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Editorial

Dear readers and collaborators of REPeC,

The Journal of Accounting Education and Research (REPeC) is a quarterly online journal issued by the Brazilian Academy of Accountancy (Abracicon).

In this Volume 10, Issue 4, October-December 2016, the articles published address different areas of accounting. Below is a short description of each of the studies, coming from different Brazilian regions.

The first article in this issue, **"The Impact of the Cultural Dimensions on Accounting Practice in Brazil: a perspective based on the Accounting Operators' Perception"**, by *Bruno Jesus de Lima*, looked at the extent to which the cultural dimensions influence the accounting practice in Brazil.

Next, in the study by *Cícero José Oliveira Guerra* and *Aridelmo José Campanharo Teixeira, entitled* **"The Impacts of Adopting Active Methods in the Performance of Accounting Students at a Higher Education Institution in the State of Minas Gerais",** the goal was to verify whether the adoption of active methods in the Accounting Course at a private Higher Education Institution in the *Zona da Mata* region of Minas Gerais contributed to its students' performance, characterized in this study as the improvement in students' grades.

Under the title **"Determinants of Board Interlocking in the Brazilian Capital Market"**, the goal of the study by *Flávio Ribeiro*, *Romualdo Douglas Colauto* and *Ademir Clemente was to identify the main determinants of Board Interlocking in the Brazilian capital market*.

The fourth article, **"Influences of Economic Theories on Accounting Theory: the case of the Objective Function of the Firm"**, was written by *Lineker Costa Passos*, *Aline Nogueira Bezerra* and *Antonio Carlos Dias Coelho*. The study contributes to the accounting literature by clarifying the impacts of the two economic models on the objective function of the firm in the evolution of accounting theory, which have not been directly addressed in the discussion on the fundamentals of accounting theory.

Published in Portuguese and English. Original Version in Portuguese.

The fifth article in this issue is entitled **"Consistency of Higher Education Institutions' Strategies: A Study Based on the Stakeholders' Perception using the Balanced Scorecard"** and was written by *Alexsandra Barcelos Dias*, *Valquíria Aparecida dos Santos and Aziz Xavier Beiruth. Its goal was to verify the strategic consistency in the stakeholders' perception at private Higher Education Institutions through the Balanced Scorecard perspectives*.

In the final article by *Camila Pereira Boscov* and *Gabriel Ribeiro Vieira Rezende, entitled* **"Implementation Process of IFRS: a theoretical essay on the justifications related to resistance to organizational change under Lewin's theory", it was concluded that, among the three companies monitored in** *Boscov* (2013), only one company was able to fully implement the new standards without resistance.

Enjoy your reading!

Prof. Valcemiro Nossa, Ph.D.
Editor-in-Chief

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The Impact of the Cultural Dimensions on Accounting Practice in Brazil: a perspective based on the Accounting Operators' Perception

Abstract

The objective of this study was to verify to what extent the cultural dimensions impact the accounting practice in Brazil. To do so, with regard to the cultural dimensions, we used the adapted questionnaire Valued Survey Model 08 (VSM 08), which Hofstede constructed in 2008, and its Portuguese version. In order to capture accounting practices, we applied the questionnaire structured with direct questions to accounting operators, originally used by Chanchani and Willett (2004) and replicated by Almeida and Lisboa (2011) and Karabinar, Canel and Öktem (2012). The final sample consisted of 449 respondents from all over Brazil, divided into the following groups of operators: accounting users, accounting teachers, accounting professionals and accounting students. Considering that there is a diversified number of variables to capture cultural dimensions and accounting practices, we used Exploratory Factor Analysis (EFA). The factors were extracted through Principal Component Analysis and Varimax extraction. After the factor analysis, a multiple regression was performed with the extracted factors, in which the dependent variable corresponded to the accounting practices, and the independent variables were the cultural dimensions. The results indicate that the accounting operators are mainly conservative and the cultural dimensions that most impact the accounting practice are aversion to uncertainty and distance from power. It was concluded that it is not possible to infer that, at first, the adoption of international accounting standards leads to an improvement in the accounting process, since the countries where these standards were originally conceived (common law tradition) have a low aversion to uncertainty and distance from power, something contrary to the findings in this research.

