn from the vision, the mission statement and the strategy of the company. These strategic objectives generate the performance measures, targets and initiatives builded in sequence. The process foresees periodical meetings to evaluate the initiatives, targets, measures and objectives, and to discuss the strategy itself of the organization, generating a process of continuous *feedback*.

In non-profit enterprises, the architecture of the BSC maybe is not suitable, as shown in the figure 1, because, usually, the main objective of those institutions is not the financial success (Kaplan and Norton, 2000). So, the financial aspect is usually a limitation, not an objective, therefore it is not in the top of the hierarchy (Pessoa, 2000).

In these organizations, the customers or members usually will be in the top of the pyramid (Kaplan e Norton, 2000). The nomenclature of the perspectives also should be changed, whether it is inadequate to the characteristic of the enterprise.

In a modeling of the *BSC* to the Brazilian federal universities, Pessoa (2000) situated the customers (students, employers, organizations and people) in the top of the pyramid, followed by the Federal Government (this one and the *Ministry of the Education* correspond to the shareholders), the Internal Process and the Learning and Growth. In this work, the authoress argues that the society is customer and shareholder in the Brazilian federal universities, as shown in the figure 2. Then, students, employers, organizations and people are the university customers, while the Federal Government and the *Ministry of Education* are the *shareholders*, which the authoress, in her final model, had denominated only as Federal Government.
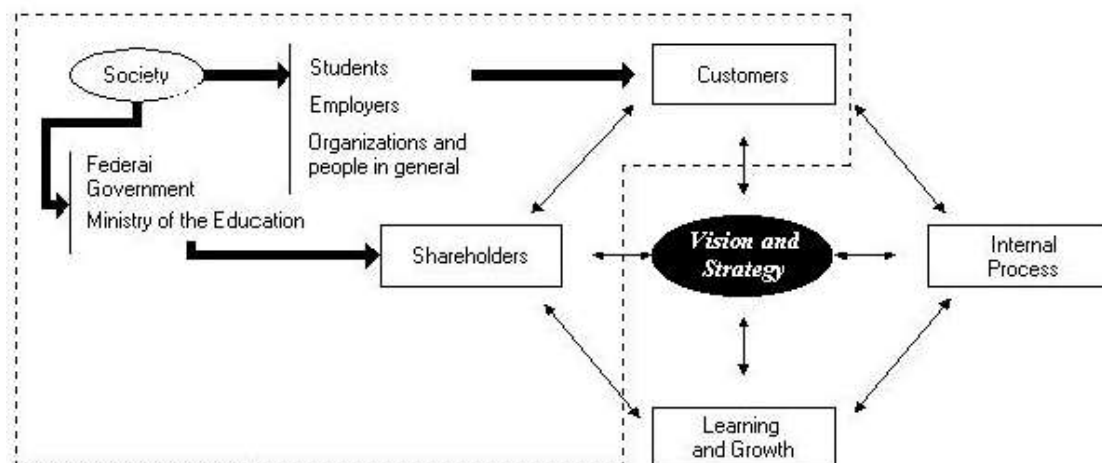
Figure 2: Definition of customers and shareholders. Source: Pessoa (2000) - adapted.

Sutherland (2000) also reports an application of the *Balanced Scorecard* in an academic environment, the *University of Southern California (USC)*. In this University, each academic unit used to develop annually some excellence measures, that were discussed in the annual budgetary meetings. However, each unit used to emphasize the aspects that it judged more important, without

any relation with the others, doing difficult the comparison of the measures among the several academic units and, sometimes, measuring aspects that did not link to the key factors to guarantee the academic excellence.

In a certain moment, it was understood that the measures were not a passing fad and that they aided the academic units to get the university resources. With that, the people started to consider those measures more seriously. A group was constituted to identify the excellence measures that helped the people and the university to verify if they were, or not, executing the initiatives that they should do (Sutherland, 2000).

During the work, the team knew the *Balanced Scorecard* and decided to use it. With this aim, some modifications were done to the classic model suggested by Kaplan e Norton, shown in the figure 1, which was renamed to *Academic Scorecard* (Sutherland, 2000):

- Financial Perspective: it was replaced with "academic management perspective".

- Question to be answered by the measures of the academic management perspective: "How do we look to our university leadership?"

- Customers Perspective: it was denominated "stakeholder perspective" (the most significant stakeholders are the students and the workers).

