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USE OF SIMONS CONTROL LEVERS IN THE MANAGEMENT OF HIGHER EDUCATION INSTITUTIONS WITH THE *PERFORMANCE MANAGEMENT AND CONTROL*

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Abstract: This study aims to investigate the structure and functioning of Management Control Systems (SCG), proposed by Simons (1995), for performance evaluation in Higher Education Institutions (universities). Among the specific objectives, the following stand out: a) to identify the correlation between belief, limit systems, diagnostic and interactive control systems, according to the Simons model (1995); b) verify the relationship between Simons' (1995) control levers and Performance Management end Control; the public and private universities; c) To present a comparison between the universities under study regarding the four levers proposed by Simons (1995). To capture the structure and functioning of the universities ' Management Control Systems (SCG) the research instrument proposed by Simons (1995) and proposed by Damke, Silva and Walter (2011) was used. A questionnaire was applied to 34 managers of three universities 's, in West Paraná. In the data analysis, descriptive statistics, correlation and cross-tabulation techniques were used. The results show that there are significant differences between the use of systems between the universities, and the Interactive system is the one that most disagrees among managers regarding its application. It is concluded that the performance systems must be reassessed in the universities public.

Keywords: Performance evaluation, management control systems, *performance management and control*, higher education institutions.

INTRODUCTION

The methodology proposed by Simons (1995) serves the purpose of business growth by generating motivation from information sharing and organizational learning, in which it uses belief systems, boundary systems, diagnostic and interactive control systems, as a strategic control to assist in organizational practices over time and in achieving goals.

Management control systems can be used in different ways as a result of organizational strategies, considering the company's stage of development. Lester, Parnell and Carraher (2003, p. 339) point out that "knowledge of an organization's current position or stage of development can help top managers understand the relationships between the organizational lifecycle, competitive strategy and performance".

Management control can present different levels of formalization, spontaneity, financial emphasis, varying in each organization according to the configuration of the adopted system, which will depend on the personal characteristics of its administrators, on the organization's characteristics and on the characteristics of the social and organizational context.

In this sense, management controls can be used in different ways in organizations. The four control levers, according to Nisiyama and Oyadomari (2012, p. 106), "enable a better understanding of the application of management controls". According to Simons' model of control levers (1995), belief systems are used to inspire and direct the search for opportunities.

Researches found in the literature in the Scopus, Emerald and Web of Science databases, on the use of control levers by Simons (1995), present a theoretical GAP, with regard to the management of Higher Education Institutions (universities), theme proposed by this study.

From a theoretical point of view, the contribution of this research is based on the use of the control system proposed by Simons (1995) in Higher Education Institutions, justified by the author's statements, when he asserts the relevance of the model and its application in several forms in organizations.

Considering that educational institutions are organizations that need planning, organization and control by their leaders, all the knowledge presented in this study will be of great value.

The question that emerges from the theory and which guides this research is: How are Simons' (1995) control levers used in the management of Higher Education Institutions? Thus, the study aims to investigate the structure and functioning of management control systems proposed by Simons (1995) for performance evaluation in a Higher Education Institution.

Among the specific objectives, the following stand out: a) to identify the correlation between belief, limit systems, diagnostic and interactive control systems, according to the Simons model (1995); b) verify the relationship between control levers of Simons (1995) and *Performance Management end Control* of the public and private universities; c) To present a comparison between the universities under study, regarding the four levers proposed by Simons (1995). The research instrument was used, a questionnaire to measure strategic control, adapted from Simons (1995 and proposed by Damke, Silva and Walter (2011).

THEORETICAL FOUNDATION

In the theoretical framework of this study, a conceptual approach to controls is presented, as well as the existing types. Next, the control levers of Simons (1995) are described and finally the relationship between control systems and *Performance Management end Control,* in order to contribute to the achievement of the objective of the study, which

it consists in verifying how Simons' (1995) control levers are used in the management of universities.

CONCEPT AND TYPES OF CONTROL

Control is the "set of methods and tools that the company's members use to keep it on track and achieve its goals" (Atkinson et al, 2000, p.581). Tannenbaum (1968) understands control as the process by which the behavior of people and things is limited to the objectives of organizations. Oliveira (1999) highlights that control can be defined, in simple terms, as the action necessary to ensure the achievement of established objectives, challenges, goals and projects. In this context, the control system for Kloot (1997) and Fisher (1995) aims to define conditions that drive organizations to achieve goals and obtain results.

