



Journal of Globalization, Competitiveness  
& Governability / Revista de  
Globalización, Competitividad y  
Gobernabilidad / Revista de  
Globalização, Competitividade e  
Governabilidade

E-ISSN: 1988-7116

Ilesbik Valmorbidia, Sandra Mara; Rolim Ensslin, Sandra; Ensslin, Leonardo; Ripoll-Feliu,  
Vicente Mateo

University Management with Focus on Multicriteria Performance Evaluation: Illustration in  
the Brazilian Context

Journal of Globalization, Competitiveness & Governability / Revista de Globalización,  
Competitividad y Gobernabilidad / Revista de Globalização, Competitividade e  
Governabilidade, vol. 9, núm. 2, mayo-agosto, 2015, pp. 61-75

Portal Universia S.A.  
Boadilla del Monte, España

Available in: <http://www.redalyc.org/articulo.oa?id=511851344003>

- How to cite
- Complete issue
- More information about this article
- Journal's homepage in redalyc.org

redalyc.org

Scientific Information System

Network of Scientific Journals from Latin America, the Caribbean, Spain and Portugal  
Non-profit academic project, developed under the open access initiative



## University Management with Focus on Multicriteria Performance Evaluation: Illustration in the Brazilian Context\*

AREA: 4  
TYPE: Application

61

### AUTHORS

**Sandra Mara Iesbik Valmorbida<sup>1</sup>**

Universidade Federal de Santa Catarina, Brasil  
Universidade Tecnológica federal do Paraná (UTFPR).  
smiesbik@gmail.com

**Sandra Rolim Ensslin**

Universidade Federal de Santa Catarina, Brasil.  
sensslin@gmail.com

**Leonardo Ensslin**

Universidade Federal de Santa Catarina, Brasil.  
leonardoensslin@gmail.com

**Vicente Mateo Ripoll-Feliu**

Professor da Universitat de Valencia- Espanha.  
vicente.ripoll@uv.es

1. Contact author:  
Universidade Federal de Santa Catarina  
- Centro Sócio Econômico; Programa de Pós Graduação em Contabilidade – Doutorado; Campus Universitário Reitor João David Ferreira Lima; Trindade; Florianópolis – Santa Catarina – Brasil, CEP: 88040-970.

*Gestión de la Universidad con el foco en la Evaluación del Desempeño Multicriterio: Ilustración en el contexto Brasileño*

*Gestão Universitária com Foco em Avaliação de Desempenho multicritério: Ilustração no contexto Brasileiro*

*This study proposes the construction of a performance evaluation model, through the MCDA-C to support the management and decision making in a Brazilian public university. To illustrate the proposal for a management we developed a case study in the Federal Technological University of Paraná-Brazil. Among the main findings of this exploratory research we can mention: 129 aspects were identified, grouped in the 8 areas. The performance evaluation resulted in a score of 21 points; it was shown how the built model serves as a management tool demonstrating how the manager can establish new action strategies to improve the performance.*

*En este estudio se propone la construcción de un modelo de evaluación del desempeño, a través de la MCDA-C para apoyar la gestión y toma de decisiones en una universidad pública brasileña. Para ilustrar la propuesta de gestión se desarrolló un estudio de caso en la Universidad Tecnológica Federal do Paraná-Brasil. Entre las principales conclusiones de esta investigación exploratoria podemos mencionar: Se identificaron 129 aspectos, agrupados en las 8 áreas; la evaluación del desempeño se tradujo en una puntuación de 21 puntos; se demostró cómo el modelo construido sirve como una herramienta de gestión que demuestra cómo el administrador puede establecer nuevas estrategias de acción para mejorar el rendimiento.*

*Este estudo propõe a construção de um modelo de avaliação de desempenho, através do MCDA-C para apoio à gestão e tomada de decisão em uma universidade pública brasileira. Para ilustrar a proposta de gestão foi desenvolvido um estudo de caso na Universidade Tecnológica Federal do Paraná-Brasil. Entre as principais conclusões desta pesquisa exploratória podemos citar: foram identificados 129 aspectos, agrupados em 8 áreas. A avaliação de desempenho resultou em uma pontuação de 21 pontos; foi mostrado como o modelo construído serve como ferramenta de gestão para demonstrar como o gestor pode estabelecer novas estratégias de ação para melhorar o desempenho.*

\* This article is a revised and expanded version of a paper entitled [University Management with Focus on Multicriteria Performance Evaluation: Illustration in the Brazilian Context] presented at [Global Innovation and Knowledge Academy, Valencia-Espanha, date of conference: 09-11/07/2013].

DOI  
10.3232/GCG.2015.V9.N2.03

RECEIVED  
17.03.2015

ACCEPTED  
21.05.2015

## 1. Introduction

Public universities have been facing situations that impel them to improvements in its management towards excellence in reaching, with quality, the objectives for which they were constituted, i.e., to offer teaching, research and extension (Chen; Wang & Yang, 2009; Habib, 2011; Duarte; Sandulli, & Baker, 2014).

To Aranha & Garcia (2014 p.339)

The universities are embedded in a dynamic environment and that the economic, social, political-legal, demographic, environmental and technological variables that are emerging in postmodern society are forces that push and stretch the governance, management and leadership structure of universities its flexibility, efficiency and effectiveness.

In this context, universities have recognized the need to implement systems / tools that provide feedback to managers so that their actions are directly related to the achievement of strategic objectives and improving institutional performance (Azma, 2010). Thus, managers of universities need to act proactively (Chen, Wang & Yang, 2009) in order to be able to overcome these challenges. The internal control systems are indicated as supporters in promoting good governance in the management of higher education institutions (Zakaria & Selvaraj, 2006). Thus, the university management should pay attention to the processes and internal control mechanisms of its institutions, indispensable requirements for the management (Galbraith, 1998; Chen, Wang & Yang, 2009).