Sutherland (2000) also remembers that, for a public institution, the *stakeholder* set could be expanded to include elected officials and other stakeholders who have influence over budget appropriations for higher education.

The objectives and measures were defined for each one of the four perspectives, that were aligned to the priorities of the university.

What happened in the previous methodology to the Academic Scorecard was that there were links neither among the excellence measures, nor connection of them with the targets of the university, besides this process did not evaluated the measures. With the *Academic Scorecard*, the university could change it (Sutherland, 2000).

Kaplan and Norton (2000) affirm that, in the development of the BSC for an profit or non-profit organization, it is important to search the alignment among the corporate scorecard and the scorecards of the several business units, because the delineated objectives to each unit, insofar as possible, must be aligned to the corporation objectives.

Torgerson *apud* Sink and Tuttle (1993), when analyzing the subject of the corporate strategy for an academic institution, affirms that an engineering faculty, for instance, was already described as a collection of departments, which are maintained together for a shared central heating. The autonomy of the academic departments and of the faculty in these departments have no similarity in business, industry or government, aspect that is also debated by Sutherland (2000), even so, it is possible and necessary to do that the scorecard of academic units is aligned with the strategy and corporate BSC of Faculty, otherwise the results maybe will not be so effective.

According to the purposes of Pessoa (2000) and Sutherland (2000), each time that the BSC is applied to the reality of a public or private organization, the

model should be changed in some aspects, in order to be adapted to the case analyzed.

3. METHODOLOGY OF BUILDING TO ACADEMIC ENVIRONMENTS

It is found some well structured building methodologies of the *BSC* in the literature, as the ones of Kaplan e Norton (1997) and Olve *et al.* (1999). Some papers demonstrate how the *Balanced Scorecards* of some companies were developed (Letza, 1996) or show new proposes, that mix the original methodologies (Walter e Kliemann Neto, 2000). To academic environments, there are few discussions, as the ones of Pessoa (2000) and Sutherland (2000), but they do not present building methodologies.

With the aim of fulfilling this lack, it is purposed here a methodology guided to the academic environment, that is adapted from the one proposed by Kaplan e Norton (1997).

Because the academic institutions usually lack of a conventional strategic planning, it is needed to include a mechanism of strategic discussion in the building process, according to the picture 1. The methodology of Olve *et al.* (1999) foresees the creation of the strategy together with the *BSC,* but this model is directed to the parallel development of corporate scorecards and scorecards to lower organizational units (Walter e Kliemann Neto, 2000).

STAGE	Strategic discussion	Strategic Implementation (*BSC*)
EXPECTED RESULTS	Vision Mission Statement Strategy	Strategic Objectives Measures Targets Initiatives

Picture 1: Definitions in the presented methodology

It is considered as "strategic discussion" the process of defining the Vision, the Mission Statement and the strategies that the organization must have as a preliminary stage to the building of the BSC.

The proposed methodology has seven stages, according to the picture 2 and the following description.

STAGE	PARTICIPANTS	DEFINITIONS
1. Interview with the coordinator of the unit	Facilitator, coordinator	Planning of the building of the BSC
2. Interview with the members of the unit	Facilitador, members	Perceptions about Vision, Mission, Strategy, perspectives and measures
3. Synthesis of the interviews	Facilitator	Organization of data from the interviews
4. Seminar of discussion	Facilitator, members of the area	Preliminary definitions about Vision, Mission, Strategy and perspectives to the BSC.
5. Seminar of strategic approval	Facilitator, members of the area	Approval of the Vision, Mission, Strategy and Measures.
6. Seminar of election of targets and initiatives	Facilitator, members of the area	Definition of targets and initiatives for the BSC.
7. Seminar of final approval	Facilitator, members of the area	Revision and final approval. Definition of implantation schedule.

Picture 2: Stages of the methodology

First Stage: Interview with the coordinator of the unit

The first stage is an interview with the head of the institution where the *BSC* will be developed (for example, the Rector, the dean of a Faculty, or a chair professor) to define the project objectives, in order to align the BSC with the expectations of its sponsor.

In this interview, it must be defined the project scope: people, expectations, relevance and schedule of execution. It is a stage of planning of the BSC building.

