

Evaluating the Influence of Management Practices on the Performance of Brazilian Federal Universities

Márcio de Amorim Machado Ferreira

Universidade Federal Fluminense – UFF; Volta Redonda – Rio de Janeiro, Brasil

E-mail: marcio_ferreira@id.uff.br

Selma Regina Martins Oliveira

Universidade Federal Fluminense – UFF, Rio de Janeiro, Rio de Janeiro, Brasil

E-mail: selmaregina@id.uff.br

Abstract

This research aims to evaluate the influence of management practices on the performance of Brazilian federal universities. For this, a conceptual model is developed from the theoretical cut-outs. The verification of the conceptual model is structured according to the following phases: 1 - Identification of independent variables: management practices; dependents: performance of Brazilian federal universities. Then, the independent variables are organized in clusters for better understanding. Subsequently, the procedure of evaluation of the influence of the independent variables on the dependent variables is performed. The research was addressed to Brazilian federal universities (107). The data were extracted through a survey of selected experts based on technical and scientific criteria, considering their proximity to the research object. In this case, managers of these institutions. The instrument of data collection was performed using a scalar questionnaire (Likert). Soon after this procedure, the data were analyzed from the application of statistical methods using Software R and SPSS Statistics. This research starts from a gap in the art state. It is in this spectrum that it gains emphasis, subsidizing managers in their decision-making. It is also hoped that these results may contribute to subsidizing public policies toward higher education.

Keywords: Evaluation; Influence of management practices; Performance; federal universities in Brazil.

1. Introduction

The changes on the society made the organizational frontiers more fluid and dynamic due to the fast pace of the knowledge transmission (OLIVEIRA, ALVES, 2014; ABRAHAMSON, 1991; GRILICHES, 1990; LIEBESKING, 1996; TEECE, 1986). Promoting the expansion of high quality education is as important as developing its improvement (AMORIM; TOMAÉL, 2011). Thus, HEI/Universities are considered fundamental elements for the development of a society, and are seen as essential to the development and progress (KAPETANIOU; LEE, 2016). Its current role, along to several changes have been adding interactions between organizations and society in a general way, before the traditional missions of teaching (transmission of knowledge) and research (generation of knowledge) (ETZKOWITZ; LEYDESDORFF, 2000; VORLEY; NELLES, 2008).

Many countries as Chile (ESPINOZA; GONZÁLEZ, 2013; ESPINOZA; GONZÁLEZ, 2013), Mexico (BLANCO-RAMIREZ, 2015; DIDOU-AUPETIT, 2014), German (KOHRLING *et. al.*, 2013),

China (FENG, 2013; WANG; LIU, 2011), India (ALTBACH, 2014; CARNOY; DOSSANI, 2013), Nigeria (ANYANWU, 2013), Russia (KONSTANTINOVSKIY, 2012; PANFILOVA, 2011), Japan (HUANG, 2012), Australia (NEUMANN; GUTHRIE, 2002), United States (MURCHISON; PEJOVICH, 2012) and Netherlands (MAASSEN; POTMAN, 1990) promoted amendments on their teaching systems between the years of 1950 and 2000. The ones which obtained success found their paths of industrialization, social and economic development, followed by a movement of Higher Education expansion, democratization and ease to the access of higher education, which caused a massive movement followed by the increment of quality of the Teaching Systems, and on Higher Education itself.

The literature still diverges about the conception of best management practices in universities (NURMI; PAASIO, 2007; SERDYUKOV, 2017; RHÉAUME; GARDONI, 2015; ZUBIELQUI, *et al.*, 2015; VAALAN; ISHENGOMA, 2016). The “good practice” recommends the accomplishment of articulated and integrated actions; planning of needs; institutionalization; teams; objectives to be achieved; results and goals of performance; cost management; income; cash flow; social impacts; risks; amongst others (STRIUKOVA; RAYNA, 2015; HOLIAN, 2004; KAGAARI, 2011; RYMARZAK; TROJANOWSKI, 2015; UPPING; OLIVER, 2012; LAŠÁKOVÁ; BAJZÍKOVÁ; DEDZE, 2017; SERGEEV, 2017; DEVI RAMACHANDRAN; CHONG; WONG, 2013; FETSCHENKO *et al.*, 2015; KAGAARI, J. *et al.*, 2010; KAGAARI, J. R. K.; MUNENE; MPEERA NTAYI, 2010; ODEDIRAN; GBADEGESIN; BABALOLA, 2015). Therefore, allying best management practices to high performance on universities became an essential requirement.

Thus, this article aims to evaluate the influence of management practices on the performance of Brazilian Federal Public Universities from a gap on the literature (DATOR, 2005; FONTENELLE, 2014; HOFMAN *et al.*, 2014). About this object of research we can mention the following investigations: (AB HAMID, 2015; BLESSING; RICHARD; EMMANUEL, 2015; BRINT, 2002; KONSTANTINOVSKIY, 2012; MAASSEN; POTMAN, 1990).

2. Theoretical Background

As a starter, we may first distinguish the terms “Higher Education” and “High Education”. Meanwhile “Higher Education” is usually associated to a stage or degree of teaching, it belongs to the teaching system adopted by a country or nation (BLANCO-RAMIREZ, 2015; DIDOU-AUPETIT, 2014; ESPINOZA; GONZÁLEZ, 2013; HUANG, 2012; JACOB *et al.*, 2016; LEHMAN, 2013; SAGARRA; MAR-MOLINERO; AGASISTI, 2017), the term “High Education” usually refers to a more qualitative aspect of the education (FISCHMAN; OTT, 2016; MARGINSON, 2016; NAIDU; DERANI, 2016; SCHINDLER *et al.*, 2015). However, in the literature these terms seem to be mistaken, especially due to the origins of the researches and translation to a standard language.

Organizations must promote mechanisms and practices which support or encourage the creation of an organizational knowledge (GOMES, G.; WOJAHN, 2017). These mechanisms include socialization, internalization and externalization, as well as all management practices which establish a proficuous environment to learning (MBENGUE; SANÉ, 2013 *apud* GOMES; WOJAHN, 2017).

These practices are the essence of organizational learning capacity, which may be defined as the set of management practices which ease the learning process, or even as a set of mechanisms which increase the capacity of the organization to keep and maintain its performance (CHIVA; ALEGRE; LAPIEDRA, 2007). Organizational learning can be seen on the efforts for developing products, resulting in practices and abilities for innovation (MCKEE, 1992).

The use of best practices for transferring knowledge has been a popular topic in the last two decades, working as a management tool for achieving or exceeding performance goals. A significant percentage of the literature considers best practices as the key to understand global competition and moving organizations to high performance (WHITTLEET *et al.*, 1992, SZULANSKI, 1996, O'DELL;

GRAYSON, 1998, DAVIES; KOCHHAR, 2002, WATSON, 2007 *apud* ALWAZAE; KJELLIN; PERJONS, 2014).