Anthony (1965, p.17) defined managerial control in his seminal work as "the process by which managers ensure that resources are obtained and used effectively and efficiently to achieve organizational goals".

From the definitions presented by Anthony (1990), Tannenbaum (1968), Oliveira (1999), Kloot (1997) and Fisher (1995), there is evidence that the Management Control System (SCG) is a process that managers use to influence the performance and behavior of people in the organization, in order to ensure that the strategy is put into practice and reaches its objectives, efficiently and effectively, or even surpasses them.

According to the literature studied and pointed out by Mosimann and Fisch (1999), Catelli et al (2001) and Welsch (1973), control can be divided into three types: strategic, tactical or managerial and operational control.

Strategic control consists of verifying the company's relationship with the environment, assuring Mosimann and Fisch (1999), as well as comparing strategic guidelines and decisions, which generate threats and opportunities for the company, providing opportunities for the manager to prepare strategies.

Tactical or managerial control for Catelli et al (2001) is an instrument that aims to monitor and verify the levels of units. Its function is to assess managers at intermediate levels of the

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company through qualitative and quantitative measures.

Tactical or managerial control, on the other hand, is an instrument for checking and monitoring more general measurements at the unit level, claim Catelli et al (2001). For the above-mentioned author, it consists of a set of indicators and goals that allow checking whether the objectives are being achieved.

Operational control, according to Weslch (1973, p.17), "can be defined as the action necessary to ensure the achievement of established objectives, plans, policies and standards".

Next, strategic control will be more accurately detailed, focusing on the control levers proposed by Simons (1995), the main objective of this study.

MANAGEMENT CONTROL - SIMONS CONTROL LEVERS (1995)

Management controls for Cunningham (1992) involve two main categories: the first involves results controls, including monitoring indicators, administrative controls and action controls. The second category involves controls

behavioral or social, such as values and norms, attitudinal skills of selected personnel, project and allocation of work, and observation of personnel behavior.

Otley (1999) corroborates by stating that strategic control systems can be considered as the *Balanced Scorecard*, the budget, the *EVA (Economic Value Added)*, Management by Akao Guidelines (1997) and Simons' Control Levers (1995). This last system will be used as the basis for the investigation, as shown in Figure 1.

For Simons (1995), a specific four-lever structure provides strategic control of organizations, and the way in which managers use these systems is fundamental to the company. Through several case studies, the aforementioned author developed the control levers model, which consists of four types of control (beliefs, limits, diagnostic and interactive) as shown in Figure 1.
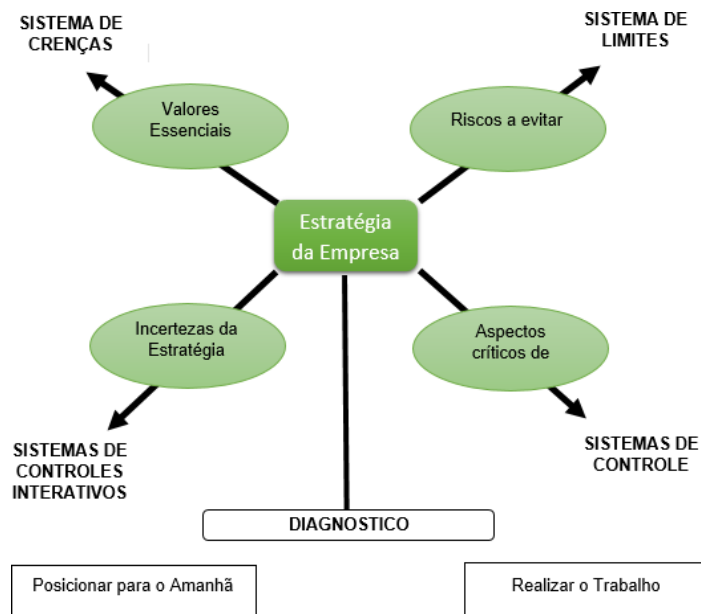

Figure 1 - Strategic Control Levers

Source: Adapted from Simons (1995).