These internal control systems can be considered as a management tool (Chen, Wang & Yang, 2009; Tahar; Boutellier & Niemeyer, 2011, Silva, Senna & Senna, 2014), considering that they are able to provide information for the actions of the manager in his/her decision making. They also assist in controlling the use of public resources so important to the management and to promote management credibility (Galbraith, 1998; Sarrico & Dyson, 2000; Buys & Nkado, 2006; Tahar; Boutellier & Niemeyer, 2011).

However, Zakaria and Selvaraj (2006) investigated the existence of internal control systems in 17 public universities and 49 private universities in Malaysia and found out that the vast majority of higher education institutions do not have a structured internal control system. By realizing the control as an important function, most UK universities, according to Allen and Wilson (1996), was reevaluating how to collect, process, and disseminate information for teaching, for research, for extension, and for administration. For these authors, before designing a system of internal control, it should be considered what information is needed to manage and if they will be used. Galbraith (1998) defended the redesign of higher education by introducing new management systems that sought to achieve their goals.

However, it is clear that the academic literature concerning this demand remains scarce (Chen, Wang & Yang, 2009; Tahar; Boutellier & Niemeyer, 2011), with gaps, considering some works that explore a department or a university, presenting and/or discussing a few performance indicators in isolation and generally, without the concern of considering the specific organizational and management activity in itself. The study Ensslin, Ripoll-Feliu, Ensslin & Dutra (2014) identified 32 articles and conducted a bibliometric analysis by means through intervention instrument

**KEY WORDS**  
**Performance evaluation, University management, Public universities, Multicriteria**

**PALABRAS CLAVE**  
**Evaluación del desempeño, Gestión de la universidad, Universidades públicas, Multicriterio**

**PALAVRAS-CHAVE**  
**Avaliação de desempenho, Gestão de universidade, Universidades públicas, Multicritério**

**JEL CODES:**  
**I23; O54**

Knowledge Development Process - Constructivist (ProKnow-C) in these articles which seek to explore the evaluation of performance to support the University Management; however although the articles and discuss the importance and the need to undertake an assessment of performance and provide mechanisms for its management, the most developed in the articles was content presentation and explanation of the selected tool; the results have been little explored and their use as information to support the management, almost did not happen. Such diagnosis confirms the findings of the research mentioned above.

Thus, given the importance of the activities of the university manager and the lack of literature on the subject, it becomes necessary to develop tools to support the decision of those managers. For this purpose, we see Performance Evaluation as a tool capable of filling this gap.

In this context for the completion of the performance evaluation of higher education institutions (HEIs) the central issue is the recognition of key performance indicators (Azma, 2010). Therefore, each HEI should identify their core competencies and its "ambition" of competitiveness. Thus, each HEI to possess specific identify strategic targets / performance indicators build number and nature that help them to achieve them (Lee, 2010; Chen, Wang & Yang, 2009). Thus, the system of performance evaluation to support the university management should identify and incorporate indicators that represent the reality of HEI investigated (ie ad hoc); the identification of these indicators needs to be performed by those who are responsible for managing the HEI; and the model / system built should be able to provide information that will enable the improvement of the performance of HEIs.

It is argued that the Performance Evaluation is configured as a tool for improving the management of the university as it is able to take into account multiple aspects that demonstrate the need for the university to provide information to the managers; to subsidize the foundation for the management and allocation of human, material and financial resources, and to identify the performance of each department/university in the generated indicators (Chen, Wang & Yang, 2009). Besides ensuring the operational performance of the university, it encourages the improvement of its weaknesses and shows what to do to ensure its competitiveness.

In the Brazilian context, management and accountability, the federal universities, fit to the Planning Board and Administration that is responsible for setting the goals and operational activities necessary for the proper functioning and integration of the areas purposes of the institution and the scope strategic objectives (Oliveira & Turrioni, 2006). This requires that their activities are systematically planned, justified and substantiated (Behn, 2003).

Thus, it is up to managers planning of public universities the responsibility for adoption of management practices, decisions and actions that enable the achievement of organizational objectives, legislative compliance as well, that provide monitor and improve their decision-making context (Behn, 2003; M & Mello, 2005).

In this context emerges the research question that guides the construction of this research: What features / performance indicators may be considered by managers of Brazilian public universities to assess their internal control systems and to support their management activity?

In this context, the present study proposes the construction of a performance evaluation model, through the Methodology Multicriteria Decision Aid – Constructivist (MCDA-C), to support the management and decision making of managers in a Brazilian public university. To illustrate the proposal for a university

management we developed a case study in the Federal Technological University (DIRPLAD / UTFPR) in southern Brazil. Justifies the use of MCDA-C methodology for she can generate knowledge about a specific problem through the interaction between the parties involved, using a constructivist paradigm (Roy, 1993).

The present study was developed according to the needs perceived by the managers of the university and took into account the potential of being managed by the team aspects.

.....

## 2. Background Literature

Many works consider the Performance Evaluation (PE) as a process which searches for effectiveness and business efficiency (Heinrich, 2002; Cavalluzzo & Ittner, 2004; Hsieh & Yang, 2007; Leroux & Wright, 2010; Aranha & Garcia, 2014 ). In this way, Performance Evaluation is seen as a management process that involves the development of indicators, data collection, and has two basic functions: (i) helping managers track whether the organization is moving in the desired direction or not; and (ii) providing the means to achieve the strategic objectives set by the organization (Behn, 2003; Tapinos; Dyson & Meadows, 2005; Neely, 2005).