Second stage: Interview with the members of the unit

The members of the academic unit are individually interviewed, with the aim of clarifying and unifying the involved concepts in a *Balanced Scorecard* project, and of identifying their expectations and thoughts about the Vision, Mission Statement and strategies to the unit and to themselves.

It should be also asked to the participants to suggest perspectives and measures to the *Balanced Scorecard*. So, the members are stimulated to align the BSC to their everyday activities.

The facilitator should not "compel" the participants to emit answers to the questions, but just to stimulate spontaneous opinions, that represent their conceptions about the several strategic subjects.

Third Stage: Synthesis of the interviews

The facilitator organizes some information that were obtained from the interviews, with the aim of orientating the discussion about Vision, Mission Statement, Strategy and the BSC, which were formulated exclusively from the spontaneous declarations of its members.

This information will be subjects of discussion in the following seminar, where the facilitator should present, anonymously, the given declarations.

Fourth Stage: Seminar of Discussion

The facilitador presents the declarations of the participants. Initially, it is discussed the Vision of future, when the facilitator can present an initial propose to stimulate the debate. The group should approve, change or suppress separately the declarations and the presented propose, doing that all the team acquire uniform opinions, and feel the ownership of the reached definitions.

It starts from the presupposition that the united discussion on these themes provides a mutual understanding on the guidelines and the values that the group needs for the process that follows, besides uniformizing the horizon on which the Balanced Scorecard should be implanted.

In sequence, the debate takes place for the Declaration of Mission, following the same initial procedure, and after, for the strategy of the unit.

In the moment of discussing the strategy, it fits also to evaluate both which are the perspectives for the BSC, and to indicate its strategic objectives.

Fifth Stage: Seminar of strategic approval

The facilitator presents, to final approval and changes, the conclusions that were reached in the last seminar: Vision, Mission Statement and strategies to the unit, and perspectives and strategic objectives to the BSC, with a first suggestion of a cause-effect relationships tree.

The group should approve or discuss changes in all subjects and, in sequence, the facilitator presents the list of the suggested measures in the interviews. Now they should debate if these measures are enough or representatives to evaluate the strategy, and elect others, if necessary.

After the seminar, the facilitator should document the reached approvals until the moment, and distribute them to the participants, in order to everyone prepare himself/herself to the next meeting. The participants should bring information and data about the elected measures, with the aim of defining the overcome targets.

Sixth Stage: Seminar of election of targets and initiatives

The group discusses targets to the elected measures, based on actual and attainable data, in order to serve as a reference to the initiatives to be defined.

Seventh Stage: Seminar of final approval

In this last stage of the building process, the group does eventual alterations and approves the *BSC* to the academic unit.

Then, it must be programmed a schedule to achieve the planned initiatives, to deploy the *BSC* in lower organizational levels, and link it with the existent academic processes.

4. THE CASE "PRODUCTION AND OPERATIONS MANAGEMENT" – POM

4.1. The Justification

The *Technische Universität Ilmenau* is located in Ilmenau, state of Thüringen, Germany, in a land recognized for its optical industry. Situated in a region that formerly belonged to the East Germany, this university receives an enormous amount of government resources, with the aim of being updating to the German technological context, although it had ever been reference in some specific areas, specially optics and precision mechanics.

Since the German reunification, in 1990, there is a representative admission of faculties originated from the west side of Germany, making a general and well succeeded rearrangement in the university staff, that leaded to reach quickly a good reputation in other fields too. In this context, the academic departments renewed their functional staff, but, in spite of hiring a great number of faculties scientifically up-to-dated, these departments lack an historical continuity of management.

In the last quarter of 2000, a guest researcher from the UFSC (Federal University of Santa Catarina, Brazil) stayed close to the chair of Production and Industrial Management, which belongs to the Faculty of Economics, with the aim of changing experiences in the research of the "*Balanced Scorecard*".

Making use of the discussion about the subject and the necessity of this chair discuss its strategic guidelines, the group decided to observe how the *Balanced Scorecard* would be developed to attain this purpose.

4.2. The environment of application

The chair of Production and Industrial Management belongs to the Institute of Industrial Management, a division of the Faculty of Economics, as shown the picture 3. Its aim is to accomplish research, teaching and advising activities inside the subject Industrial Management, mainly in planning and control of production, and simulation of production systems.