According to Simons (1995) belief systems are formal systems, created and communicated by formal documents, such as beliefs, mission statements, and goal statements. It can consist of statements of mission, vision, core values, creeds and purposes, among others. These documents encourage and guide the search for opportunities by employees, which results from the reinforcement of their commitment, says Diehl (2005).

Boundary systems, on the other hand, are formal systems to establish explicit limits and rules that must be respected. They are created by business codes of conduct, strategic planning systems, and operational directives provided to business managers. The analysis of risks to be avoided influence the design of divisional systems. Kaplan and Norton (2001) describe that, in addition to disseminating the organization's great purpose, managers must disclose acceptable and unacceptable behaviors and attitudes to carry out the mission.

As far as diagnostic control systems are concerned, for Simons (1995) they are formal feedback systems used to control organizational results and correct deviations from pre-set standards of achievement. Henri (2006) ensures that through the use of controls

It is possible to analyze the factors that allow the intended strategies to be achieved. Simons (1995) also emphasizes that one of the basic premises of diagnostic controls is that the outputs of the process are measured.

Interactive control systems are also formal systems regularly and personally involved in the decision-making activities of subordinates, points out Simons (1995). Any diagnostic control system can be made iterative by continuing frequent senior management attention and interest. According to the aforementioned author, the objective of making an interactive control system is to focus attention and force dialogue and learning in all

parts of the organization. Such systems act as catalysts for ongoing questioning and debate about the underlying data, assumptions, and plans that drive learning and improvement (KAPLAN; NORTON, 2001).

In view of the literature review on Simons's (1995) control levers model, it can be considered that in an organization, each control lever can be used in different ways, either specifically in the way of controlling its activities or in the balance of activities. dynamic stresses. It depends on how the organization manages its business to achieve its goals.

In Table 1, the characteristics of the formal strategic control categories used by the new managers in the strategy implementation process are presented.

Table 1 shows the proposal by Simons (1995) adapted by Damke, Silva and Walter (2011), the four control levers, as well as indicators for these control systems, which, however, need to be structured and operationalized.

Os Sistemas de Controle Gerencial (SCG), designados na literatura inglesa de *Managment Control Systems (MCS)* must obtain and use information, in order to help coordinate planning and organizational control decisions, with a view to improving collective decisions within the organization, state Horngren, Foster and Datar (2000). In the SCG it is considered that controls are characterized by their use in business management, contemplating performance measurement and the reward system for reaching pre-established levels (Otley, 1999).

RELATIONSHIP BETWEEN CONTROL AND PERFORMANCE MANAGEMENT END CONTROL SYSTEMS

Simons (1995, p. 28) states that "the four levers are balanced to manage the dynamic tensions between: (i) unlimited opportunities

Categories	Belief system	Limits system	Diagnostic System	Interactive System
Nature of the System	Set of shared beliefs that define core values, purposes and directions.	Formal statement of limits and rules that must be respected	Feedback system used to track organizational results and correct deviations from performance standards	Control systems that managers regularly use to involve subordinates in decision-making activities
Purpose	Provide dynamism and guidance for opportunity-seeking behaviors	Allowing individual creativity within certain limits of freedom	Provide motivation, resources and important information to ensure organizational strategies are achieved	Focus organizational attention on strategic uncertainties and, thus, trigger the emergence of new strategic initiatives
Key variables	Core values	Risks to be avoided	Critical performance variables	Strategic uncertainties
Examples	Vision and Mission Statements, Creeds and Purposes (general guidelines)	Clear rules, limits and prescriptions, about codes of conduct, strategic planning system and capital budget system	Results of plans and budgets, target and objective systems, monitoring systems and revenue surveillance systems	To ensure that the system is a important and recurring agenda to discuss with subordinates. Ensure the system focuses on the entire organization. Promote participation in face-to-face meetings with subordinates. Promote changes and ongoing debates, through assumptions and action plans.

Chart 1 - Categories of strategic control systems

Source: Adapted from Simons (1994) by Damke, Silva and Walter (2011).

and limited attention; (ii) defined and emerging strategy and; (iii) self-interest and need to contribute". Thus, the structure demonstrates the interdependence of control systems, which allows us to infer that the emphasis on a given system can be related to the remaining systems.