Some studies point to the need of understanding and respecting the institutional identity under investigation (organizational complexity and managers; organizational environment, culture and values; competition among the units and within the sectors, and economic and political conditions), thus ensuring the legitimacy of the organizational assessment models/systems (Ensslin; Dutra & Ensslin, 2000; Henrich, 2002; Igarashi; Paladini & Ensslin, 2007). To Igarashi; Paladini & Ensslin (2007) a legitimate evaluation is one that seeks to know: (i) What will be evaluated - it is necessary to know the object of the evaluation; (ii) How to carry out the evaluation - it is necessary to identify how each objective will be assessed and how much each goal contributes to the evaluation as a whole, enabling the identification of the performance profile of the evaluated object, and, (iii) How to conduct internal management - based on the analysis of the identified strengths and weaknesses to suggest improvement actions - promoting organizational performance leverage. Other examples of this view can be found in Sanderson (2001), Heinrich (2002); Yang, Hsieh (2007); Sheehan; Vaidyanathan; Kalagnanam (2009); Philbin (2011).

For the performance evaluation activity to aggregate value to organizations it is necessary to have the continuous support of managers, given that they are the key to developing the measures, collect information and use them (Hsieh & Yang, 2007; Leroux & Wright, 2010). Considering the multiple ad hoc criteria is also necessary for a true performance evaluation, because each organization has its strategic objectives (Behn, 2003).

Thus, it is necessary to inform the theoretical affiliation adopted in the present study in which Performance Evaluation is the process to build knowledge in decision-making, based on its own perception about the specific context to be evaluated through activities that identify, organize, measure (ordinal and cardinally) and integrate the criteria to be evaluated, as well as demonstrate the performance of the context and the possible impact of actions supporting the management activity (Ensslin et al, 2010).

To generate initial knowledge, the authors of the present research selected articles similar to this research in terms of application segment and selected intervention tool, namely the studies of Sheehan; Kalagnanam & Vaidyanathan (2009); Philbin (2011); Wu, Lin; Chang (2011); Lyrio et al. (2008), Albuquerque (2011).

The work of Sheehan, Vaidyanathan & Kalagnanam (2009) is based on the Balanced Scorecard method (BSC) for the management of operational management board of a state university, which identifies four areas: planning and development, operations and building maintenance; business and administrative support services (shopping), and accounting and financial management.

Philbin (2011) bases his work on building a model of Performance Evaluation for managing a university campus and takes advantage of the Balanced Scorecard (BSC) as an instrument of intervention. In the model, he lists four perspectives that comprise it: financial, personnel development, internal processes (resources and capabilities of the institute) and scientific production.

The study by Wu, Lin & Chang (2011) develops a set of indicators for Performance Evaluation of university extension centers, mainly based on the four perspectives proposed by the Balanced Scorecard (BSC): financial, customer, internal processes and learning and growth.

Lyrio et al. (2008) constructed a model to evaluate the transparency of information published in the financial statements of a public institution of higher education and used the MCDA-C methodology. Among the areas of concern identified, the publication and understanding of information are found.

Concerning Albuquerque's work (2011), it focuses on the construction of a model of Performance Evaluation regarding the internal controls of a public university. It makes use of MCDA-C methodology, and its areas of concern refer to aspects of accounting-asset and administrative-managerial controls.

Regarding the similarity in relation to the intervention instrument used, it was found that the works of Lyrio et al. (2008) and Albuquerque (2011) use the intervention instrument employed in this work, the MCDA-C methodology. However, they focus, respectively, on the evaluation of transparency degree of financial statements and on the evaluation of the internal control of the university. None of them focuses on evaluating the planning area with a focus on the university management.

.....

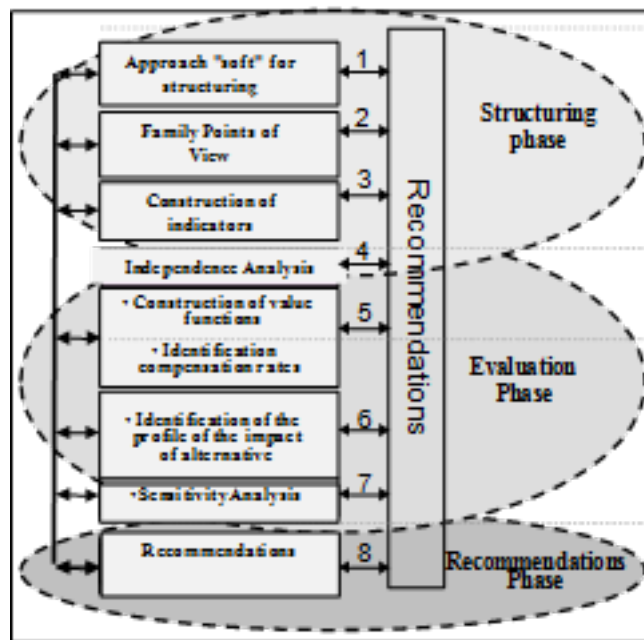
### 3. Methodology of the Research

This research, due to the fact of operationalizing the proposal of University Management in a Brazilian institution (UTFPR), is configured as a case study. To achieve the research objective it was necessary to elaborate a model for performance evaluation of the planning and administration management.

The methodology MCDA-C was chosen to inform the construction of the performance evaluation model. The Multicriteria Methodology for Decision Support Constructivist (MCDA-C) stands out for its operational flexibility by enabling: (i) take into account qualitative and quantitative information; (ii) capture and present, explicitly, the goals and values of the decision maker; (iii) allow the decision maker

to reflect, revise and expand the understanding of your goals, priorities and preferences; and (iv) develop a set of conditions and means to inform decisions, depending on the decision maker deems appropriate (Dutra, 2005; Bortoluzzi; Ensslin & Ensslin, 2011). According to the steps illustrated in Figure 1:

Figure 1. Steps of Methodology MCDA-C



Source: Ensslin, Dutra & Ensslin (2000).