Faculties	Institutes	Chairs
Electrical Engineering	....	....
Informatics and Automation	....	....
Mechanical Engineering	....	....
Mathematics and Natural Sciences	....	....
Economics	Economic Law	....
	Microeconomics	....
	Economical Informatics	....
	Industrial Management	Production / Industrial Management
		Marketing
		Finances
		Controlling and accountability

Picture 3: Location of the chair in the organizational chart of the university (free translations)

The chair is managed by a professor, who is responsible for the offered disciplines, orientation of scientific works and researches, management of the staff, relationship with the other academic units and partnerships close to enterprises, in the same work field.

Close to the "*professor*" work one secretary, one technical assistant, two doctors-assistants and three doctor-students/collaborators. These last five ones work as faculties in the disciplines offered by the chair, in the supervision of undergraduate conclusion works and in advising activities.

The staff uses as abbreviation the word "POM", which refers to the area of teaching and research where they identify themselves in the scientific environment (*Production and Operations Management*).

4.3. Development of the Building

The methodology was adapted to the small structure of an academic chair, and the first author of this work played the facilitator role.

First Stage: Interview with the coordinator of the chair (professor)

On November 30th, 2000, the interview with the coordinator of the chair was accomplished, when the following definitions were obtained:

⊗ Expectations about the building of the BSC:
- To identify which are the "products" that the chair offers (or should offer);
- To identify criteria and measures to manage the group, that show its results and efficiency – the targets should not be so "tightened";
- To align the plans with their measures;

- To link the activities with a schedule to be developed.

⊗ All the members of the chair should participate in this project. The Balanced Scorecard should centralize all the group activities.

⊗ Schedule of development:
  - Between November, 30th and December, 15th: interviews
  - In 18th or December 19th: discussion seminar
  - In December 21st or 22nd: conclusion seminar

  The activities should happen within the participants individual possibilities. Due to the time limitations, it was accorded that the most possible of the building would be developed during the permanence of the facilitator in the institution, and the following stages would be internally guided.

⊗ Preliminary ideas about the Vision, Mission Statement and strategies for the group were obtained from the professor, and they would be refined in the next interview.

Second Stage: Interviews with the members of the chair

In the foreseen period the members of the chair were interviewed. Due to problems out of the process, it was not possible the participation of all. So, there was the participation of the Professor, one doctor-assistant, three collaborators and the technical assistant, according to the picture 4.

Name	Function
Prof. Herfried Schneider, Dr.	Professor
Axel Brassler, Dr.	Doctor-Assistant
Haiko Schlink	Collaborator
Holm Fischaeder	Collaborator
Thomas Ruecker	Collaborator
Sigrun Leipe	Technical Assistant

Picture 4: Participants of the interviews

The interviews run freely, without limitations of time, and the facilitator did not influence the emitted answers, he just stimulated the process.

It is related, in the picture 5, a grouping of the presented ideas by the participants, when they were questioned regarding which would be the Vision of future of POM.

The comments related to the Mission are contained in the picture 6.

The manifestations about strategies (it is considered in this work that the strategies correspond to actions that should be developed for reaching the Mission, and at last, the planned Vision), they were classified by the Facilitator, in three strategic themes: Teaching, Science and Industry.

- We will have a state of excellence in teaching;
- We will in the "mainstream" of research, "keeping the pace with the progress";
- We will be specialized in specific points, mainly the management of small and middle-sized enterprises (SMEs);
- We will share our attention among applications in services (50%) and industry (50%);
- We will be good partners to the industries. They will trust in the success of our works;
- We will offer a high level of education to our students;
- We will have members with "open minds" to new ideas;
- We will be well known in the scientific community;
- We will be well known for solving the problems of the industries;
- We will have many contacts in foreign institutions, after establishing interchanges;
- We will be the most attractive group in the Faculty, to student and researchers;
- We will keep the same amount of members than today;
- We will have a good reputation and will be attractive to the students;
- The ex-students will refer us as a group that: had structured classes, well capacitated employees and a good scientific development. They will be proud of having here studied.

Picture 5: Which is the future Vision for POM?