One of the important characteristics that strategic control systems must have, according to Gomes and Amat (2002), is the question of how these systems will adapt to the conditions of the environment and, as a consequence, to the company's strategy.

According to Kruis, Speklé and Widener (2016), several studies will be needed to provide a conclusive understanding of the balance of control levers.

Once the control levers are verified, it is necessary to emphasize the importance of linking this study, in relation to Higher Education Institutions (universities) and their business performance.

The educational system, especially the universities, dates back to long periods of evolution and consists of one of the pillars of the base of society. It is through institutions and education, mainly in relation to universities that young people will become professionals, from the most diverse areas of knowledge.

From an inside perspective, it is clear that education is essential for the development of society, through the production, transfer and application of knowledge (MEYER JUNIOR, 2014).

This art of transmitting knowledge is indelible and requires deep dedication and study in its organizational aspect. In other words, these educational institutions are agglutinators of the knowledge produced by humanity (SENFF and SCAGLIONE, 2013).

However, when commenting on the organizational aspect of educational institutions and, especially, faculties, it is not possible to compare it to any other company.

So much so, that many authors consider that universities are neither a company nor a government entity, but rather a sui generis organization (MEYER JUNIOR, 2014).

From this conception, it is necessary to study the new theories developed to try to understand and regulate educational institutions within their particular universe, in order to give an adequate treatment to their way of existing.

Thus, educational institutions, within the social role narrated, need to be studied, applying the Simons Control Levers, in their management, through the *Performance Management end Control,* given that management control systems are considered important because they allow organizations to monitor the execution of their practices (BROADBENT, GALLOP AND LAUGHLIN, 2010).

The same author states that significantly, management control systems work within organizations, but operate in the internal and external context of the organization, a situation that suggests an inherent connection, which can influence its design and implementation (BROADBENT, GALLOP AND LAUGHLIN, 2010).

The great challenge is the application of these control levers in educational institutions, considering that the universities must be seen as organizations that fit into a complexity, as if they were a big puzzle, with an infinite number of pieces, where each one has its proper place (AGOSTINHO, 2003).

As a result, by applying a variety of study methods, in the examination of practices and their rationality, the understanding of the numerous dimensions of organizational complexity and its implications for the practice of administration will be increased (MEYER JUNIOR, 2014).

Systems at Universities have been reformatted to reflect the same logic of greater

accountability, private sector management styles and a focus on performance measures. Universities, therefore, are also organizations that face management performance control and management challenges, related to the social/organizational nexus, as well as their own intra-organizational characteristics (BROADBENT, GALLOP AND LAUGHLIN, 2010).

The same author states that another aspect of the development of management control systems in the context of Universities, which has been highlighted, is the individualization of control. Key to performance management is the need to influence the behavior of individuals (BROADBENT, GALLOP AND LAUGHLIN, 2010).

Therefore, it is clear that management effectiveness has become the most important element in the new higher education (ROBERTSON, 1993).

METHODOLOGY

The research was built on the aegis of primary data obtained through a questionnaire for measuring strategic control, by Simons (1995) and proposed by Damke, Silva and Walter (2011), consisting of 36 questions and distributed among the four lever systems, with a *Likert* scale, from 1 to 7, being 1 for strongly disagree and 7 for strongly agree, these were applied to 34 managers, who occupy the positions of director and coordination of undergraduate courses, of three public and private institutions, located in the west of Paraná. Two universities are private and one Educational Institution is public.

For the development of this study, two steps were necessary: first, a bibliographic search in the databases was used.: *Scopus, Emerald and Web of Science,* on use of control levers by Simons (1995). Then, the questionnaire proposed by Damke, Silva and Walter (2011) was adapted for higher education institutions.

For data analysis, we used the software, *Statistical Package for the Social Sciences (SPSS)*, through descriptive statistics, making the mean, median and standard deviation of all data, then, to verify the normality or not of the data, the tests of *Kolmogorov-Smirnov*, and to identify the correlation between belief, limits, diagnostic and interactive systems, according to the Simons model (1995), the Correlation of *Spiermann*. In order to present a comparison between the universities under study with regard to the four levers proposed by Simons (1995), the cross-tabulation of information was applied.