The performance constitutes a concept associated to the achievement of results, and expresses the idea of action for achieving objectives, passable of judgment in terms of its adequacy, efficiency and effectiveness. It refers to the results achieved in a certain period, which may be evaluated by quantitative parameters named indicators (SONNENTAG; FRESE, 2002; ABBAD, 1999; FERNANDES; FLEURY; MILLS, 2006 *apud* BRANDÃO; BORGES-ANDRADE; GUIMARÃES, 2012).

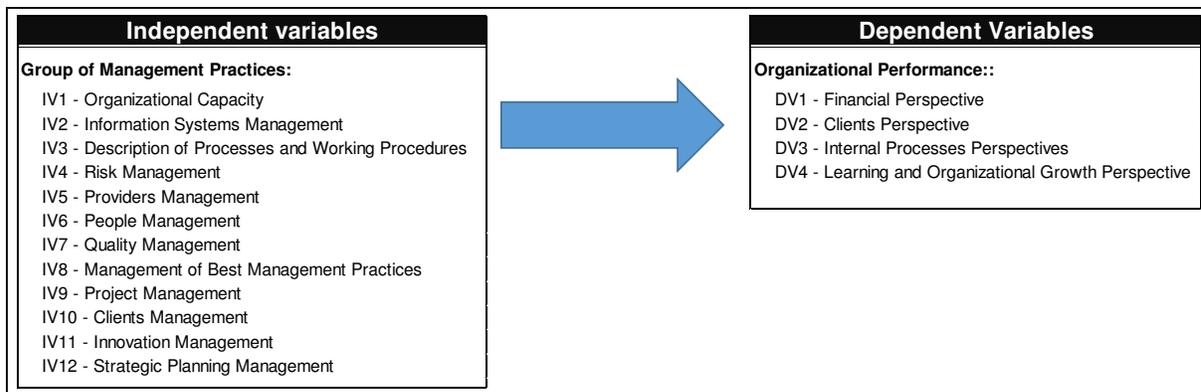
Then, the Balanced Scorecard - BSC (Kaplan and Norton), understood as a tool which translates the mission and strategies of enterprises in a wide set of performance measurement, translating missions and strategies into objectives and measures, which uses indicators to inform employees about the vectors of current and future success, and which is organized in four different perspectives: financial, clients, internal processes, learning and growth.

3. Methodology

3.1 Conceptual Model

This research uses a conceptual model as exposed on Figure 1:

Figure 1: Conceptual Model of the Research



- Independent Variables (IV): are management practices extracted from the literature. At the end, more than 2.800 management practices were cataloged and submitted to the clustering process to reduce this number without losing relevant information during the process.
- Dependent Variables (DV): was defined as being the performance of Brazilian HEI, measured through four (4) perspectives of the Balanced Scorecard (BSC): Financial, Clients, Internal Process and Organizational Learning.
- Hypothesis: The management practices influence the performance of Brazilian HEI under the moderating effect of organizational resources in a greater or lesser extent.

3.2 Data Collection and Sample

The selection of specialists followed technical and scientific criteria, choosing the professionals with knowledge about the object and with direct relation to the management of higher education at the public sector in Brazil. We considered the managers who work directly with this area and especially the ones who have acted at the highest (or immediate lower) position of a federal HEI. The highest management position was considered the Rector and Vice-rector and the immediate lower position was the pro-rector, in a total of 912 participants on the research. Approximately 6% of this total answered to the full questionnaire. At the first part of the questionnaire we tried to qualify the specialist's profile

and, at the second part, investigate the object proposed relative to the influence of management practices on the performance of HEI, under each perspective of the BSC, measured by the Likert scale from 1 to 5, where 1 represents a very low degree of influence and 5, a very high one. Pre-tests were realized to optimize the tool and avoid redundancies. The external validation was made by specialists, and the internal validation through the Cronbach's alpha. The specialists were identified through the transparency portal of the federal government and, based on the payroll of April 2018, all the occupants of the positions of rector, vice-rector and pro-rector of a Brazilian federal university were selected, and their emails were searched one by one on Google or similar tools, and also on the social network LinkedIn and the platform Lattes. The research occurred between the months of April to June 2018.

4. Verification of the Conceptual Model: Results and Underlying Analysis

The results and analysis of this study are structured according to the following phases:

First Phase: Identification, to the light of literature, of the Management practices applied at the HEI (Independent Variables), and indicators to measure the performance of the HEI (Dependent Variables).

Second Phase: Identification and analysis of the impact of Management practices on the performance of Brazilian HEI.

The first phase is related to the comprehension of the problem and deepening on the subject. It was divided into two stage, which are:

Stage 1 - Identification, to the light of literature, of management practices applied to HEI (Independent Variables). We conducted a bibliographic research aiming to understand the main concepts about management practices in HEI. During this stage, more than 230 articles were researched. They were taken from basis like ScienceDirect, IEEE, Emerald and Google. At this point, we selected articles that could contribute to the systematic review about the subject. Specific keywords like: "Higher Education", "Universities", "Management", "Practices" and "Performance" were combined to systematize the search. As a result we obtained a list with 2845 management practices. Before the great number of practices found and aiming to make the research feasible, the practices were grouped based on the similarity of their radicals in a way to preserve the coherence amongst the terms. To calculate the similarity among the practices we used the Euclidean distance, a resource that is usually applied in situations like this study (HAIR et al., 2009). Along with the calculation of the distance and focused on the grouping of practices we conducted tests with some agglomerative methods. After a series of tests with the provided methods, we obtained - with the Ward method - the most consistent result of grouping. It happened by scripts on the software R. The results can be observed on the Word Clouds on Figure 2, which can be considered a simple resource but with great visual appeal (Heimerl et al.; 2014), once it offers a general view of a set of texts which more frequently present specific terms. The word cloud elaborated for this study is presented on Figure 2.