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1. Introduction

The need for a consistent set of accounting standards at the international level is a constant, given that the flow of capital between countries with different legal, economic and market structures, among other aspects, has increased significantly in recent years. In addition to the capital flow, other factors motivate the race towards the standardization of accounting data, among which increasing the quality and transparency of the information generated. Despite this demand, internal and peculiar aspects of the countries should be considered in the process of convergence to international accounting practices, such as colonial heritage, legal system, source of financing, political system and culture, as they impact, in a different and significant way, the accounting practice (recognition, measurement and disclosure) of each country (Chanchai & Willett, 2004; Gray, 1988 and Nobes, 1998).

Studies have shown that cultural aspects affect the business environment of countries and that, therefore, they are determinant of the existence of differences in accounting practices among nations (Gray, 1988; Chanchani and MacGregor 1999; Weffort 2005; Karabinar, Canel & Öktem, 2012; Rodriguez, 2009). Therefore, it is also important to consider that cultural factors are decisive in the adoption of the International Financial Reporting Standards (IFRS) issued by IASB (International Accounting Standard Boards).

As for the effect of culture on the business environment, Hofstede (1980) proposed four dimensions of culture that most impact business and thus positioned the countries that presented them to a greater or lesser extent. Using this research, Gray (1988) incorporated them into what he called "accounting values", capable of reflecting the accounting practice of each country. In this sense, such values (or accounting practices, an expression that will be used hereafter) were divided into four perspectives, namely: professionalism, uniformity, conservatism and secrecy. In addition, Gray (1988) formulated related hypotheses for verification and positioned the countries in which these practices were more or less predominant.

Considering that the dynamics of Accounting is reflected by the influence it receives and exerts in the social and cultural environment it operates in, Hopwood and Miller (1994) have underlined, in recent years, that culture is a standard element to understand the standards and values of the social system. In addition, this accounting dynamics can be a construct used to explain and predict the behavior of individuals in a given social environment (Harrison & McKinnon, 1986). Therefore, understanding how the Brazilian accounting operators (here understood as teachers, professionals, students and users of accounting) realize this is a constant. In this sense, we raise the following research problem: **To what extent do cultural dimensions influence accounting practices in Brazil?**

The general objective of this research is to verify the impact of the cultural dimensions proposed by Hofstede (1980) on the accounting practices listed by Gray (1988), according to the accounting operators in Brazil. In addition, the following specific objectives are proposed: (i) to identify how Brazilian accounting operators reflect the cultural dimensions proposed by Hofstede (1980); (Ii) to identify how accountants in Brazil reflect the accounting practices proposed by Gray (1988); and (iii) to verify the impact of such cultural dimensions on the accounting practices that reflect their practice in Brazil.

In addition to other aspects, this study is justified by three main points, namely: (i) by contributing to the expansion of the discussions about the origins of the differences between countries' accounting practices and which are, at bottom, obstacles to the full adoption of IFRS; (Ii) by comparing whether the accounting practices adopted in Brazil are in line with the cultural profile of the countries that gave rise to IFRS - a profile characterized in general principles and not in procedural rules, because they are aimed at the investor; (Iii) to broaden the empirical verification of the hypotheses proposed by Gray (1988) and Hofstede (1980) regarding the classification of countries based on their cultural dimensions.

This research, in addition to this introduction, is composed of four other parts. In the next section, the theoretical basis and hypotheses are presented; the third part is composed of the methodological procedures; in the fourth, the research findings are analyzed and, finally, in the fifth part, the final considerations are listed.

2. Theoretical Background

2.1 Cultural aspects in accounting practice: the studies by Hofstede (1980)

In anthropological terms, according to Chaui (2008), culture corresponds to a set of signs and meanings built within a society and with which the individuals inserted in this medium establish relations among themselves. This set covers language, religion, sexuality, instruments and forms of work, forms of housing, clothing and cooking, leisure, music, dance, social relation systems, particularly systems of kinship or structured family, power relations, war and peace, the notion of life and death.

Based on this perception, it is verified that this concept of culture is in line with Hofstede's (1980), who defines it as "a collective programming of the mind, capable of distinguishing one human group from another". Thus, it is perceived that culture is an inherent attribute of each social group, capable of promoting coexistence and, at the same time, distinguishing one among other groups.

In a pioneering and comprehensive study, Hofstede (1980) conducted a research to detect how the culture of a given country is impacting the business environment. To do so, he conducted a survey of employees from International Business Machines (IBM) between 1967 and 1973, in over 50 countries. Based on the research findings, Hofstede constructed four dimensions underlying the culture that most influence business and, thus, positioned the countries that presented them to a greater or lesser extent. The dimensions are: (i) Distance from Power (DP); (Ii) Individualism vs. Collectivism (CI); (Iii) Masculinity x Femininity (MF); and (iv) Aversion to Uncertainty (AU).