RESULTS

After applying the data in the SPSS system, using descriptive statistics, as shown in Table 1, it appears that the total number of respondents was 34, in the three universities, and the average in each lever was 5, that is, managers, on average, across all universities, partially agree with statements in belief, boundary, diagnostic, and interactive systems.

In Table 2, the normality tests of *Kolmogorov-Smirnov Z*, that present results for a non-normal distribution, and, therefore, the use of non-parametric tests for the research is suggested.

To prove the issue of non-normality of the data, in the presentation of Table 2, there is a sig below 0.05, for the system of beliefs, limits and diagnosis.

Then, in Table 3, the non-parametric correlations were elaborated, to verify how much one system depends on the other, using the *Spiermann* correlation, indicated for non-normal distribution.

Thus, analyzing the results, it can be inferred that the belief systems of the three universities are more strongly correlated with the diagnostic and interactive systems, at 0.723 and 0.703, while the diagnostic system and the interactive system are positively

Data		M2Crenca	M2Limit	M2Diagnos	M2Inter
N	Valid	34	34	34	34
	Absent	0	0	0	0
Average		5,12	5,18	5,06	5,18
Median		6,00	6,00	6,00	5,50
Standard model		1,838	1,604	1,722	1,604
Variance		3,380	2,574	2,966	2,574
Asymmetry		-1,272	-1,007	-1,004	- 0,960
Standard Asymmetry Error		0,403	0,403	0,403	0,403
Kurtosis		0,418	0,291	0,035	0,334
Standard Kurtosis Error		0,788	0,788	0,788	0,788
Minimum		1	1	1	1
Maximum		7	7	7	7

Table 1 Descriptive Statistics

Source: the authors

Data		M2Crenca	M2Limit	M2Diagnos	M2Inter
Normal *Parameters*	Average	5,12	5,18	5,06	5,18
	Standard deviation	1,838	1,604	1,722	1,604
Most Extreme Differences	Absolute	0,331	0,255	0,296	0,221
	Positive	0,169	0,128	0,145	0,128
	Negative	- 0,331	- 0,255	- 0,296	- 0,221
Kolmogorov - Smirnov Z		1,933	1,487	1,725	1,288
Sig. Assint. (2 caudas)		0,001	0,024	0,005	0,072

Table 2 Normality Tests

Source: the authors

Systems	Data	M2Crença	M2Limit	M2Diagnos	M2Inter
M2Crenca	Coefficient correlations	1,000	0,560**	0,723**	0,703**
	Sig. (2 extremities)	.	0,001	0,000	0,000
M2Limit	Coefficient correlations	0,560**	1,000	0,654**	0,610**
	Sig. (2 extremities)	0,001	.	0,000	0,000
M2Diagnos	Coefficient correlations	0,723**	0,654**	1,000	0,795**
	Sig. (2 extremities)	0,000	0,000	.	0,000
M2Inter	Coefficient correlations	0,703**	0,610**	0,795**	1,000
	Sig. (2 extremities)	0,000	0,000	0,000	.

Table 3 Nonparametric Correlations

Source: the authors

UNIVERSITIES – A (private)	1	2	3	4	5	6	7	Total
Counting	0	0	0	0	1	9	2	12
% inside universities	0%	0%	0%	0%	8,3%	75%	16,7%	100%
% insideM2Crenca	0%	0%	0%	0%	25%	52,9%	40%	35,3%
Residues	-1,1	-,7	-,7	-,4	-,4	3,0	0,2	
UNIVERSITIES – B (private)	1	2	3	4	5	6	7	Total
Counting	0	0	0	0	2	5	3	10
% inside universities	0%	0%	0%	0%	20%	50%	30%	100%
% insideM2Crenca	0%	0%	0%	0%	50%	29,4%	60%	29,4%
Residues	-,9	-,6	-,6	-,3	,8	,0	1,5	
UNIVERSITIES –C (public)	1	2	3	4	5	6	7	Total
Counting	3	2	2	1	1	3	0	12
% inside universities	25%	16,7%	16,7%	8,3%	8,3%	25%	0%	100%
% insideM2Crenca	100%	100%	100%	100%	25%	17,6%	0%	35,3%
Residues	1,9	1,3	1,3	0,6	-0,4	-3,0	-1,8	
TOTAL	1	2	3	4	5	6	7	Total
Counting	3	2	2	1	4	17	5	34
% inside universities	8,8%	5,9%	5,9%	2,9%	11,8%	50%	14,7%	100%
% insideM2Crenca	100%	100%	100%	100%	100%	100%	100%	100%