Figure 2: Word Clouds with the Most Evident Terms of the Clusters

Based on the description of the practices of each group and with the help of the word clouds, the grouping of practices could be characterized. We now present the groups and their respective names:

- *Group 1*– of the six hundred and forty-seven (647) practices grouped we identified the strongest terms by the words: product, practice, capacity. After contextualizing, this group was named as “Organizational Capacity”;
- *Group 2* – this is the biggest group with one thousand four hundred and one (1.401) associated practices. The most frequent terms were: system, work, report, information. We could observe that the practices related pointed to the use of information systems in different levels of the organization. Then, this group was named as “Information System Management”;
- *Group 3* – With ninety-two management practices associated, the word which highlights in this group is “Process”. By observing the associated practices, this group was named as “Description of Processes and Working Procedures”;
- *Group 4* – This group reunited eighty (90) practices. The most notable word was “Risks”. By observing the practices associated, we could verify that they referred to risk management. Then, this group was name as “Risk Management”;
- *Group 5* – With fifty (50) management practices, this group presented the word “provider” as the most important one. We could observe that the related practices pointed to management practices which, somehow, involved providers (adoption of criteria for selecting providers, feedback to providers). Thus, the group was named as “Providers Management”;

- *Group 6* – This group presented one hundred and seventeen (117) management practices, and the most important words were “employee” and “training”. By observing the associated practices, it was possible to realize many practices (periodical training, career management) which related to people management. Then, this group was named “People Management”;
- *Group 7* – With fifty-six (56) management practices, the word “quality” stands out. The practices of this group are related to the adoption of quality criteria, ways of measuring criteria, quality action plans, amongst others. The group was then named as “Quality Management”;
- *Group 8* – This group presented one hundred and sixty-eight (168) management practices associated. The most important term was “practice”. By observing the group it was possible to see practices which pointed to the search for management practices itself (use of benchmarking, adaptation of practices internally and externally realized). Then, the group received the name “Management of Best Management Practices”;
- *Group 9* – With sixty-three (63) management practices associated, the most frequent term was “project”. The practices in this group embody project management (grouping projects, redistribute teams in function of projects, amongst others). Then, the group was named as “Project Management”;
- *Group 10* – This group presented eighty-seven (87) management practices associated to it and had as its most frequent term the word “client”. It was possible to observe that the practices within this group were linked to the client, since the perception of its needs to the follow up of its demands. Then, the group was called “Clients Management”;
- *Group 11* – With forty-six (46) management practices associated, the second smallest group presented as most frequent terms the words: “new”, “product”, “development” and “process”. By observing this group it was possible to realize that the practices associated were related to the creative processes and even disruptive ones - in some measure - in the organization. Practices as involvement of providers and clients on the development of process and products in the organization could be noticed. Thus, the group was named “Innovation Management”;
- *Group 12* – This was the smallest group, with forty-four (44) management practices and the terms “plan” and “strategic” as the most important ones. The practices of this group were somehow related to strategic planning (realization of periodical strategic sectoral plans, elaboration of institutional development plans, amongst others). Thus, the group was named as “Strategic Planning Management”.

Stage 2 - Identification, to the light of literature, of indicators to measure the performance of HEI (dependent variables). After analysing a set of articles, we adopted as indicators of performance for evaluating the performance of HEI the four perspectives of the Balanced Scorecard, which are the following perspectives: Financial, Clients, Internal Processes, Organizational Growth and Learning.

Second phase - Identification and analysis of the impact of management practices on the performance of Brazilian HEI.

At this phase we tried to present and analyse the results obtained through the application of a survey which was answered by specialists. The research was organized in judgment matrix (Likert) with answers which varied from one (1) to five (5), being one (1) considered a very low degree of influence on the performance of HEI and five (5) considered a very high degree of influence of the management practice on the different perspectives on the performance of the HEI. The internal consistency of the questionnaire was measured by the Cronbach's alpha and presented satisfactory values to each practice in each perspective observed ($\alpha = 0,75$ with $p < 0,05$), which characterizes the questionnaire as acceptable (TAVAKOL, DENNICK, 2011).

At this phase, aiming to a better understanding of the problem and deepening on the subject, we shared the results into five stages, which are:

Stage 1 - Significant differences among the practices

From the results we proceeded to a verification if there are significant differences among the management practices in relation to the different perspectives. To clarify this hypothesis we used the Kruskal-Wallis test, a non-parametric alternative to the one-way ANOVA, along with the Post-hoc test of Wilcoxon-Mann-Whitney to verify the statistical differences of the groups (MCCRUMGARDNER, 2008). In all perspectives we could see significant statistical differences among the management practices cited, allowing to identify that some clusters of practices may influence in a greater or lesser extent in one or another perspective.

Stage 2 - Direct impact of management practices on the performance by the financial perspective

Code	Management Practices	Average	Degree 1	Degree 2	Degree 3	Degree 4	Degree 5
IV12	Strategic Planning Management	3.79	6.3%	6.3%	27.1%	22.9%	37.5%
IV5	Providers Management	3.77	4.2%	10.4%	22.9%	29.2%	33.3%
IV9	Project Management	3.65	8.3%	12.5%	8.3%	47.9%	22.9%
IV11	Innovation Management	3.58	8.3%	6.3%	25.0%	39.6%	20.8%
IV2	Information Systems Management	3.44	8.3%	12.5%	22.9%	39.6%	16.7%
IV4	Risk Management	3.42	8.3%	12.5%	31.3%	25.0%	22.9%
IV7	Quality Management	3.40	6.3%	16.7%	25.0%	35.4%	16.7%
IV8	Management of Best Management Practices	3.35	12.5%	10.4%	25.0%	33.3%	18.8%
IV6	People Management	3.31	8.3%	10.4%	37.5%	29.2%	14.6%
IV1	Organizational Management	3.29	8.3%	16.7%	29.2%	29.2%	16.7%
IV3	Description of Processes and Working Procedures	3.23	8.3%	20.8%	27.1%	27.1%	16.7%
IV10	Clients Management	3.19	12.5%	12.5%	33.3%	27.1%	14.6%

There is a high focus on project management practices (IV9), Providers Management (IV5) and Strategic Planning Management (IV12), which means these practices substantially influence the results. On the other hand, Clients Management (IV10) influence in a lesser extent the results of HEI by the financial perspective.

Stage 3 - Direct impact of management practices on the performance by the perspective of clients

Code	Management Practices	Average	Degree 1	Degree 2	Degree 3	Degree 4	Degree 5
IV6	People Management	4.02	2.1%	8.3%	12.5%	39.6%	37.5%
IV2	Information Systems Management	3.81	0.0%	8.3%	27.1%	39.6%	25.0%
IV10	Clients Management	3.75	6.3%	14.6%	16.7%	22.9%	39.6%
IV7	Quality Management	3.69	4.2%	14.6%	12.5%	45.8%	22.9%
IV1	Organizational Management	3.67	2.1%	6.3%	37.5%	31.3%	22.9%
IV12	Strategic Planning Management	3.63	2.1%	12.5%	27.1%	37.5%	20.8%
IV11	Innovation Management	3.42	6.3%	10.4%	29.2%	43.8%	10.4%
IV9	Project Management	3.40	6.3%	16.7%	18.8%	47.9%	10.4%
IV5	Providers Management	3.38	6.3%	12.5%	35.4%	29.2%	16.7%
IV8	Management of Best Management Practices	3.25	10.4%	14.6%	31.3%	27.1%	16.7%
IV3	Description of Processes and Working Procedures	3.23	4.2%	25.0%	25.0%	35.4%	10.4%
IV4	Risk Management	2.96	8.3%	20.8%	43.8%	20.8%	6.3%