- **(i) Distance from Power (DP):** expresses the extent to which the less powerful members of a society accept inequality. The key question here is how society deals with inequalities between people. This dimension varies from high to low. Countries with low DP show that there is no difference in the power and wealth of the citizen. Thus, in these societies, access to the authorities is more open to all, and, as far as Accounting is concerned, the Accounting operators are allowed to issue their own rules. In addition, social mobility in these societies is more permeable. On the other hand, countries with high DP indicate that individuals have accepted the marked existence of inequalities of power and wealth. These societies are more inclined to follow a less flexible social class system, which does not permit expressive mobility of its citizens. In addition, they demonstrate the centralization of power in the hands of a small privileged group. With regard to Accounting, a high Power Distance means that the Accounting operators do not construct their own standards. Instead, they grant this attribution to an entity with the capacity to construct these standards.
- **(ii) Individualism x Collectivism (IC):** according to Hofstede (1980), in individualistic societies, individual interest prevails, and people grow up thinking about their own good. In these societies, the bonds of help and fellowship between individuals are not mandatory, so they tend to have greater freedom to issue judgment. Collectivism refers to a preference for a strongly united structure in society where people can expect their relatives or members of a particular group to care for them in return for unquestionable loyalty. In this sense, the capacity for judgment is not that exercised. Like the Power Distance, it can range from low to high. Societies with a low CI score indicate that they have a larger natural community, with close ties between individuals. This culture reinforces families and collectivism. All have responsibility for the members of their group. On the other hand, societies with a high CI index indicate that individualities and individual rights are relevant within a society. Accounting professionals in individualistic societies have greater power and value for judgment, while in collectivist societies, they do not.

(iii) **Masculinity x Femininity (MF)**: this dimension refers to a preference in society for achievement, heroism, assertiveness, competitiveness and the material reward for success. In masculine societies, these values are sharper while, in feminine societies, they are not. In addition, male societies emphasize financial and personal achievement, ambition for performance, and an attempt to excel beyond the most marked competition among economic agents. The roles, in this type of society, are strictly different between men and women. Female societies have a preference for cooperation, modesty, care for the most fragile and quality of life.

(iv) **Aversion to Uncertainty (AU):** expresses the extent to which the members of a society are uncomfortable with uncertainty and ambiguity. The key question here is how society deals with the fact that the future cannot be known: should we try to control the future or just let this happen? Countries that have a high AU index maintain rigid codes of belief and behavior and are intolerant of unorthodox behavior and ideas. This is evidenced in accounting practice, for example, in countries whose regulation of the accounting practice is very accentuated in procedural rules emanating from an entity with powers to do so. Societies with a low AU index maintain a more flexible attitude to accounting regulations and tend to evidence higher levels of information.

What Brazil is concerned, according to Figure 01, the country is classified as low on Individualism and Masculinity – thus indicating high degrees of Collectivity and Femininity – but with a high Distance from Power and Aversion to Uncertainty.

Individualism	Distance from Power	Aversion to Uncertainty	Masculinity
Index	Index	Index	Index
38	69	76	49
Low	High	High	Low

Figure 01. Cultural dimension scores in Brazil

Source: Hofstede (1980).

Although Hofstede's theoretical construct (1980) is widely used as a theoretical platform for cultural studies, some research has criticized it. Baskerville (2003), for example, points out some aspects that were not taken into account, namely: (i) Hofstede's theory (1980) is not anchored in theoretical bases from Sociology and Anthropology; (ii) in spite of being much cited by the Citation Index in Social Sciences, mainly in Administration and Psychology, the opposite occurs in Sociology and Anthropology, in which higher citation indices were expected; (iii) the studies were developed between the second half of the 60's and the beginning of the 70's, and this work was published in the 80's, that is, the time lag can compromise its conclusions, taking into account the dynamic cultural change of societies.

It should be noted that Hofstede (1980) inserted two other cultural dimensions, as well as indulgence and long-term orientation. However, the studies of Gray (1988) do not make reference to them and, therefore, will not be studied here.