- To develop not only the scientific background, but the professional responsibility of the members;
- To develop "basic research", focused mainly in SMEs applications;
- To work in the change of paradigms in the SMEs management, developing practical solutions;
- To do empirical researches;
- To make the students more interested in Production and Operations Management;
- To offer a high level of teaching, with new methods of evaluation;
- To give pleasure to the students on searching solutions to the companies;
- To develop good projects in our field of research;
- To offer a high level of education, that meets the characteristics of the globalization, with focus in small and middle-sized companies;
- To satisfy the industry (with the high quality of the students), the SMEs (with the applied research) and the scientific community (with the god level of researches);
- To please the *stakeholders*: companies (consulting services, well qualified employees), scientific community (researches) and student (good education);
- To publish in well known magazines;
- To turn the student able to understand strategic topics, and that the products are just one of the most important factors of competitiveness;
- To develop all kind of research, focusing the field of Strategic and Operations Management in SMEs.

Picture 6: Mission - What we should do to reach the Vision?

Some comments are divergent, and they were maintained, with the purpose of demonstrating how they can show antagonistic expectations, even in a small number of participants. Others were agglutinated, due to the similarity, to aid the analysis. These comments are exposed in the picture 7.

The interviews also collected the measures that the members of POM judged to be important for the Balanced Scorecard, through the *Brainstorming* process. At this moment, it was not searched associations among measures and strategies yet.

TEACHING	• The group should use more technology to the lectures (video, teleteaching, PowerPoint resources), to increase the quality of lectures, because of the growing amount of students and the necessities of the future; • Develop an illustrated book to the theoretical studies, possibly with DVD or other digital technology, including case studies where the students can develop their exercises through evolutive, complex and continuous situations. The theoretical contents should be the same used today in the lectures; • The "project works" should support the "diplomation works", and as this way, this one should support the doctoral thesis; • To integrate the practical problems with the scientific research; • To keep the students interested to deal with strategic and operations management, offering them additional services, interesting projects/activities/research, (studies abroad); • Give attention to environment problem in the teaching of industrial topics; • Search better modes of teaching, giving more examples and case studies; • Keep the current case studies (are enough) – *see last commentary*; • Use concepts developed by psychology/pedagogy to evaluate the quality of the present teaching methods, and then improve our techniques; • Offer seminars on what the students have more opportunity to participate; • Develop lectures more related to Media Sciences.
SCIENCE	• Dedicate 50% to the services area; • Keep focused in interesting points (services, SMEs, production, management); • Systems of production evaluation, combining many kinds of systems (PPC is the base to the operational level); • Keep the good topics of research; • Work on searching of concepts, rules, solutions; • Stimulate the researchers to help themselves in their researches; • Stimulate the contact with researchers of other universities; • Publish articles with the current state of the researches; • Give attention also to the quality of publishing, not to the quantity; • Get contacts with foreign universities; • Try to approximate undergraduate students to research.
INDUSTRY	• Work in the change of paradigms in SMEs, showing that the management based on the old knowledge is not more enough; • Develop concepts and rules easy to understanding by the industries, searching practical solutions; • Show to the industries some reference projects, offering applications to strategic, tactical and operational management; • Publish projects in some practical magazines; • Offer specialization courses (Post-graduate to managers) to transfer the results in short-term to their qualification; • Investigate possibilities of using new/old tools to SMEs; • Search contacts more closed to enterprises, and work with problems more related to our fields of research (strategic and operational problems); • Try to acquire people paid by the industry.

Picture 7: Strategies- What should we do to accomplish the Mission?

Third Stage: Synthesis of the interviews

The facilitator organized the obtained information from the interviews, and prepared reports for distribution in the discussion seminar.

The listed actions as strategies were agglutinated in strategic objectives, inside of each strategic theme, according to the similarity of their natures. The strategic objectives were also discussed in the seminar.

It was also prepared, starting from the reports, a cause-effect tree for the BSC, with the perspectives of the Customers, Internal Processes and Learning and Growth, without adopting the Financial perspective.

A relationship of the suggested measures by the interviewees was elaborated, in order to make possible the discussion of them in the following seminar.

Fourth Stage: Seminar of discussion

This seminar happened on December 20th, and had the presence of all the interviewees, except the technical assistant.

The facilitator presented the comments about Vision, Mission and Strategy, which were debated one by one, until being reached a consensus by the group. The facilitator reorganized the array later, for presentation in the next seminar.