The practices of People Management (IV6), Information Systems Management (IV2) and Clients Management (IV10) are the practices which most influence the performance of clients (DV2) in Brazilian HEI. However, 69% of the answers made evident the influence of Quality Management between degrees 4 and 5. Therefore, on the specialists' opinion, Quality Management substantially influences the performance of clients in Brazilian HEI. We also point out Risk Management (IV4), which presented the smallest average, considered the practice with lesser influence in relation to the others (44% and degree 3, medium or moderate influence)

Stage 4 - Direct impact of management practices on the performance by the perspective of internal processes

Code	Management Practices	Average	Degree 1	Degree 2	Degree 3	Degree 4	Degree 5
IV2	Information Systems Management	4.02	0.0%	12.5%	14.6%	31.3%	41.7%
IV12	Strategic Planning Management	3.90	2.1%	8.3%	22.9%	31.3%	35.4%
IV6	People Management	3.85	4.2%	6.3%	22.9%	33.3%	33.3%
IV9	Project Management	3.83	4.2%	14.6%	10.4%	35.4%	35.4%
IV7	Quality Management	3.75	6.3%	12.5%	10.4%	41.7%	29.2%
IV3	Description of Processes and Working Procedures	3.71	2.1%	22.9%	12.5%	27.1%	35.4%
IV4	Risk Management	3.67	6.3%	14.6%	14.6%	35.4%	29.2%
IV1	Organizational Management	3.65	6.3%	10.4%	25.0%	29.2%	29.2%
IV11	Innovation Management	3.54	4.2%	6.3%	37.5%	35.4%	16.7%
IV8	Management of Best Management Practices	3.52	10.4%	12.5%	22.9%	22.9%	31.3%
IV10	Clients Management	3.52	6.3%	12.5%	27.1%	31.3%	22.9%
IV5	Providers Management	3.48	4.2%	10.4%	35.4%	33.3%	16.7%

The management practices influence in a significant way the performance of internal processes (DV3) in Brazilian HEI. The practices of Information Systems Management (IV2), Project Management (IV9) and Quality Management (IV7) presented higher concentration of answers on degrees 4 and 5 than the other practices. Strategic Planning Management (IV12) and People Management (IV6), on the general proportion, lost a few positions.

Stage 5 - Direct Impact of management practices on the performance by the perspective of organizational learn and growth

Code	Management Practices	Average	Degree 1	Degree 2	Degree 3	Degree 4	Degree 5
IV12	Strategic Planning Management	4.04	4.2%	4.2%	18.8%	29.2%	43.8%
IV6	People Management	4.02	2.1%	10.4%	10.4%	37.5%	39.6%
IV2	Information Systems Management	3.90	2.1%	6.3%	18.8%	45.8%	27.1%
IV9	Project Management	3.77	6.3%	10.4%	12.5%	41.7%	29.2%
IV1	Organizational Management	3.75	4.2%	6.3%	20.8%	47.9%	20.8%
IV11	Innovation Management	3.73	6.3%	6.3%	20.8%	41.7%	25.0%
IV3	Description of Processes and Working Procedures	3.71	4.2%	10.4%	20.8%	39.6%	25.0%
IV8	Management of Best Management Practices	3.71	10.4%	10.4%	16.7%	22.9%	39.6%
IV7	Quality Management	3.69	8.3%	8.3%	12.5%	47.9%	22.9%
IV4	Risk Management	3.63	6.3%	12.5%	25.0%	25.0%	31.3%
IV10	Clients Management	3.52	6.3%	12.5%	27.1%	31.3%	22.9%
IV5	Providers Management	3.23	6.3%	12.5%	43.8%	27.1%	10.4%

The practices of People Management (IV6), Strategic Planning Management (IV12), Information Systems Management (VI2), Project Management (IV9) and Quality Management (IV7) are the ones which most influence the performance of organizational learning and growth (DV4). The practices mentioned consist on more than 79% of the answers between the degrees 4 and 5. Management of Best Management Practices (IV8) is not among the practices with degrees 4 or 5.

5. Discussion and Implications to Management Practices on HEI

As we could see, the Organizational Capacity (IV1) was considered by specialists as a practice which has an average power of influence on the global performance of HEI (3.59). Indeed, organizational capacity composes one of the main features which determine the identity of a group or organization, and also the speed and effectiveness of collective learning of its members (COLLINSON, 2008). The performance of an organization may be improved when it is able to sustain forces in an uncertain

environment, which requires flexible and responsible organizational capacities, with appropriate attitude, knowledge, abilities and technologies (Hafeez et al., 2006 *apud* AL-HAKIM; LU, 2017). It implies that the findings of this research reinforce the relevance of the practices associated to this group, at the Higher Education Institutions, because they have complex nature and exist in a highly dynamic environment (WICKRAMASINGHE, 2018).

Information Systems Management (IV12) was identified as one of the practices which most affect the global performance of HEI (3.79). The results of this work converge to the studies of Boas and Santos (2014), when they make evident the impacts promoted by Information Systems Management in many areas of an organization, amongst them we can highlight the measurement of results and control of organization processes.

Description of Processes and Working Procedures (IV3) was seen as one of the practices with less global influence on the performance (3.47) in comparison to the other ones. It was considered the less dependent practice to the resources on the financial perspective (DV1) and also on the clients perspective (DV2). This practice is relevant once the content of rules may transcend the possession to each member of the organization (PONDY; MITROFF, 1979). This action directly implies on knowledge management and enables the standardization of processes which will bring impacts on the quality and efficiency of processes (OLIVEIRA, O. J. De; SERRA PINHEIRO, 2009). It may explain the high correlation among this group of practices and the others in almost all perspectives observed on the section 4.3, leading us to infer that, however it presents low impact on the performance, this practice contributes for implementing and executing the other practices observed.

Risk Management (IV4) was mentioned as the practice which presents least influence on the global performance of HEI (3.42). The literature points that risk management still seems to be out of the researchers' focus, but is a changing reality, once - for instance - some german states demand by the law that Higher Education institutions instal a system for risk management (SCHMIDT; GÜNTHER, 2016).

Providers Management presented values considered low (3.46 when comparing to the other management practices on the global performance of HEI. We point out that this practice obtained high degree of influence on the financial perspective (DV1), being the second which most influences on this perspective. From the perspective of internal processes (DV3), organizational learning and growth (DV4), it was considered the practice with the lesser impact on the performance. Barnes (1998) *apud* Sing (2008) already pointed to the need of developing practices related to the providers to guarantee the organization is sure that its providers are able to offer products and services of consistent quality. Naturally, we infer that, under these conditions, we can avoid wasting material and even rebuying items for inadequacy, which brings influence to the financial performance of the organization, according to our findings. We also understand that providers management has strict relationship to quality management when observing the theoretical background (ASROFAH; ZAILANI; FERNANDO, 2010; FRYER; ANTONY; DOUGLAS, 2007; PARK; HARTLEY; WILSON, 2001; PRAJOGO *et al.*, 2012; PSOMAS; ANTONY, 2017). This can also be shown when analysing the correlation between providers management and quality management, which implies on saying that they are variables that depend on each other, being able to promote more effective results when implemented together.