The process used by methodology MCDA-C is used in many scientific studies and it brings, according to their authors' view, advantages in the process of decision support in contexts (Bana e Costa et al., 1999; Ensslin, Dutra & Ensslin 2000; Igarashi; Paladini & Ensslin, 2007; Lyrio et al, 2008; Ensslin et al., 2010; Lacerda; Ensslin & Ensslin, 2011; Tasca, Ensslin & Ensslin, 2012, Rose et al., 2012, Azevedo et. al. 2013; Ensslin et. al. 2013; Lacerda et. al. 2014).

The structuring phase aims at learning about the context and starts with the generation of knowledge in explaining what is important for the manager being evaluated, so that your preferences are incorporated into the model building. In this phase the aspects to be managed and constructed indicators, identifying how to measure them and levels of reference of each situation are identified. The process is carried out through interviews with the manager.

The evaluation phase aims to translate the perception (s) decision maker (s) in a mathematical model (ROSE et al., 2010), this stage is that it makes data collection and measurement of the items identified in the structuring phase. For this, we analyze the independence of the indicators are constructed functions of value judgments, set compensation rates. After the construction of the measurement model to identify the current status of the evaluated context is performed.

Finally, the Recommendations phase analysis of all indicators with the situation identified as compromising the overall performance in the evaluation phase and plans of action to be followed by the manager to improve the performance of the managed context are developed is performed.

The research is characterized as qualitative and quantitative (Creswell, 2014). his study has a qualitative approach in the structuring phase of the model, considering that it will be necessary to know the context of the Planning Board and Directors of UTFPR, for, from this knowledge to identify operational variables (Keeney, 1992; Ensslin; Montibeller & Noronha, 2001) to answer for their performance and will therefore be managed from the built model. Well as at the stage of recommendations where the descriptors identified in situations that compromise the performance will be analyzed, which will be presented suggestions to guide the performance improvement of the descriptor (where the management process effectively Occurs). In the evaluation phase will be necessary to construct measurement scales for the descriptors identified; and identify replacement rates for subsequent aggregation of the model and thus obtain the overall evaluation of management performance of the Directorate of Planning and Management UTFPR. Both the construction of cardinal scales as replacement rates will be identified through the use of software Measuring Attractiveness by a Categorical Based Evaluation Technique (M-MACBETH) (BANA and COSTA & VANSNICK, 1995). The calculation of the overall assessment will be obtained using the formula of simple additive aggregation. The data collection for the preparation of the case study was conducted through interviews with the Director of Planning and Administration (DIRPLAD) of the University (UTFPR). The treatment of the interviews will be done by: (i) speech transcription director; (ii) reading and analysis of communication and segregation concerns; (iii) classification of concerns by categories (Creswell, 2014).

#### 4. Results: Presentation and Discussion

The main focus of the university is to offer teaching, research and extension to the community. However, for these activities related to the functioning of the institution to happen, they need the board of directors DIRPLAD to work. Thus, DIRPLAD is responsible for the services provided: those provided suitably, those provided in an inadequate way or even by those that should be conducted and were not. If the services fit on the last two modalities, this situation may undermine the activities of any institution, causing dissatisfaction. Additionally, the quality of the services provided is DIRPLAD's responsibility: the prioritization of activities to be performed, the selection of priority actions for allocating resources, the administration of conflicts of interest; always taking into account the national laws. Besides, the director still needs to plan, justify and substantiate decisions due to the increased requests from society for transparency in the management and accountability.

Following the proposal of the MCDA-C methodology, the structuring phase aims at learning about the context and starts with the generation of knowledge to the manager so that he/she can identify which aspects/concerns are important and should be part of the model. Thus, the interviews were conducted with the DIRPLAD's director of UTFPR. First the primaries assessment elements, listed some of the model are identified are shown in [Table 1](#).

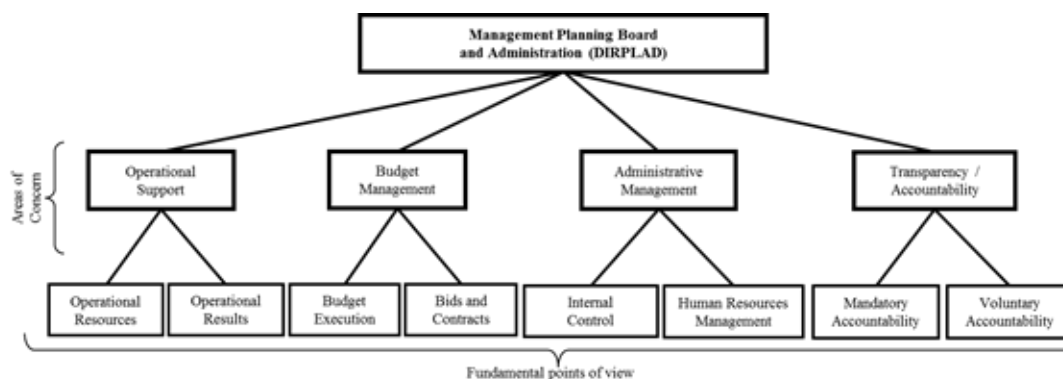


**Table 1. Primary Elements of Evaluation (EPAs)**

N.	Primary Elements of Evaluation
1	Access to contract information
12	Training of human resources
20	Compliance with the Law of Tenders and Contracts
39	Financial Execution
46	Information on cost of each board / department / sector
48	Infrastructure
49	Bids
64	Prioritization of Demands
71	Qualification servers
79	Full use of the Available Budget
86	Budget Planning
120	Information to management

After identifying the elements to be managed, they are grouped by major similarities, also called areas of concern, as shown in Figure 2.