2.2 Accounting practice according to Gray (1988)

Departing from Hofstede's theoretical proposal (1980), Gray (1988) built four theoretical constructs and four hypotheses that could explain and predict the differences among countries' accounting practices according to their cultural dimensions. He argues that the accounting operators' accounting systems are related to the culture. The accounting practices, in turn, being a subsystem of each country's culture, affect how the accounting operators execute accounting. Gray's theoretical constructs (1988) and hypotheses are presented below:

(i) **Professionalism x State Control:** this construct refers to the preference for the exercise of individual judgments of the profession and the maintenance of professional self-regulation. The key issue here is to see to what extent accounting operators are independent to self-regulate as professionals and to make judgments. With regard to the concatenation with Hofstede's cultural dimensions (1980), it is verified that professionalism is more strongly related to individualism. This is justified by the fact that there is a preference for independent professional judgment. On the other hand, it appears that this construct has a weak relation to the aversion to uncertainty, since the practice is very important, as well as a belief in fair play, in which a variety of professional judgments tends to be more easily tolerated (Gray, 1988) - there is also a weak relationship between professionalism and the distance from power because, in this construct, there is a concern with equal rights for all, in which people of the various levels of power feel less threatened and more prepared to trust others and where there is a greater conviction of the need to justify the imposition of laws and regulations. To the extent that a country is classified as more professional, it is assumed that accounting professionals will have greater freedom and autonomy to make judgments about the economic phenomenon that can be registered by accounting. On the other hand, in countries with greater state control, the accounting professionals would be less independent. Although Gray (1988) found no connection with masculinity, he raised the following hypothesis:

H_1: *The higher a country's ranking in terms of individualism and the lower in terms of aversion to uncertainty and distance from power, the more probable the country's ranking in terms of professionalism.*

(ii) **Uniformity x Flexibility:** refers to the existence of a uniformity of accounting practices companies perform over time. Gray (1988) cautions that the preference for uniformity is consistent in a society with strong aversion to uncertainty, indicating a society concerned with law, order, and rigid and written codes of behavior. In addition, there is a relationship, but not very strong, with the distance from power since the imposition of laws and codes is uniform and emanated from a group holding political power. As in professionalism, Gray (1988) found no connection with masculinity and this accounting value. With regard to accounting practice, more uniform countries would tend to operate accounting more closely than what the accounting policy recommends, to the detriment of the economic essence, whose characteristic is more evident in countries with rules based on general principles and where the accounting practice is more regulated by its own professionals. Thus, Gray (1988) proposes the following hypothesis:

H_2: *The higher a country's ranking in terms of aversion to uncertainty and distance from power and the lower in terms of individualism, the greater the country's trend towards having uniform rules.*

(iii) **Conservatism x Optimism:** this construct relates to the preference of a cautious and prudent approach to accounting phenomena in order to cope with the uncertainty of future events, as opposed to a more optimistic view, related to risk taking in the form of a less cautious approach. Gray (1988) explains that the link between conservatism and the dimensions proposed by Hofstede (1980) is more strongly related to the aversion to uncertainty. The preference for more conservative measures to profit is consistent with the strong aversion to uncertainty, which follows a concern with safety and prudence and a perceived need to take cautious measures to contain future uncertainties. Thus, Gray (1988) raises the following hypothesis:

H_3: *The higher a country's ranking in terms of aversion to and the lower in terms of individualism and masculinity, the greater the country's trend towards conservatism.*

(iv) Secrecy x Transparency: concerns the preference for confidentiality and restriction of disclosure of business information only to those who finance the company. Secrecy is the value that is related to the quantity of accounting disclosures. Thus, with increased secrecy, the quantity of disclosure to the public tends to drop. Gray (1988) states that secrecy is consistent with a preference for collectivism because of the greater involvement with the company rather than with external parties. Moreover, the intimate connection in societies with a high power distance is also undeniable, since this dimension is characterized by the restriction of information to preserve inequalities of power. Thus, he raises the following hypothesis:

H_4: *The higher a country's ranking in terms of aversion to uncertainty and distance from power and the lower in terms of individualism and masculinity, the greater the country's trend towards secrecy.*

Figure 2 summarizes the concatenation between Gray's accounting values (1988) and Hofstede's cultural dimensions (1980), in which the positive sign ("+") indicates a direct relation and the negative sign ("-") the opposite, while the question mark ("?") indicates an unidentified relation.

Cultural Dimensions (Hofstede)	Accounting Values (Gray)			
	Professionalism	Uniformity	Conservatism	Secrecy
Distance from Power	-	+	?	+
Aversion to Uncertainty	-	+	+	+
Individualism	+	-	-	-
Masculinity	?	?	-	-

Figure 2. relation between Hofstede's cultural dimensions (1980) and Gray's accounting practices (1988)

Source: Baydoun and Willet (1995) - with adaptations.