After debating the comments about the Vision, presented in the picture 5, the group agreed for the following future Vision:

> "*Our Vision is to be recognized as a group that is represented at the leading edge of scientific research and a respected member of the scientific community, offering a high level of education, as well as satisfying the expectations of industrial partners".*

In relation to the Mission statement, the group discussed the listed declarations in the picture 6 and ended for the following statement:

> "*Our Mission is:*
> *• to provide a high level of teaching by applying advanced technologies and using experiences from our partnerships with small and medium-sized enterprises (SMEs);*
> *• to develope qualified and devoted researchers, who provide good contributions to business, science and our students. The search for scientific partners plays an important role to reach these objectives.*"

In relation to the discussion of the strategies, whose list of comments is in the picture 7, came just preliminary conclusions, which would be discussed and confirmed in the next seminar.

After the individual debate about each suggested strategy, some with a fast consent, others not, some alterations were suggested and the next seminar was awaited for reflection and final approvals.

Due to the long period used for this discussion, it was not possible the debate about the *Balanced Scorecard* structure, as well as the measures, what was postponed for the next seminar.

Fifth Stage: Seminar of strategy approval

The final seminar took place on December 21th. The facilitator presented the defined alterations in the previous seminar for revision and approval: Vision, Mission Statement and strategies of the group.

After new analysis by the group, the Vision and the Mission were approved as demonstrated above.

When debating the strategy, the strategic themes initially denominated "Teaching" and "Industrial", changed to "Education" and "Business".

In the sequence, the facilitator added a grouping of the suggested comments about the strategy, in order to constitute the "strategic objectives" of the BSC. The group debated the denomination of the strategic objectives and the comments that constituted them – these for the second time, however quickly –, and approved a picture of strategies, presented in the picture 8.

Starting from a proposal of the facilitator, it was developed the cause-effect tree, shown in the figure 4, that considers the perceptions reached in the interviews and the defined strategic objectives. The group analyzed it superficially, approving it for the development of a subsequent discussion.

EDUCATION	• **Modernize technical resources**
	  • The group should use more technological means in teaching (video, teleteaching, PowerPoint resources), in order to provide a high level of teaching with an increasing number of students;
	  • Develop an illustrated book including: theoretical studies, multimedia visualization (for example, DVD) case studies, developing exercises with evolutive, complex and continuous situations, and whose contents should be same given in the lectures;
	• **Improve the integration of practices, research and teaching**
	  • The "project works" should support the "diplomation works", and in the same way, the latter one should support the "Dissertations";
	  • Integrate practical problems from SMEs into the scientific research;
	• **Modernize teaching didactics**
	  • Keep the students interested in Production and Operations Management, offering them additional services, interesting projects/activities/research;
	  • Pay attention to environmental and ethical problems;
	  • Apply more efficient ways of teaching, giving more examples and study cases;
	  • Use concepts developed by psychology/pedagogy to evaluate the quality of the present teaching methods, and then improve our techniques;
	  • Offer seminars in which students have more opportunities to participate;
	  • Offer lectures more closely related to Media Sciences.

SCIENCE	• **To keep pace with the actual research topics**
	  • Keep focused on interesting topics like services, SMEs, and operations management;
	  • Searching for new rules and solutions;
	• **Improve the co-operation among the researchers**
	  • Independence to the researchers find their points of interest, in the research field;
	  • Stimulate the researchers to help each other;
	  • Stimulate partnerships with scientists of other universities;
	• **Intensify publishing activities to reviewed journals**
	  • Publish papers with the current state of research;
	  • Pay attention to the quality of publishing, not only to the quantity;
	• **Intensify international co-operations**
	  • Start relationships with foreign universities
	• **Integrate undergraduate student into scientific work**
	  • Try to include students into research.
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BUSINESS

- **Increase the availability of knowledge**
  - Work on the change of paradigms in SMEs, showing that the management on the bases of old knowledge is sufficient any longer;
  - Develop concepts and rules, those are easy to understand by the SMEs, finding practical solutions;
  - Show SMEs consulting projects as references, offering applications to strategic, tactical and operational management;
  - Publish results of completed projects in practical magazines;
- **Offer new ways of transferring knowledge**
  - Educate graduated managers in the form of specialisation courses, to transfer the results of research;
- **Search for new practical problems**
  - Urgently find possibilities of using new and old tools to SMEs;
  - Improve the relationships with the SMEs and deal with problems related to our research field (strategic and operational problems);
- **Approximate the relationship to the business**
  - Try to include employees from business into our research.