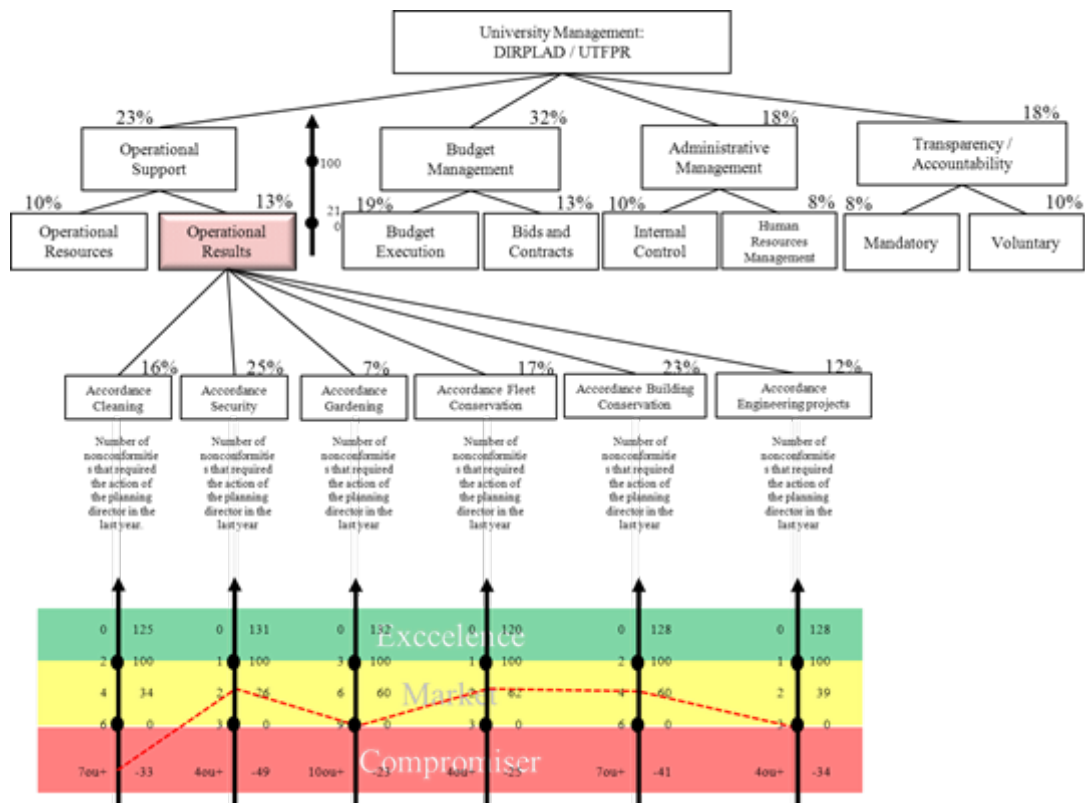
**Figure 2. Partial Model to support DIRPLAD/UTFPR University Management**



From these interviews we identified 207 aspects that led to 129 indicators that will account for the performance evaluation of the DIRPLAD of UTFPR. In the sequence, it was identified that these 129 aspects were related to the following areas: Operational Support, Budget Management, Administrative Management and Transparency/Accountability; which in turn, were subdivided into eight sub-areas of concern, called by the methodology MCDA-C as Fundamental Points of View (FPV) (Ensslin, Dutra & Ensslin, 2000), as follows: 1. Operational Resources; 2. Operational Results; 3. Budget Execution; 4. Bids and Contracts; 5. Internal Control; 6. Human Resources Management; 7. Mandatory Accountability; 8. Voluntary Accountability (Figure 2). For each one of the 129 aspects, we constructed ordinal scales (called in the methodology by descriptors (Ensslin, Dutra & Ensslin, 2000)). For each one of the ordinal

scales, the manager (decision maker) identified two reference levels that divide the scale into three possible performances: compromiser, of market, and of excellence; concluding this way the Structuring Phase.

Figure 3. Partial Model to support DIRPLAD/UTFPR University Management



The evaluation phase aims to translate the manager’s perception in a mathematical model (Lacerda, Ensslin & Ensslin, 2011). With the assistance of the software M-Macbeth (Measuring Attractiveness by a Categorical Based Evaluation Technique) (Bana e Costa & Vansnick, 1997), we constructed cardinal scales (value functions) that met the value judgments of the DIRPLAD manager, in a way to measure the performance of each one (individual) of the 129 indicators. To make possible the integration of these individual measurements in a single assessment (global) we identified, through the software M-Macbeth, the Replacement or Compensation Fees. The overall evaluation of the UTFPR DIRPLAD performance (status quo) was calculated in 21 points using Equation (1):

$$V_{Global}(a) = \sum_j^n w_j K_j * V_j [g_j(a)] \quad (1)$$

Where:

V(a) = value of global performance of “a”

g<sub>j</sub>(.) = Descriptor of the indicator j

g<sub>j</sub>(a) = Impact of “a” in the descriptor g<sub>j</sub>

$V_j [g_j(a)]$  = Partial Value of "a" in FPV j

$K_j$  – Compensation Rate of FPV j

n: number of aspects/indicators used in the model

The status quo showed a performance much lower than expected by the manager. The identification of the impact profile of the alternative «Status Quo» was achieved by adding the values in each performance indicator multiplied by the respective rates of compensation of all PVEs and PVFS associated with each indicator in the model. The alternative «Status Quo» obtained 21 points, on a scale of 0 to 100. This value represents the integration of all indicators and is responsible for the overall assessment of the model.

In partial terms, there are the following evaluations for each FPV: Operational Resources (38 points), Human Resources Management (47 points) and Mandatory Accountability (53 points), which favor the management and have competitive performance, because they offered a good overall contribution, however, the FPVs, Operating Results (21 points); Bids and Contracts (29 points), Budget Execution (13 points) Internal Control (13 points) and Voluntary Accountability (- 4 points) are areas that need the proactive role of the manager, because, besides representing major management concerns, they presented low scores, compromising the overall evaluation on the important aspects for the manager. From this diagnosis it was possible to identify actions that could be undertaken to improve these performances, as well as show the manager how the constructed model can support her activity of university management.