Table 4 Crosstabulation in the Belief System – M2Crença

Source: the authors. In universities -B, 60% of managers consider that the belief system is very well used, agreeing with the statements and in universities - C, it is highlighted that around 65% of managers disagree about the efficient use of the beliefs.

correlated, at 0.795, that is, these positive and strong correlations, demonstrate that in these universities, these levers go together and in the same direction, in the sense of measuring the strategy.

In order to know the answers of each universities according to the systems, the cross tabulations were made, according to Table 4. Therefore, it can be seen that in the universities - A, 75% of the respondents agree with the related questions to the belief system, be put to good use.

When we approach the Boundary System, it is observed in Table 5, that in universities - A, there is a similarity of answers, partially agreeing and agreeing, in 33%, and 16%, with the statements.

At universities -B this percentage of agreement rises to 50% and at universities -C, Public University, from only 23%. These results demonstrate how each universities address issues related to the theme of limits, and especially how managers perceive it.

When we compare the diagnostic system between the universities, which is concerned with measuring the results, monitoring them, defining objectives, according to the universities strategies, we realize that in the universities -A, only 16% do not agree and 75% agree, in universities -B, there is a 100% agreement rate and in universities -C 68% of the answers were of disagree, partially disagree and totally disagree.

It is noticed that in Private Colleges there is greater agreement regarding the use of the diagnostic system, while in the Public University, the disagreement rate, on the part of managers, is higher.

In Table 7, we will demonstrate that, based on the answers, which provide an analysis of the involvement of employees in decision-making, in universities A, an index of around 17% of disagreements and 83% of agreements with how to use this system.

In universities -B, there were no disagreements, 100% of the managers, according to the interaction system used by universities -C, in universities -C, if we add the indexes from 1 to 4, the degree of those who disagree with the use of the interactive system arrives 50%, on the participation of employees in strategic decisions.

In other words, at universities -B, the degree of agreement is much higher than at other universities, while at universities -C and universities -A, 44% of managers partially agree with this interactive system.

In other words, it is clear that in these universities, half of the managers who participated in the survey point out problems regarding the participation of employees in the strategic decisions of the universities.

CONCLUSION

In order to investigate the structure and functioning of management control systems (SCG), proposed by Simons (1995) for performance evaluation in Higher Education Institutions, we can conclude that after the analysis, the Beliefs system is what there is a greater balance of agreement between the three universities, as most managers agree that the universities have a Mission and Vision disclosed to everyone and that these are clear and values are shared, in the search for guidance on behavior and achievement of the strategy.

When we compare the systems within the universities, we see a strong correlation between the interactive and diagnostic systems between the universities, demonstrating that there is a concern of universities managers regarding the need to have clear objectives and goals, individual performance evaluations, as well as, involve officials in decisions about universities ' strategies.

In the comparison between private and public universities, we noticed that in all

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UNIVERSITIES – A (private)	1	2	3	4	5	6	7	TOTAL
Counting	0	0	1	1	4	4	2	12
% inside universities	0%	0%	8,3%	8,3%	33,3%	33,3%	16,7%	100%
% insideM2Limit	0%	0%	33,3%	33,3%	66,7%	30,8%	33,3%	35,3%
Residues	- 0,4	- 0,7	- 0,1	- 0,1	1,9	- 0,6	- 0,1	
UNIVERSITIES – B (private)	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**TOTAL**
Counting	0	0	0	0	1	6	3	10
% inside universities	0%	0%	0%	0%	10%	60%	30%	100%
% insideM2Limit	0%	0%	0%	0%	16,7%	46,2%	50%	29,4%
Residues	- 0,3	- 0,6	- 0,9	- 0,9	- 0,8	2,2	1,2	
UNIVERSITIES – C (public)	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**TOTAL**
Counting	1	2	2	2	1	3	1	12
% inside universities	8,3%	16,7%	16,7%	16,7%	8,3%	25%	8,3%	100%
% insideM2Limit	100%	100%	66,7%	66,7%	16,7%	23,1%	16,7%	35,3%
Residues	0,6	1,3	0,9	0,9	-1,1	-1,6	-1,1	
TOTAL	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**TOTAL**
Counting	1	2	3	3	6	13	6	34
% inside universities	2,9%	5,9%	8,8%	8,8%	17,6%	38,2%	17,6%	100%
% insideM2Limit	100%	100%	100%	100%	100%	100%	100%	100%