Picture 8: Representation of the defined action strategies (In bold: strategic objectives for the BSC).

The cause-effect tree presents a different characteristic from the usual ones that are found in *Balanced Scorecards*: the Financial perspective is missing, because strategic objectives were not emphasised in that sense.
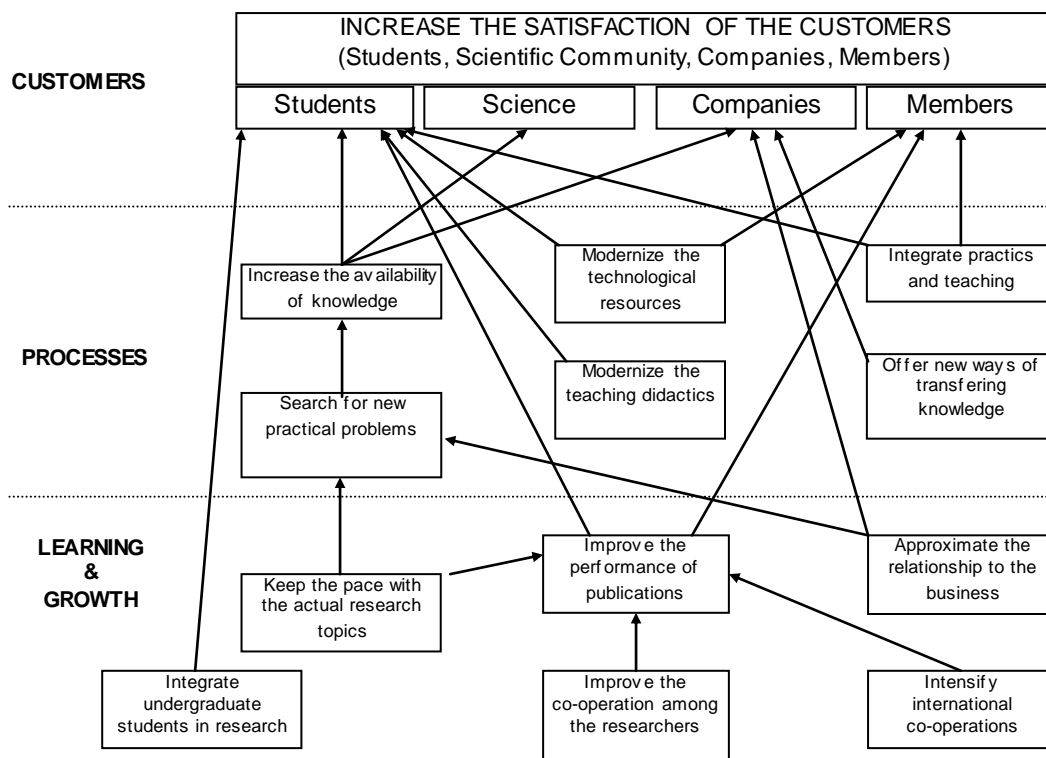
Figure 4: cause-effect tree, proposed and approved

The picture 9 was also presented by the facilitator, containing the list of identified measures in the interviews, associated to the elect objectives.

	STRATEGIC OBJECTIVES	MEASURES
CUSTOMERS	Increase the customers satisfaction:	
	Students	- No. students below the average; - Frequency of contacts after the studies; - No. students making studying emphasis in POM; - Index of the students evaluation after the disciplines; - Evolution of the final notes in the last three years; - Number of students;
	Business	- Index of popularization of POM; - No. companies that seek us after partners recommendation; - No. partners;
	Researchers	- Medium time for conclusion of the doctorate; - Average of marks of the developed theses;
	Scientific community	
PROCESS	To increase the knowledge availability	- Time for dedication to projects with companies;
	To search for new practical problems to solve	- Time for dedication to projects with companies;
	To modernize the technological resources	
	To modernize the teaching didacticism	- No. classes and seminars / person; - Time used for preparation of classes and seminars; - No. case studies used in the classes; - No. classes supplied by external teachers; - No. classes offered in another language.
	To integrate practice and teaching	
	To offer new ways of transfering knowledge	- Time for dedication to projects with companies;
LEARNING AND GROWTH	To integrate students in researches	
	Keep the pace with the actual research topics	- No. participations in Congresses / year;
	To improve the performance of publishing	- No. publications / year; - Time reserved for research; - No. participations in Congress / year; - Time with the professor for discussion on the thesis; - Index of quality of the publications.
	Improve the co-operation among the researchers	- No. new contacts / year with other universities; - No. organized conferences / 5 years; - No. promoted colloquies / year;
	Approximate the relationship to the business	- Acquired resources with the managerial partnerships.
	Intensify international co-operations	- No. new contacts / year with foreign researchers; - No. contacts with foreign students; - No. of publications with foreign teachers; - Acquired resources with government projects