The phase of recommendations aims to demonstrate the process of generation of actions (strategies) in order to improve the performance in relation to the status quo (Ensslin et al, 2010). At this stage the MCDA-C methodology provides the means for managers: (i) identifying where intervention is most interesting, (ii) developing a process to generate improvement actions, and (iii) visualizing the consequences of the implementation of an action at the local level (individual indicator) or strategic global (Ensslin et al., 2010).

The individual analysis of each descriptor in terms of the obtained score and the position in which it finds itself, in relation to the established reference levels (level of excellence, of market and compromiser), informs to the UTFPR DIRPLAD manager what are the areas that need action for the improvement of the university management. Thus, the phase of recommendations acted in the identification of which performances were in the compromiser level, indicating the need for action by the manager due to the fact of compromising the overall evaluation: 31 indicators had compromising performance. In the sequence, short-term strategies were established for those indicators that concomitantly were at a compromiser level and would pass to the Market level (goal established with these strategies, avoiding negative score) and which presented a higher contribution to the overall evaluation. Table 1 presents the 5 indicators identified with the highest rates of individual contributions to achieving the goal.

It was found that most indicators with performances situated in a compromising area were related to the provision of voluntary accounts. For which strategies to improve these performances were prepared. These alternatives, if implemented, as well as improving overall assessment of the management of Planning, in aspects deemed relevant by the decision maker, also contribute to justify the decisions made by the manager, which will contribute to improved credibility in management, tending to reduce the academic community dissatisfaction with the administration of the university.

Table 1. Indicators with compromising performances and higher contribution rate

Indicator/ criterion	Individual Contribution	Punctuation <i>Status Quo</i>	Punctuation Profile Goal
1. Documentation (FPV: Internal Control);	1,98%	-49 N5	129 N1
2. Information of bimonthly balances and expenses (FPV: Budget Execution);	1,95%	-45 N5	0 N4
3. Relevance of information (FPV: Provision of Voluntary Account);	1,54%	-37 N5	0 N4
4. Internal audit (FPV: Provision of Mandatory Account);	0,98%	-39 N5	0 N4
5. Access to information (FPV: Provision of Voluntary Account);	0,93%	-36 N5	0 N4

It is noted that the strategies defined these are hypotheses which can be deployed in managing the planning board of the university campus. With the implementation of these strategies, the evaluation of VGlobal (DIRPLAD/UTFPR) will move from 21 to 36 points, having risen 15 points.

After observing the phases of structuring, evaluation and recommendations, it is understood that it was possible the construction of performance evaluation to support the management of the planning board and administration of the University Campus in study model, according to the perception of its director, the aspects he deems important and needed to be taken into account when management and decision making under its responsibility.

## 5. Final Considerations

Given the need for assessment tools to improve performance management and decision-relevant to the Planning Board and Administration decisions, and does not have specific tools that contribute to performance evaluation, taking into account their particularities and useful to decision context, it was proposed in this paper to develop a personalized model of performance evaluation for the institution, that the decision maker to provide: expand your understanding of the decision context, identifying, measuring and integrating aspects judged by him as relevant to monitor and improve management.

In practical terms the knowledge generated in the construction of the model allowed the managers of the

Planning and Administration Board (DIRPLAD) of UTFPR identify the characteristics of the management of the Planning Board, such as: the attendance regarding the needs of teaching, research and extension activities of the university; the attendance of legislation, the need to provide transparency of actions and decisions taken; budget management, the control of his/her activities, regarding the human resources management, because it is a public agency, among others. After identifying the aspects that account for the performance of the Board, it was possible to construct indicators that represented concerns numerically, there by, realizing where to improve, for example, the expansion of voluntary accountability, disclosure of administrative acts on the website of the board, to show criteria for resource allocation. As a result, we can establish strategies of actions with the responsible ones and schedules to put the strategies into practice and thus achieve an improved management and increase the reliability level of the provided information.

In theoretical scientific terms this study presented a proposal for University Management, through a performance evaluation tool that allows managers to support their management activity and decision making.

It is perceived that this paper has contributed to the university: (i) the identification of indicators and criteria, responsible for management evaluation, the perception of the decision maker, (ii) in the diagnosis of the current situation (status quo) in aspects deemed as important to context; (iii) set up short-term goals to improve management performance, in the aspects identified as compromising example, relevance and transparency of management information provided to the academic community, planning and budget control, among other criteria; (iv) the basis for decisions to be made by the manager, (v) improvement in management. More sporadically generated knowledge in building the model allowed the decision maker to identify the particularities of management Planning Board, such as the care needs of teaching, research and extension campuses; care legislation; the need to provide transparency of actions and decisions taken; budgetary management; control of their activities; regarding the management of people, because it is a public agency, among others.

After identifying the factors that influence the direction, it was possible to construct indicators that represented numerically concerns, so as to realize where to improve, such as the expansion of provision of voluntary accounts, disclosure of administrative acts on the board site, reveal criteria for allocation resource. Finally, we can establish strategies with responsible actions and timelines to put the strategies into practice and thus achieve improved management and increase the degree of reliability of the information provided.

The use of Multicriteria Decision Aiding Methodology - Constructivist, allows the generation of knowledge about the aspect analyzed by identifying the aspects that require management to not implicate the sector's performance then interfere in academic activities. It is noticed that it is built on the perception of the manager, so other universities to solve similar problems, can use the same methodology, which contains successive recursive activities and to assist the process of building a model. As recommended by Creswell (2014), which guides the replication process and not the results found.