2.3 Background studies on Gray's theoretical proposal (1988)

According to Chanchani and MacGregor (1999), studies related to the impact of culture on accounting practice can be divided between "pre-Gray" and "post-Gray". In that period, there were no empirical studies that sought to verify the impact of the culture of the countries in the accounting practices, being that, at that time, anthropological and more theoretical studies were predominant. On the other hand, in this period, empirical studies on the impact of culture in Accounting started.

The following studies from the post-Gray period stand out: Eddie (1990) classified the countries according to their accounting practices adopted through indices and related them with their cultural dimensions; Chanchani and Willett (2004), aimed at empirically operationalizing the theories of Gray (1988), conducted a survey of accountants and users of accounting information in New Zealand and India. The research findings showed that professionalism and uniformity are the constructs that were most evident among those investigated, followed by secrecy. Ding, Jeanjean and Stolowy (2005), in order to detect how a country's accounting practices may differ from international financial reporting standards (IFRS), showed that cultural aspects, rather than legal aspects, are decisive for the existence of differences among accounting practices. Karabinar, Canel and Öktem (2012) showed, through an investigation of Turkish accountants, that the most outstanding accounting values were, respectively, professionalism, uniformity and secrecy.

Although the findings of these investigations meet the theoretical proposition of Gray (1988), some studies, however, have found evidence to the contrary. Tsakumis (2007), in order to show the existence of significant differences between US and Greek accountants regarding conservatism and secrecy, showed that there were no significant differences; Almeida and Lisboa (2011) conducted an investigation to verify the cultural values of Gray (1988) among the accounting operators in Portugal, showing that, although state control is the most latent accounting value among them, conservatism and secrecy are disproportionate to what the theory advocates.

2.4 Hypotheses

Brazil is a country with high rates of distance from power and aversion to uncertainty and a low rate for masculinity and individualism (Hofstede, 1980). Thus, based on the theoretical proposals by Gray (1988), Brazilian accounting operators are expected to present the following accounting practices: high level of conservatism, secrecy (low disclosure) and low level of professionalism, authority and encouragement. Hence, the following hypotheses are raised:

A) Hypotheses related to professionalism x state control

H_{A1} = The Brazilian accounting operators tend to grant the power to regulate the accounting profession to the state power.
H_{A2} = The Brazilian accounting operators tend to be less independent in the judgment of accounting practices.

B) Hypothesis related to uniformity x flexibility

H_{B1} = The Brazilian accounting operators tend to be more uniform in the accounting practices.

C) Hypothesis related to conservatism x optimism

H_{C1} = The Brazilian accounting operators tend to be more conservative in the accounting practices.

D) Hypothesis related to secrecy x transparency:

H_{D1} = The Brazilian accounting operators tend to be more conservative in the accounting practices.

3. Methodological Procedures

The research universe consisted of all accounting operators with available data (including e-mail). The instrument was made available virtually through the Google Docs tool, and invitations to participate in the survey were sent via email. In addition to the replication of the questionnaire to registered e-mails, the snowball technique was adopted. It consists of asking the respondents to send the data collection instrument to their peers in order to contribute to the research (Collins & Hussey, 2005). This technique, however, has the limitation of selecting the sample for convenience and being non-probabilistic.

A questionnaire structured with direct questions was applied to the accounting operators, originally used by Chanchani and Willett (2004) and replicated by Almeida and Lisboa (2011) and Karabinar, Canel and Öktem (2012) to capture the accountants' values. To capture the cultural dimension, we used the Valued Survey Model (VSM) 08, built by Hofstede (2008), and its Portuguese version.

As the instrument for capturing accounting values was written in English, it had to be translated and culturally adapted to Brazilian Portuguese. To do so, the following steps were performed: (i) the questionnaire was initially translated into Portuguese; (Ii) to verify if there was any semantic loss in the translation process, the translated version was delivered to three professors holding a Ph.D. in Accounting; and (iii) after the adjustments they suggested, a single questionnaire was created. After this step and the necessary adjustments, we reached the final questionnaire used in this investigation, followed by a five-point Likert scale. For each statement, the respondent indicated a single answer that would correspond to his/her level of agreement, ranging from 1 (totally agree) to 5 (totally disagree).