People Management (IV6), in global terms, was considered the second practice which most influences the performance of HEI. The biggest influence of this practice was on the performance of clients (DV2), and the second one for the performances on organizational learning and growth. Many studies detail the importance of people management in organizations (BRANNICK *et al.*, 2002; LOBANOVA; OZOLINA-OZOLA, 2014; LOO, 2002), specially in institutions related to the educational area (NICULESCU, 2006; SHIN, 2009). The effective application of some people management practices allows to increase the commitment of the university employees to their jobs, which also increases the performance of universities (Chen *et al.*, 2009; Shahzad *et al.*, 2008 *apud* AMIN *et al.*, 2014), besides being seen as a great ally on the promotion of the competitive capacity of the organization (VIVARES-VERGARA; SARACHE-CASTRO; NARANJO-VALENCIA, 2016).

In a general way, Quality Management (IV7) presented average influence (3.63) on the performance, when compared to the others. The appropriate Quality management is able to promote, among other things, the learning process (FERNÁNDEZ CRUZ; EGIDO GÁLVEZ; CARBALLO SANTAOLALLA, 2016), global performance and productivity of the organization (FISHER, 1992; KUMAR; MAITI; GUNASEKARAN, 2018). Thus, measuring the performance is part of the challenge faced by quality management (TIRON-TUDOR; COSTE, 2015).

O Gerenciamento das Melhores Práticas de Gestão (VI8) apresentou o segundo valor menos influente na *performance* global das IES (3.46). Reforça-se aqui o entendimento exposto por Brondyk e Searby (2013) que afirma que uma prática precisa ser eficaz de fato; ser comprovado empiricamente; e alcançar o objetivo declarado. Cumprindo estes requisitos, alcança-se o conceito de “*best practice*”, ou melhor prática. Naturalmente, reafirma-se que o gerenciamento das melhores práticas contribui para melhorar a acurácia no alcance dos resultados da organização, promovendo a alta *performance* das IES.

Project Management (IV9) appears as a practice of average influence (3.66) on the global performance when compared to others. Considering that project management can be seen as a set of processes which gathers tools, techniques and practices based on the knowledge applied to projects, to reach organizational goals and provide products or services (MATHUR; JUGDEV; SHING FUNG, 2013), we notice a strict connection between the findings of this work and the research mentioned. Thus, Project management is also relevant, once it contributes for achieving other management practices.

Clients Management (IV10) presented low influence on the global performance. Clients Management can be understood as a set of practices which provide a consolidated and integrated vision of clients in all business areas, ensuring that every client receives the best service possible (SEEMAN; O'HARA, 2006). This research confirms the relevance of this practice, once it may promote competitive advantage for higher education and increase the capacity of a university to attract, retain and serve its clients as Seeman e O'hara (2006).

Innovation Management presented average influence on the global performance of HEI. This research found evidences that Innovation Management can contribute for implementing many other practices, especially Quality Management. Therefore, the findings of this research confirm the theoretical background: “innovation is a factor which contributes for increasing quality of HEI” (ROFFE, 1998; WIKLUND, H. *et al.*, 2003).

Strategic Planning Management (IV12) was considered by specialists the practice which most influences the global performance of HEI. Besides, it was considered the one which most influences the performance on the financial (DV1), learning and organizational growth (DV4) perspectives. Of the many findings of this work about strategic planning management, referent to the need of resources, the correlation between quality and innovation and the determinant role on the global performance of the organization is referred by the literature as the great importance of strategic planning in organizations (BASKIN; BASKIN, 2011), especially the public ones (GOMES; YASIN; LISBOA, 2008) and also on HEI in a general way (HARRIS, 2000; MARIA; FIBRIANI; SINATRA, 2012). According to the authors mentioned, Strategic Planning is determinant to the future of organizations as its able to provide the alignment among objectives and resources.

6. Conclusions

This research aimed to “Evaluate the influence of management practices on the performance of Brazilian Federal Universities”. The research showed there is a gap on literature about the object: the relation between “university management practices” x “performance (results) on HEI”. Thus, this investigation has many conclusions, as:

- There are management practices which influence in a greater or lesser extent the performance of HEI to the light of the BSC perspectives.
- When deciding to implement any practice, it is essential to consider that when practices are implemented combinally and integrately, the result can be more effective.
- No matter how, management practices oriented to strategic planning and combined to people management is the most appropriate combination for achieving more effective results.

Therefore, this study presents significant implications for educators and managers, because it can contribute on decision making processes linked to the implementation of new practices aiming to improve educational performance, as well as reference indicators of new practices which stand out in different perspectives.

For some authors it is also possible to say that the road to high educational performance of Brazilian federal public HEI seems to pass by the appropriate use of better and more effective management practices, promoting integration of academic and practical knowledge, aligning organizational objectives, structures and processes (AREND, 2004; PUGAS; CALEGARIO; ANTONIALLI, 2013; STRAUSSMAN, 2001).

Some recommendations for future works are:

- Replicate the research, enlarging the sample and including specialists of other public and private scopes, and from other countries;
- Adopting new metrics for measuring performance of HEI;
- Using new statistical methodology for treating data and confirming results.
- Permanently and repeatedly reproduce and replicate this research aiming to follow up and increase management practices, as well as resources, establishing priorities according to the demands presented.

References

- [1] AB HAMID, M. R. Bin. Value-based performance excellence model for higher education institutions. **Quality and Quantity**, 2015. v. 49, n. 5, p. 1919–1944. Disponível em: <<http://dx.doi.org/10.1007/s11135-014-0082-z>>.
- [2] AL-HAKIM, L.; LU, W. The role of collaboration and technology diffusion on business performance. **International Journal of Productivity and Performance Management**, 2017. v. 66, n. 1, p. 22–50.
- [3] ALTBACH, P. G. India's higher education challenges. **Asia Pacific Education Review**, 2014. v. 15, n. 4, p. 503–510.
- [4] ALWAZAE, M.; KJELLIN, H.; PERJONS, E. A synthesized classification system for best practices. **Vine**, 2014. v. 44, n. 2, p. 249–266. Disponível em: <<http://www.emeraldinsight.com/doi/10.1108/VINE-03-2013-0012>>.
- [5] AMIN, M. *et al.* The impact of human resource management practices on performance. **The TQM Journal**, 2014. v. 26, n. 2, p. 125–142. Disponível em: <<http://www.emeraldinsight.com/doi/10.1108/TQM-10-2011-0062>>.
- [6] AMORIM, F. B.; TOMAÉL, M. I. Gestão da Informação e Gestão do Conhecimento na prática organizacional: análise de estudos de casos. **Revista Digital de Biblioteconomia e Ciência da Informação**, 2011. v. 8, n. 2, p. 1–22.
- [7] ANYANWU, O. E. Challenging the status quo: Alan Pifer and higher education reform in Colonial Nigeria. **History of Education**, 2013. v. 42, n. 1, p. 70–91. Disponível em: <<http://www.tandfonline.com/doi/abs/10.1080/0046760X.2012.727676>>.
- [8] AREND, R. J. The definition of strategic liabilities, and their impact on firm performance. **Journal of Management Studies**, 2004. v. 41, n. 6, p. 1003–1027.
- [9] ASROFAH, T.; ZAILANI, S.; FERNANDO, Y. **Best practices for the effectiveness of benchmarking in the Indonesian manufacturing companies**. [S.l.]: [s.n.], 2010. V. 17.