It should be noted that it is not recommended to use the now built model for solving similar problems in other college campuses, for surely will not reflect the values of context and involved manager. However, some indicators may be used in another context, since there measurement of levels of reflection.

The choice of University was due to the accessibility to the manager and the same interest in developing a tool that would enable control over the activities and improvement in management in order to increase transparency in the actions taken.

Based on the literature, it is clear that there are limitations in the use of performance evaluation systems for management and decision making in universities, for the most part, the systems are developed through legislation and outside the institution, not involving the manager in the management tool development process. If the proposed, it is understood that it was possible to overcome this limitation as the manager was part of the evaluation system construction process.

From the foregoing, it was noticed can assist the decision making process linked to the board, responsible for managing the university, because it now has a tool for performance evaluation that allows you to support management and decision making, given that the it was built according to the perception of its maker, for this purpose. This proposal can be developed in other universities.

It is suggested for future research: (i) to monitor the activity of management provided by the constructed model, and (ii) to replicate the proposal to another university, elaborating a model for the university management.

### References

- Albuquerque, J. M. (2011). «Avaliação dos controles internos de uma instituição pública de ensino superior à luz da metodologia MCDA-Construtivista». *Revista Contemporânea de Contabilidade*, 8(15), 129-150.
- Allen, D. K. Wilson, T. D. (1996). «Information strategies in UK Higher Education Institutions». *International Journal of Information Management*, 16(4), 239-251.
- Aranba, E. A., Garcia, N. A. P. (2014). «Dimensions of a metamodel of an entrepreneurial university». *African Journal of Business Management*, 8(10), 336-349.
- Azevedo, R., Lacerda, R. T. O., Ensslin, L., Jungles, A., Ensslin, S. (2013). «Performance Measurement to Aid Decision Making in the Budgeting Process for Apartment-Building Construction: Case Study Using MCDA-C». *Journal of Construction Engineering and Management*, 139(2), 225-235.
- Azma, F. (2010). «Qualitative Indicators for the evaluation of universities performance». *Procedia Social and Behavioral Sciences*, 2(2), 5408-5411.
- Bana e Costa, C. A. Vansnick, J. C. (1997) «Applications of the MACBETH Approach in the Framework of an Additive Aggregation Model». *Journal of Multi-criteria Decision Analysis*, 6(2), 107-114.
- Behn, R. D. (2003). «Why measure performance? Different purposes require different measures». *Public Administration Review*, 63(5), 586-606.
- Bortoluzzi, S. C., Ensslin, S. R. & Ensslin, L. (2011). «Avaliação de desempenho multicritério como apoio à gestão de empresas: Aplicação em uma empresa de serviços». *Gestão Prod.*, v.18, n.3, p.633-650.
- Buys, F. Nkado, R. (2006). «A survey of maintenance management systems in South African tertiary educational institutions». *Journal of Construction Management and Economics*, 24 (10), 997-1005.

- Casu, B. Thanassoulis, E. (2006). «Evaluating cost efficiency in central administrative services in UK universities». *Omega-International Journal of Management Science*, 34(5), 417-426.
- Cavalluzzo, K. S. Ittner, C. D. (2004). «Implementing performance measurement innovations: evidence from government». *Accounting, Organizations and Society*, 29(3-4), 243-267.
- Chen, S. H.; Wang, H. H. Yang, K. J. (2009). «Establishment and application of performance measure indicators for universities». *TQM Journal*, 21(3), 220-235.
- Creswell, J. W. (2014). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. 4th ed. SAGE Publications, Inc.
- Duarte, A. R., Sandulli, F., Baker, P. M. (2014). «Un marco de análisis para la adopción de Sistemas de Gestión de Aprendizaje en las Universidades». *Globalización, Competitividad y Gobernabilidad de Georgetown/Universia*, 8(1).
- Dutra, A. (2005). «Metodologias para avaliar o desempenho organizacional: revisão e proposta de uma abordagem multicritério». *Revista Contemporânea de Contabilidade*, [S.l.], v. 2, n. 3, p. 25-56, jan. 2005. ISSN 2175-8069.
- Ensslin, L., Dutra, A. Ensslin, S.R. (2000). «MCDÁ: A constructivist approach to the management of human resources at a governmental agency», *International Transactions in Operational Research*, 7, 79-100.
- Ensslin, L.; Montibeller, G. N. Noronha, S. M. (2001). «Apoio à Decisão: Metodologias para Estruturação de Problemas e Avaliação Multicritério de Alternativas». Ed. Insular.
- Ensslin, L., Giffhorn, E., Ensslin, S.R., Petri, S. M. & Vianna, W.B. (2010). «Avaliação do Desempenho de Empresas Terceirizadas com o Uso da Metodologia Multicritério de Apoio à Decisão-Constructivista», *Revista Pesquisa Operacional*, 30(1), 125-152.
- Ensslin, S. R.; Ensslin, L.; Back, F. Lacerda, R. T. O. (2013). «Improved decision aiding in human resource management: A case using constructivist multi-criteria decision aiding», *International Journal of Productivity and Performance Management*, Vol. 62 Iss: 7, pp.735 - 757. DOI: 10.1108/IJPPM-04-2012-0039.
- Ensslin, S.R.; Ripoll-feliu, V.M.; Ensslin, L. Dutra, A. (2014). «Performance evaluation to Support the University Management Activity». *Pensee Journal (Paris)*, ISSN: 0031-4773, 76(8), 2-17.
- Galbraith, P. L. (1998). «System dynamics and university management». *System Dynamics Review*, 14 (1), 69-84.
- Habib, M. (2011). «An exploratory analysis of educational management for the universities». *International Journal of Engineering Business Management*, 3(3), 16-24.
- Heinrich, C. J. (2002) «Outcomes-based performance management in the public sector: Implications for government accountability and effectiveness». *Public Administration Review*, 62( 6), 712-725.
- Igarashi, D. C. C.; Paladini, E. P. & Ensslin, S. R. (2007) «A Metodologia Multicritério de Apoio à Decisão Constructivista como subsídio para o gerenciamento interno: Estudo de caso no PPGC/UFSC». *Organização & Sociedade*, v. 14, p. 133-149.
- Keeney, R. L. (1992). «Value Focused-Thinking: A Path to Creative Decision-making». Cambridge: Harvard Univ. Press.
- Lacerda, R.T.O., Ensslin, L. Ensslin, S.R. (2011). «A performance measurement framework in portfolio management: A constructivist case», *Management Decision*, 49(3-4), 648-668.
- Lacerda, R. T. D. O.; Ensslin, L.; Ensslin, S. R.; & Dutra, A. (2014) «A Constructivist Approach to Manage Business Process as a Dynamic Capability». *Knowledge and Process Management*, v. 21, n. 1, p. 54-66.
- Lee, S-H. (2010). «Using fuzzy AHP to develop intellectual capital evaluation model for assessing their performance contribution in a university». *Expert Systems with Applications*, v.37, p. 4941-4947.