Picture 9: preliminary list of performance measures

In this instant the process was suspended, including its perspectives, strategic objectives and some measures. The initiatives would be developed later, after the academic winter pause. So, the stages six and seven of the proposed methodology still remained to be developed.

4.4. Conclusions about the Application

Although it has happened just a partial building of the Balanced Scorecard, only including the strategic discussion and the discussion of objectives and measures, it is possible to reach several relevant observations.

The participants pointed the customers and the respective services, according to the picture 10.

CUSTOMERS	OFFERED SERVICES
Students	Teaching
Partners companies	Advising projects
Companies	Background of good professionals
Scientific community	Important researches
Members of the group (collaborators)	Scientific background

Picture 10: Customers and defined services.

It is relevant to enhance that, in spite of being a public institution and having its resources coming from the community, the group did not view the society as an important customer.

They did not also stand out as important customers the other academical organisms with which the chair interacts: courses, faculties and university itself.

It can be concluded that the non-observation of these factors elapses from the inexistence of an alignment of this unit scorecard with others that should guide the strategic priorities of the institution, as a scorecard of the Faculty or the university scorecard itself.

Of this situation, it is justified what Kaplan and Norton (1997) wrote about the scorecards unfolding, from the corporate level to the business units, eventually existing an intermediate level. In this specific case, the isolated development in a functional unit (POM) inside of a division (Institute or Faculty) did not consider that the initiatives should be aligned with its strategy.

About the cause-effect diagram, shown in the figure 4, it has a different characteristic from those usually found: the absence of a financial perspective.

The group did it so, justifying that this perspective did not possess relevance for this developed tool, because the group works with a fixed budget, that covers all the usual expenses, and there was no need of creating targets of acquiring new funds. However, it was not considered that the financial perspective in these cases – non-profit institutions – it is treated with a characteristic of budget restriction, where it should trace strategies seeking to optimize the foreseen budget.

In relation to this subject, it was also not observed that the budget originating from advising projects foments the participation in scientific congresses. So, it would be not difficult to link strategic objectives of increasing funds with the purpose of financing these scientific activities.

The definition of leading and lagging measures, although fundamental characteristics of the BSC, was also not done inside this process. Other limitations of this application are that, as defined previously, the targets, initiatives and implementation plan would be defined only in the following stages of the project.

In relation to the behavioral benefits of this process, the strategic discussion was very important, because it exposed the idea of each member about the objectives of POM, and how to reach them. The greatest beneficiary with this work was the coordinator himself, who could identify, in a spontaneous way, the conception that his assistants had about the activities that they were developing.

For the first time the group discussed together to where, and how, they should walk in direction to the future. The strategy became clear and shared by everyone.

In this moment, with the defined strategy, the group coordinator could align all the operational activities managed by him with a strategic referential, the BSC of the chair. So, the everyday actions would become questioned and matched with these definitions. In the same way, the components of the group could not

stop considering the strategic priorities in the programming of their individual activities.

5. FINAL CONCLUSIONS

With the inexistence of structured procedures of building the Balanced Scorecard in academic units, the proposed methodology contributes with the theory on the theme. Although the discussions of Pessoa (2000) and Southerland (2000) present useful contributions for the understanding of the applicability of BSC in this context, they do not approach building steps.

The application reported in this text, although incomplete, makes possible to reach important verifications, such as behavioral - the relevance of the shared discussion - and theoretical - the discussion about the need to use the financial perspective and the consideration of other customers in the interviews.

Then it is concluded, that the building of a Balanced Scorecard is useful as an instrument for the strategic discussion inner an academic unit. If respected the organizational hierarchy, the scorecard of the university will be the reference for the strategic alignment of all the units of the institution, enlarging the potentiality of results in a global level when taking advantage of the synergy among all the parts.

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