Accounting practices	Questions
Conservatism [CON]	The accounting profession should be self-regulated.
	Accountants are the best evaluators of the entity's financial position and performance.
	Accountants are the best evaluators on what to disseminate in the financial statements.
	Accountants should maintain a high standard of ethical conduct.
Secrecy [SEC]	Financial statements should be available to the general audience, and not only to the stockholders and managers.
	Only a minimal quantity of detailed information should be included in the financial statements.
	Information on the management and the stockholders should not be included in the financial statements.
	The managers' predictions should be included in the financial statements.
Professionalism [PROF]	Depreciation rules should be defined by regulators external to the entities, specifically for distinct groups of assets.
	The financial statements of all companies should have the same standardized structure.
	Once defined, the accounting policies should not be changed.
	In case of inflation, the inventory valuation method LIFO should be used instead of FIFO.
Uniformity [UNI]	In equally valid measuring situations, assets and revenues should be undervalued.
	The market value is generally less relevant than the historical cost.
	Overall, the market value should be used instead of the historical cost.
	The level of details of the financial statement rules should be enhanced.

Figure 3. questionnaire used to capture the accounting practices

Source: Chanchani and Willett (2004) – with adaptations.

Concerning the cultural dimension, the adapted Valued Survey Model 08 (VSM 08) was used, built by Hofstede (2008), and its Portuguese version. The adaptation was necessary as, originally, the VSM 08 is intended to capture other constructs – such as pragmatism and indulgence – not analyzed in this investigation. For each assertion, followed by a five-point Likert scale, the respondent marked a single answer, according to the situation presented. The questionnaire used to capture the cultural dimensions is displayed in Figure 4:

Cultural Dimensions	Questions
Distance from Power [DIP]	Having a head (direct superior) you respect.
	Being consulted by your direct superior on the decisions involving your work.
	In your professional experience, how frequently are subordinates afraid of contradicting the head?
	It is important to avoid, at all cost, an organizational structure in which some subordinates have two heads.
Masculinity [MAS]	Being acknowledge for good performance.
	Having pleasant people to work with.
	Living in a desired area.
	Having chances of promotion.
Individualism [IND]	Having sufficient time for your personal or family life.
	Having employment security.
	Doing an interesting job.
	Having a job respected by your family and friends.
Aversion of Uncertainty [UNA]	How frequently do you feel nervous or tense in your job?
	Overall, how would you describe your current health condition?
	You can be a good manager without having an exact answer to all questions a subordinate may ask concerning his job.
	The rules of a company or organization should not be disrespected, not even when the employee thinks that doing so would benefit the company or organization.

Figure 4. questionnaire used to capture the cultural dimensions

Source: Hofstede (2008)– with adaptations.

Still in relation to the instrument, it is important to highlight that it consists of three main sections. The first sought to capture cultural dimensions; the second, accounting values; and the last section captured information about the respondent's profile, with four questions. The information on the profile involved self-inclusion in the accounting operator category (the respondent indicated whether he preferred to be a student, teacher, professional, or accounting user), education, age in full years, and gender.

Considering that there is a diversified number of variables to capture the cultural dimensions and the accounting values from the accounting operators, we used Exploratory Factor Analysis (AFE). The factors were extracted through Principal Component Analysis and Varimax extraction. In Figure 5, the acceptability conditions for the factorial analysis are presented.

Phase	Technique	Rule for validation
1. Dimensionality	Principal Components	Existence of only one eigenvalue
	Kaiser-Meyer-Olkin (KMO) index	KMO > 0.50: acceptable
	Bartlett's sphericity	Low level of significance

Figure 5. Acceptability conditions for factor analysis.

Source: Hair, Black, Babin, Anderson and Tatham (2009)

After the factor analysis, a multiple regression was developed with the extracted factors, in which the constructs representing the accounting practices served as the dependent variable, and the constructs representing the cultural dimensions as the independent variables. The econometric model used in this research is presented below, based on the theory.

Professionalism = f (Individualism; Aversion to Uncertainty; Distance from Power)
Uniformity = f (Individualism; Aversion to Uncertainty; Distance from Power)
Conservatism = f (Individualism; Aversion to Uncertainty; Masculinity)
Secrecy = f (Individualism; Aversion to Uncertainty; Masculinity, Distance from Power)

Below, a figure is displayed with the expected signs for the regression coefficients according to the theory, considering Brazil.