- Leroux, K. & Wright, N. S. (2010). «Does Performance Measurement Improve Strategic Decision Making? Findings From a National Survey of Nonprofit Social Service Agencies». *Nonprofit and Voluntary Sector Quarterly*, 39(4), 571-587.
- Lyrio, M. V. L.; Brotti, V.; Ensslin, S. R. Ensslin, L. (2008). «Proposta de um Modelo para Avaliar o Grau de Transparência das Demonstrações Financeiras publicadas por uma Instituição Pública de Ensino Superior Brasileira: a abordagem da Metodologia Multicritério de Apoio à Decisão Construtivista». *Contabilidade, Gestão e Governança (Revista UnB Contábil)*, 11(1-2), 170-186.
- Marra, A. V.; Melo, M. C. O. L. (2005). «A prática social de gerentes universitários em uma Instituição pública». *Revista de Administração Contemporânea (RAC)*, v. 9, n. 3, p. 9-31.
- Neely, A. (2005). «The evolution of performance measurement research: Developments in the last decade and a research agenda for the next». *International Journal of Operations & Production Management*, 25(12), 1264-1277.
- Oliveira, C. E. M.; Turrioni, J. B. (2006). «Medidas de desempenho na gestão pública: Estudo de caso em uma Instituição Federal de Ensino Superior. « In: *Simpósio de Administração da Produção, Logística e Operações Internacionais, IX, 2006. São Paulo/SP. Anais Eletrônicos. São Paulo/SP: FGV-EAESp, 2006. Disponível em: <[http://www.simpoi.fgvsp.br/index.cfm?FuseAction=arquivo.monta&ID\\_EdicaoArquivo=2006&Pagina=busca\\_det&ID=514](http://www.simpoi.fgvsp.br/index.cfm?FuseAction=arquivo.monta&ID_EdicaoArquivo=2006&Pagina=busca_det&ID=514)>. Acesso em: 27 ago. 2014.*
- Philbin, S. P. (2011). «Design and implementation of the Balanced Scorecard at a university institute». *Measuring Business Excellence*, 15(3), 34-45.
- Rosa, F. S.; Ferreira, A. C. S.; Ensslin, S. R.; Ensslin, L. (2010). «Evidenciação Ambiental (EA): Contribuição da Metodologia Multicritério para Identificação dos Aspectos Financeiros para a Gestão Ambiental». *Contabilidade Vista & Revista*, v. 21, p. 27-61.
- Roy, B. (1993). «Decision science or decision-aid science?» *EJOR*, v. 66, n./2. p 184-203.
- Sanderson, I. (2001) «Performance management, evaluation and learning in 'modern' local government». *Public Administration*, 79(2), 297-313.
- Sarrico, C. S. Dyson, R. G. (2000). «Using DEA for planning in UK universities - an institutional perspective». *Journal of the Operational Research Society*, 51( 7), 789-800.
- Sheehan, N. T.; Vaidyanathan, G. Kalagnanam, S. (2009). «A balanced scorecard for state U's facilities management division?» *Accounting Perspectives*, 8(1), 69-83.
- Silva, R. M., Senna, E. T., Senna, L. A. (2014). «Governance of logistics platforms: The use of a survey for building a framework of performance indicators». *African Journal of Business Management*, 8(10), 350-365.
- Tahar, S.; Niemeyer, C. Boutellier, R. (2011) «Transferral of Business Management Concepts to Universities as Ambidextrous Organisations». *Tertiary Education and Management*, 17(4), 289-308.
- Tapinos, E.; Dyson, R. G. Meadows, M. (2005). «The impact of the performance measurement systems in setting the 'direction' in the University of Warwick». *Production Planning & Control*, 16(2), 189-198.
- Tasca, J. E.; Ensslin, L.; Ensslin, S. R. (2012). «A avaliação de programas de capacitação: um estudo de caso na administração pública». *Revista de Administração Pública*, 46, 647-675.
- Wu, H. Y.; Lin, Y. K. Chang, C. H. (2011). «Performance evaluation of extension education centers in universities based on the balanced scorecard». *Evaluation and Program Planning*, 34(1), 37-50.
- Yang, K. F. Hsieh, J. Y. (2007). «Managerial Effectiveness of Government Performance Measurement: Testing a Middle-Range Model». *Public Administration Review*, 67(5), 861-879.
- Zakaria, Z. Selvaraj, S. D. (2006). «Internal auditors: Their role in the institutions of higher education in Malaysia». *Managerial Auditing Journal*, 21(9), 892-904.