- [10] BASKIN, K.; BASKIN, K. How Chinese thought can lead the transformation in management practice. 2011.
- [11] BLANCO-RAMIREZ, G. US accreditation in Mexico: quality in higher education as symbol, performance and translation. **Discourse: Studies in the Cultural Politics of Education**, 2015. v. 36, n. 3, p. 329–342. Disponível em: <<http://www.tandfonline.com/doi/abs/10.1080/01596306.2013.871236>>.
- [12] BLESSING, O.; RICHARD, J.; EMMANUEL, A. Assessment of building maintenance management practices of higher education institutions in Niger State – Nigeria. **Journal of Design and Built Environment**, 2015. v. 15, n. 2, p. 1–14.
- [13] BOAS, E. P. V.; SANTOS, S. A. Dos. Empreendedorismo corporativo: estudo de casos múltiplos sobre as práticas promotoras em empresas atuantes no Brasil. **Revista de Administração**, 2014. v. 49, n. 2, p. 399–414. Disponível em: <http://www.rausp.usp.br/busca/artigo.asp?num_artigo=1592>.
- [14] BRANDÃO, H. P.; BORGES-ANDRADE, J. E.; GUIMARÃES, T. De A. Desempenho organizacional e suas relações com competências gerenciais, suporte organizacional e treinamento. **Revista de Administração**, 2012. v. 47, n. 4, p. 523–539. Disponível em: <http://www.rausp.usp.br/busca/artigo.asp?num_artigo=1498>.
- [15] BRANNICK, T. *et al.* Service management practice-performance model: A focus on training and listening practices. **Journal of European Industrial Training**, 2002. v. 26, n. 8/9, p. 394. Disponível em: <<http://rollins.summon.serialssolutions.com/2.0.0/link/0/eLvHCXMwY2AwNtIz0EUrE4BJycgk2dAsLcXc0NDcLBVYzaWaG6aZW5olmZmmgS9zQByAw4Mor9yEGJhS80QZZN1cQ5w9dGGIZXxKTK486OBy0MCFoaEYA28iaD14Xgl431iKBIOCoTFoGVViWkpyGmi3d4qlMbCqNjYxAx2YnmaQnAwA-5MpnQ>>.
- [16] BRINT, S. Data on Higher Education in the United States: Are the Existing Resources Adequate? **American Behavioral Scientist**, 2002. v. 45, n. 10, p. 1493–1522. Disponível em: <<http://abs.sagepub.com/cgi/doi/10.1177/0002764202045010004>>.
- [17] BRONDYK, S.; SEARBY, L. Best practices in mentoring: complexities and possibilities. **International Journal of Mentoring and Coaching in Education**, 2013. v. 2, n. 3, p. 189–203. Disponível em: <<http://www.emeraldinsight.com/journals.htm?issn=2046-6854&volume=2&issue=3&articleid=17099592&show=html>>.
- [18] CARNOY, M.; DOSSANI, R. Goals and governance of higher education in India. **Higher Education**, 2013. v. 65, n. 5, p. 595–612.
- [19] CHIVA, R.; ALEGRE, J.; LAPIEDRA, R. Measuring organisational learning capability among the workforce. **International Journal of Manpower**, 2007. v. 28, n. 3/4, p. 224–242.
- [20] COLLINSON, V. Leading by learning: New directions in the twenty-first century. **Journal of Educational Administration**, 2008. v. 46, n. 4, p. 443–460.
- [21] DATOR, J. D. Universities without “quality” and quality without “universities”. **On the Horizon**, 2005. v. 13, n. 4, p. 199–215.
- [22] DEVI RAMACHANDRAN, S.; CHONG, S.; WONG, K. Knowledge management practices and enablers in public universities: a gap analysis. **Campus-Wide Information Systems**, 2013. v. 30, n. 2, p. 76–94. Disponível em: <<http://www.emeraldinsight.com/doi/10.1108/10650741311306273>>.
- [23] DIDOU-AUPETIT, S. Researchers and decision-makers in higher education in Mexico: underpinnings and agendas. **Studies in Higher Education**, 2014. v. 39, n. 8, p. 1511–1521. Disponível em: <<http://www.tandfonline.com/doi/abs/10.1080/03075079.2014.949536>>.
- [24] ESPINOZA, Ó.; EDUARDO GONZÁLEZ, L. Accreditation in higher education in Chile: results and consequences. **Quality Assurance in Education**, 2013. v. 21, n. 1, p. 20–38. Disponível em: <<http://www.emeraldinsight.com/doi/10.1108/09684881311293043>>.