Cultural Dimensions (Hofstede)	**Accounting Practices (Gray)**			
	Professionalism	Uniformity	Conservatism	Secrecy
Distance from Power	+	+	?	+
Aversion to Uncertainty	+	+	+	+
Individualism	-	-	-	-
Masculinity	?	?	-	-

Figure 06. Relation between Hofstede's cultural dimensions (1980) and Gray's Accounting Practices (1988) considering Brazil

Source: Baydoun and Willet (1995) – with adaptations.

4. Analysis and Discussion of Results

The final sample consisted of 449 respondents from all over Brazil. Data were collected between October 2013 and June 2014 and the characteristics are displayed in Table 1.

Table 01:
Statistics of respondents

Education Level	**Gender**		**Total**	
	Female	Male	Absolute	%
Ph.D.	1	7	8	1.78%
Finished undergraduate	50	93	143	31.85%
Unfinished undergraduate	31	41	72	16.04%
Master's	15	32	47	10.47%
Unfinished master's	0	1	1	0.22%
Post-graduate (specialization, MBA)	77	96	173	38.53%
Accounting Technician	2	3	5	1.11%
TOTAL	**176**	**273**	**449**	**100.00%**
Category of Operators	**Gender**		**Total**	
	Female	Male	Absolute	%
Accounting student	31	37	68	15.14%
Accounting teacher	13	39	52	11.58%
Accounting professional	122	188	310	69.04%
Accounting user	10	9	19	4.23%
TOTAL	**176**	**273**	**449**	**100%**

Source: elaborated based on research data.

A principal component analysis was conducted based on the 32 instrument items with orthogonal (Varimax) rotation for each cultural dimension and accounting practice. According to Hair *et al.* (2009), a single factor is expected for each construct. Next, the results of the EFA adequacy are displayed.

Table 02:
Adequacy of factor analysis for accounting values and cultural dimensions

Factors	Tests to verify the applicability of Exploratory Factor Analysis		
	Dimensionality		
	Principal Components	KMO	Bartlett
DIP	Only one eigenvalue was found	0.50	0.00
MASC		0.61	0.00
IND		0.65	0.00
UNA		0.50	0.00
CON		0.59	0.00
SEC		0.52	0.00
PROF		0.56	0.00
UNIF		0.50	0.00

Source: elaborated based on the research data.

According to the data in Table 2, for each factor, only one factor was extracted. As for the KMO statistics, all factors presented coefficients equal or superior to 0.50, thus indicating its acceptability. What Bartlett's sphericity test is concerned, at a 95% confidence level, all factors are significant.

Table 3: presents the descriptive statistics of the factors

Table 3:
Descriptive statistics of the factors

Statistics	FACTORS							
	DIP	MASC	IND	UNA	CON	SEC	PROF	UNIF
Mean	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Median	0.15	0.13	0.27	0.03	0.12	0.09	0.02	-0.03
Variance	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Minimum	-5.14	-3.77	-4.23	-3.14	-5.13	-1.69	-2.65	-2.44
Maximum	1.26	1.06	0.93	2.38	1.20	2.82	2.42	2.64

Source: elaborated based on the research data.

According to the data in Table 3, all factors correspond to 0 and 1 for the mean and standard deviation, respectively, indicating that these variables are normally distributed.

Table 4:

End result for the model Professionalism = f (Individualism; Aversion to Uncertainty; Distance from Power)

Coefficients	**Value**		**t**	**Sig.**	**Collinearity Statistics**
					VIF
(Constant)	-0.08		−0.18	0.85	NA
DIP	0.16		3.01	0.00 ***	1.31
UNA	0.10		2.34	0.01 **	1.00
IND	0.04		0.84	0.39	1.31
Summary Model					
Adjusted R squared (%)	Durbin-Watson	Variance analysis - ANOVA			
4%	1.92	F	7.80	Sig.	0.000

** Significant at a 95% confidence level
***Significant at a 99% confidence level

Source: research data.

Table 4 presents the final results of the statistics for professionalism as a dependent variable and the distance from power, aversion to uncertainty and individualism as independent variables, estimated using the GRETL software by means of the OLS method. Considering that the econometric modeling through traditional OLS presented problems of heteroscedasticity, we adopted the econometric modeling using Ordinary Least Squares (OLS) with corrected heteroscedasticity. To detect the existence of autocorrelation between the residues, the Durbin-Watson test was applied. According to Field (2009), the values for this statistic close to 2 correspond to the non existence of autocorrelation between the residues. The multicollinearity test was performed using the Variance Inflation Factor (VIF) test, and it was verified that the model is within an acceptable multicollinearity.