Table 5 Cross Tabulation in the Boundary System - M2Limit

Source: the authors

UNIVERSITIES – A (private)	1	2	3	4	5	6	7	TOTAL
Counting	0	0	0	2	1	6	3	12
% inside universities	0%	0%	0%	16,7%	8,3%	50%	25%	100%
% insideM2Diagnos	0%	0%	0%	100%	25%	40%	60%	35,3%
Residues	- 0,7	- 0,4	- 1,8	1,3	- 0,4	0,7	1,2	
UNIVERSITIES – B (private)	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**TOTAL**
Counting	0	0	0	0	1	7	2	10
% inside universities	0%	0%	0%	0%	10%	70%	20%	100%
% insideM2Diagnos	0%	0%	0%	0%	25%	46,7%	40%	29,4%
Residues	- 0,6	- 0,3	-1,5	- 0,6	- 0,2	2,6	0,5	
UNIVERSITIES – C (public)	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**TOTAL**
Counting	2	1	5	0	2	2	0	12
% inside universities	16,7%	8,3%	41,7%	0,0%	16,7%	16,7%	0,0%	100,0%
% insideM2Diagnos	100,0%	100,0%	100,0%	0,0%	50,0%	13,3%	0,0%	35,3%
Residues	1,3	,6	3,2	-,7	,6	-3,3	-1,8	

TOTAL	1	2	3	4	5	6	7	TOTAL
Counting	2	1	5	2	4	15	5	34
% inside universities	5,9%	2,9%	14,7%	5,9%	11,8%	44,1%	14,7%	100%
% insideM2Diagnos	100%	100%	100%	100%	100%	100%	100%	100%

Table 6 Crosstabulation in the Diagnostic System

Source: the authors

UNIVERSITIES – A (private)	1	2	3	4	5	6	7	TOTAL
Counting	0	1	1	0	4	2	4	12
% inside universities	0%	8,3%	8,3%	0%	33,3%	16,7%	33,3%	100%
% inside M2Inter	0%	50%	33,3%	0%	44,4%	20%	57,1%	35,3%
Residues	- 0,4	0,3	- 0,1	- 0,7	0,8	-1,5	1,5	
UNIVERSITIES – B (private)	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**TOTAL**
Counting	0	0	0	0	1	6	3	10
% inside universities	0%	0%	0%	0%	10%	60%	30%	100%
% inside M2Inter	0%	0%	0%	0%	11,1%	60%	42,9%	29,4%
Residues	- 0,3	- 0,6	- 0,9	- 0,6	-1,6	3,1	0,9	
UNIVERSITIES – C (public)	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**TOTAL**
Counting	1	1	2	2	4	2	0	12
% inside universities	8,3%	8,3%	16,7%	16,7%	33,3%	16,7%	0%	100%
% inside M2Inter	100%	50%	66,7%	100%	44,4%	20%	0%	35,3%
Residues	0,6	0,3	0,9	1,3	0,8	-1,5	-2,5	
TOTAL	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**TOTAL**
Counting	1	2	3	2	9	10	7	34
% inside UNIVERSITIES	2,9%	5,9%	8,8%	5,9%	26,5%	29,4%	20,6%	100%
% inside M2Inter	100%	100%	100%	100%	100%	100%	100%	100%

Table 7 Cross Tabulation Interactive System

Source: the authors

systems, managers disagreed more on the proper use of the systems than in private ones, as verified in the diagnostic system of the public university, almost 70% of managers responded that they totally disagree, disagree or partially disagree, on the way universities monitors its results, discloses its objectives and goals, makes and executes its planning, evaluates and negotiates the goals with employees.

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