- [25] ESPINOZA, O.; GONZÁLEZ, L. E. Access to higher education in Chile: A public vs. private analysis. **Prospects**, 2013. v. 43, n. 2, p. 199–214.
- [26] ETZKOWITZ, H.; LEYDESDORFF, L. The dynamics of innovation : from National Systems and “ Mode 2 ” to a Triple Helix of university – industry – government relations. **Research Policy**, 2000. v. 29, p. 109–123.
- [27] FENG, Y. University of Nottingham Ningbo China and Xi’an Jiaotong-Liverpool University: Globalization of higher education in China. **Higher Education**, 2013. v. 65, n. 4, p. 471–485.
- [28] FERNÁNDEZ CRUZ, F. J.; EGIDO GÁLVEZ, I.; CARBALLO SANTAOLALLA, R. Impact of quality management systems on teaching-learning processes. **Quality Assurance in Education**, 2016. v. 24, n. 3, p. 394–415.
- [29] FETSCHENKO, V. *et al.* Management of Innovative Integrated Structures of Education, Business and Science at the Regional Level. **Procedia - Social and Behavioral Sciences**, 2015. v. 214, n. June, p. 243–251. Disponível em: <<http://linkinghub.elsevier.com/retrieve/pii/S1877042815060280>>.
- [30] FISCHMAN, G. E.; OTT, M. Access, equity and quality trends in Latin America’s public universities. **International Journal of Educational Development**, 2016. n. 2016. Disponível em: <<http://dx.doi.org/10.1016/j.ijedudev.2016.11.002>>.
- [31] FISHER, T. J. The Impact of Quality Management on Productivity. **International Journal of Quality and Reliability Management**, 1992. v. 9, n. 3, p. 44–53.
- [32] FRYER, K. J.; ANTONY, J.; DOUGLAS, A. Critical success factors of continuous improvement in the public sector. **The TQM Magazine**, 2007. v. 19, n. 5, p. 497–517. Disponível em: <<http://www.emeraldinsight.com/doi/10.1108/09544780710817900>>.
- [33] GOMES, C. F.; YASIN, M. M.; LISBOA, J. V. Project management in the context of organizational change: The case of the Portuguese public sector. **International Journal of Public Sector Management**, 2008. v. 21, n. 6, p. 573–585.
- [34] GOMES, G.; WOJAHN, R. M. Organizational learning capability, innovation and performance: study in small and medium-sized enterprises (SMES). **Revista de Administração**, 2017. v. 52, n. 2, p. 163–175.
- [35] HARRIS, R. W. Innovation and progress: Investors in People in higher education. **International Journal of Educational Management**, 2000. v. 14, n. 4, p. 142–150. Disponível em: <<http://www.emeraldinsight.com.proxy.lib.csus.edu/doi/full/10.1108/09513540010371966>>.
- [36] HUANG, F. Higher education from massification to universal access: A perspective from Japan. **Higher Education**, 2012. v. 63, n. 2, p. 257–270.
- [37] JACOB, W. J. *et al.* Changes in Chinese higher education: Financial trends in China, Hong Kong and Taiwan. **International Journal of Educational Development**, 2016. Disponível em: <<http://dx.doi.org/10.1016/j.ijedudev.2017.03.006>>.
- [38] KAGAARI, J. *et al.* Performance management practices , employee attitudes and managed performance. 2010.
- [39] KAGAARI, J. R. K.; MUNENE, J. C.; MPEERA NTAYI, J. Performance management practices, information and communication technology (ICT) adoption and managed performance. **Quality Assurance in Education**, 2010. v. 18, n. 2, p. 106–125. Disponível em: <<http://www.emeraldinsight.com/doi/10.1108/09684881011035330>>.
- [40] KAPETANIOU, C.; LEE, S. H. A framework for assessing the performance of universities: The case of Cyprus. **Technological Forecasting and Social Change**, 2016. Disponível em: <<http://www.sciencedirect.com/science/article/pii/S0040162516000810>>.
- [41] KOHRING, M. *et al.* Media orientation of German university decision makers and the executive influence of public relations. **Public Relations Review**, 2013. v. 39, n. 3, p. 171–177. Disponível em: <<http://dx.doi.org/10.1016/j.pubrev.2013.01.002>>.
- [42] KONSTANTINOVSKIY, D. L. Social Inequality and Access to Higher Education in Russia. **European Journal of Education**, 2012. v. 47, n. 1, p. 9–24.

- [43] KUMAR, P.; MAITI, J.; GUNASEKARAN, A. Impact of quality management systems on firm performance. **International Journal of Quality & Reliability Management**, 2018. v. 35, n. 5, p. 1034–1059. Disponível em: <<https://www.emeraldinsight.com/doi/10.1108/IJQRM-02-2017-0030>>.
- [44] LEHMAN, J. With Eye to Innovation , China Revamps Its Universities A New Face Reveals Multiple Lineages Alive at the Dawn of Our Genus Homo. 2013. n. August 2012, p. 634–635.
- [45] LOBANOVA, L.; OZOLINA-OZOLA, I. Comparative evaluation of the practical areas of human resource management in Lithuania and Latvia. **Procedia - Social and Behavioral Sciences**, 2014. v. 110, p. 607–616. Disponível em: <<http://dx.doi.org/10.1016/j.sbspro.2013.12.905>>.
- [46] LOO, R. Working towards best practices in project management. **International Journal of Project Management**, 2002. v. 20, n. 2, p. 93–98. Disponível em: <<http://linkinghub.elsevier.com/retrieve/pii/S0263786300000429>>.
- [47] MAASSEN, P. A. M.; POTMAN, H. P. Strategic decision making in higher education An analysis of the new planning system in Dutch higher education. **Kluwer Academic Publishers. Printed in the Netherlands.**, 1990. p. 393–410.
- [48] MARGINSON, S. Global trends in higher education financing: The United Kingdom. **International Journal of Educational Development**, [S.l.], maio. 2016. n. June 2016, p. 1–11. Disponível em: <<http://linkinghub.elsevier.com/retrieve/pii/S0738059317301748>>.
- [49] MARIA, E.; FIBRIANI, C.; SINATRA, L. The Measurement of Information Technology Performance in Indonesian Higher Education Institutions in The Context of Achieving Institution Business Goals Using COBIT Framework Version 4.1. **International Refereed Research Journal**, 2012. v. 3, n. 3, p. 9–19. Disponível em: <http://www.researchersworld.com/vol3/issue3/vol3_issue3_3/Paper_02.pdf%5Chttp://connection.ebscohost.com/c/case-studies/79700579/measurement-information-technology-performance-indonesian-higher-education-institutions-context-achieving-institution-busines>.
- [50] MATHUR, G.; JUGDEV, K.; SHING FUNG, T. Project management assets and project management performance outcomes: Exploratory factor analysis. **Management Research Review**, 2013. v. 36, n. 2, p. 112–135.
- [51] MCKEE, D. An Organizational Learning Approach to Product Innovation. **Journal of Product Innovation Management**, 1992. v. 9, n. 3, p. 232–245.
- [52] MURCHISON, W.; PEJOVICH, S. PROBLEMS OF PUBLIC H I G H E R E D U C AT I O N I N THE USA : CAUSES AND CONSEQUENCES William Murchison and Svetozar Pejovich. **Economic Affairs**, 2012.
- [53] NAIDU, P.; DERANI, N. E. S. A Comparative Study on Quality of Education Received by Students of Private Universities versus Public Universities. **Procedia Economics and Finance**, 2016. v. 35, n. October 2015, p. 659–666. Disponível em: <<http://linkinghub.elsevier.com/retrieve/pii/S2212567116000812>>.
- [54] NEUMANN, R.; GUTHRIE, J. The corporatization of research in Australian higher education. **Critical Perspectives on Accounting**, 2002. v. 13, n. 5–6, p. 721–741. Disponível em: <<http://linkinghub.elsevier.com/retrieve/pii/S1045235402905575>>.
- [55] NEUROIMAGING, I. F. *et al.* **Atlas of Epilepsies. DeJong's The Neurologic Examination, 6th Edition**. Disponível em: <http://www.amazon.co.uk/Sadocks-Comprehensive-Textbook-Psychiatry-Saddocks/dp/0781768993%0Ahttp://backoffice.neurologiapediatrica.it/upload/46_La_gestione_del_bambino_con_convulsioni_febrili.pdf%0Ahttp://link.springer.com/10.1007/978-1-4614-6252-1%0Ahttp>.
- [56] NICULESCU, M. Strategic positioning in Romanian higher education. **Journal of Organizational Change Management**, 2006. v. 19, n. 6, p. 725–737.

- [57] NURMI, P.; PAASIO, K. Entrepreneurship in Finnish universities. **Education and Training**, 2007. v. 49, n. 1, p. 56–66.
- [58] ODEDIRAN, S. J.; GBADEGESIN, J. T.; BABALOLA, M. O. Facilities management practices in the Nigerian public universities. **Journal of Facilities Management**, 2015. v. 13, n. 1, p. 5–26.
- [59] OLIVEIRA, O. J. De; SERRA PINHEIRO, C. R. M. Best practices for the implantation of ISO 14001 norms: a study of change management in two industrial companies in the Midwest region of the state of São Paulo – Brazil. **Journal of Cleaner Production**, 2009. v. 17, n. 9, p. 883–885. Disponível em: <<http://linkinghub.elsevier.com/retrieve/pii/S095965260800320X>>.
- [60] OLIVEIRA, S. M.; ALVES, J. L. Influência Das Práticas De Inovação Aberta Na Prospecção De Conhecimentos Para a Criação De Valor Em Ambientes De Alta Complexidade Sob Condições De Incerteza E Imprevisibilidade. **Review of Administration and Innovation - RAI**, 2014. v. 11, n. 1, p. 295. Disponível em: <<http://www.revistas.usp.br/rai/article/view/79910>>.
- [61] PANFILOVA, T. V. Higher Education Reform in Russia. **Russian Education & Society**, 2011. v. 53, n. 7, p. 25–39. Disponível em: <<http://www.tandfonline.com/doi/full/10.2753/RES1060-9393530702>>.
- [62] PARK, S.; HARTLEY, J. L.; WILSON, D. Quality management practices and their relationship to buyer's supplier ratings: A study in the Korean automotive industry. **Journal of Operations Management**, 2001. v. 19, n. 6, p. 695–712.
- [63] PONDY, L. R.; MITROFF, I. I. Beyond open system models of organization. **Research in Organizational Behavior**, 1979. v. 1, p. 3–39.
- [64] PRAJOGO, D. *et al.* Int .J . Production Economics The relationship between supplier management and firm ' s operational performance : A multi-dimensional perspective. **Intern. Journal of Production Economics**, 2012. v. 136, n. 1, p. 123–130. Disponível em: <<http://dx.doi.org/10.1016/j.ijpe.2011.09.022>>.
- [65] PSOMAS, E.; ANTONY, J. Total quality management elements and results in higher education institutions. **Quality Assurance in Education**, 2017. v. 25, n. 2, p. 206–223. Disponível em: <<http://www.emeraldinsight.com/doi/10.1108/QAE-08-2015-0033>>.
- [66] PUGAS, P. G. O.; CALEGARIO, C. L.; ANTONIALI, L. M. Aglomerados e visão baseada em recursos: as capacidades organizacionais de empresas inseridas em um aglomerado do setor de vestuário em Minas Gerais. **Revista de Administração**, 2013. v. 48, n. 3, p. 440–453. Disponível em: <http://www.rausp.usp.br/busca/artigo.asp?num_artigo=1548>.
- [67] ROFFE, I. Conceptual problems of continuous quality improvement and innovation in higher education. **Quality Assurance in Education**, 1998. v. 6, n. 2, p. 74–82.
- [68] SAGARRA, M.; MAR-MOLINERO, C.; AGASISTI, T. Exploring the efficiency of Mexican universities: Integrating Data Envelopment Analysis and Multidimensional Scaling. **Omega**, 2017. v. 67, p. 123–133. Disponível em: <<http://linkinghub.elsevier.com/retrieve/pii/S0305048316301530>>.
- [69] SCHINDLER, L. *et al.* Definitions of Quality in Higher Education: A Synthesis of the Literature. **Higher Learning Research Communications**, 2015. v. 5, n. 3, p. 3. Disponível em: <<http://www.hlrcjournal.com/index.php/HLRC/article/view/244>>.
- [70] SCHMIDT, U.; GÜNTHER, T. Public sector accounting research in the higher education sector: a systematic literature review. **Management Review Quarterly**, 2016. v. 66, n. 4, p. 235–265.
- [71] SEEMAN, E. D.; O'HARA, M. Customer relationship management in higher education: Using information systems to improve the student-school relationship. **Campus-Wide Information Systems**, 2006. v. 23, n. 1, p. 24–34.
- [72] SHIN, J. C. Classifying higher education institutions in Korea: A performance-based approach. **Higher Education**, 2009. v. 57, n. 2, p. 247–266.

- [73] SINGH, P. J. Empirical assessment of ISO 9000 related management practices and performance relationships. **International Journal of Production Economics**, 2008. v. 113, n. 1, p. 40–59.
- [74] STRAUSSMAN, J. D. Technical assistance to local governments in Hungary: The limits of best practice. **International Journal of Public Sector Management**, 2001. v. 14, n. 6–7, p. 500–521. Disponível em: <<http://www.scopus.com/inward/record.url?eid=2-s2.0-0035201031&partnerID=40&md5=0870b099811e17b67a03f7e8ed1d1a20>>.
- [75] TIRON-TUDOR, A.; COSTE, A. I. Performance Indicators In Romanian Higher Education. **SEA - Practical Application of Science**, 2015. v. 3, n. 1, p. 7.
- [76] VIVARES-VERGARA, J. A.; SARACHE-CASTRO, W. A.; NARANJO-VALENCIA, J. C. Impact of human resource management on performance in competitive priorities. **International Journal of Operations & Production Management**, 2016. v. 36, n. 2, p. 114–134. Disponível em: <<http://www.emeraldinsight.com/doi/10.1108/IJOPM-11-2013-0484>>.
- [77] VORLEY, T.; NELLES, J. (Re) Conceptualising the Academy : Institutional Development of and beyond the Third Mission. **Higher Education Management and Policy**, 2008. v. 20, n. 3, p. 1–18.
- [78] WANG, X.; LIU, J. China's higher education expansion and the task of economic revitalization. **Higher Education**, 2011. v. 62, n. 2, p. 213–229.
- [79] WICKRAMASINGHE, V. Higher education in state universities in Sri Lanka: Review of higher education since colonial past through international funding for development. **International Journal of Educational Management**, 2018. v. 32, n. 3, p. 463–478.
- [80] WIKLUND, H. *et al.* Innovation and TQM in Swedish higher education institutions possibilities and pitfalls. **TQM Magazine**, 2003. v. 15, n. 2, p. 99–107.