The variable IND did not present statistical significance and, in addition, its sign does not comply with the theoretical excerpt raised for the Brazilian accounting operators, that is, they do not prefer an independent professional judgment, thus evidencing a certain mismatch of Gray's (1988) proposition with reality, as evidenced by Tsakumis (2007) and Almeida and Lisboa (2011). However, although not statistically significant, the sign of this construct evidences some preference for an independent professional judgment among the Brazilian accounting operators interviewed. To a certain extent, this is relevant because an independent judgment is more in line with international accounting practices to which Brazilian accounting has adapted based on Law 11.638 / 2007. In this sense, the data point to a certain trend towards independence among the accounting operators with respect to the operation of accounting, thus allowing for a freer judgment about the economic phenomenon observed in an entity. Therefore, we cannot accept Hypothesis H_{A1}.

On the other hand, the DIP and UNA factors present statistical significance and the signs of their coefficients are in agreement with the theory presented here for accounting operators in Brazil. In this sense, there is a strong relationship between professionalism and distance from power, which indicates a lack of concern for equal rights for all. As a result, people from the various levels of power feel more threatened and less prepared to trust others, demonstrating greater conviction of the need to justify the imposition of laws and regulations. With regard to Accounting, this indicates that, to some extent, the accounting operators interviewed prefer to give the state power the competence to regulate the accounting profession. This idea is more evident when the UNA construct is realized, by which one perceives a strong relation with the professionalism, indicating a disbelief in the fair game, in which a range of professional judgments does not tend to be easily tolerated (Gray, 1988). Therefore, the hypothesis H_{A2} cannot be rejected.

Table 5:
End result for the model Uniformity = f (Individualism; Aversion to Uncertainty; Distance from Power)

Coefficients	**Value**		**t**	**Sig.**	**Collinearity Statistics**
					VIF
(Constant)	0.00		−0.18	1.00	NA
DIP	0.06		3.01	0.23	1.31
UNA	0.03		2.34	0.45	1.00
IND	0.08		0.84	0.13	1.31
Summary Model					
Adjusted R squared (%)	Durbin-Watson	Variance Analysis - ANOVA			
1%	1.84	F	2.53	Sig.	0.05

Source: Research data

Table 5 presents the final results of the statistics for uniformity as a dependent variable and the distance from power, aversion to uncertainty and individualism as independent variables estimated using the GRETL software by the OLS method. To detect the existence of autocorrelation between the residues, the Durbin-Watson test was applied. According to Field (2009), the values for this statistic close to 2 correspond to the non existence of autocorrelation between the residues. The multicollinearity test was performed using the Variance Inflation Factor (VIF) test, and it was verified that the model is within an acceptable multicollinearity.

Although not significant, the positive sign of the UNA construct demonstrates a certain trend of accounting operators towards aversion to uncertainty, which indicates an accounting practice concerned with law, order, and strict and written codes of behavior and evidence, thus a trend towards uniform accounting practices, which limits to a certain extent, a better reporting of the economic phenomenon that can be registered, measured and evidenced by accounting. Moreover, this is in line with international accounting practices, whose main characteristic is the registration of the economic phenomenon according to its essence, and not according to its formal aspects. This fact becomes more evident when the positive relation between power distance and uniformity is verified, since the imposition of laws and codes is uniform and emanates from a group holding political power, thus evidencing the non-significant participation of the operators of accounting regulation. Finally, it is worth commenting on the relation between individualism and uniformity. In contrast to the other constructs, which showed positive signs, in line with what was expected for Brazilian accounting operators, this showed a positive sign, indicating some preference for an independent professional judgment by the Brazilian accounting operators in terms of uniform accounting practices, although not statistically significant. Therefore, the hypothesis H_{B1} cannot be fully accepted.

Table 6:
End result for the model Conservatism = f (Individualism; Aversion to Uncertainty; Masculinity)

Coefficients	Value		t	Sig.	Collinearity Statistics
					VIF
(Constant)	0.00		0.00	1.00	NA
DIP	0.03		0.79	0.42	1.00
UNA	0.20		3.28	0.00***	1.95
MAS	0.11		1.76	0.00*	1.96
Summary Model					
Adjusted R squared (%)	Durbin-Watson	Variance Analysis - ANOVA			
1%	1.84	F	2.84	Sig.	0.03

Source: research data.

Table 6 presents the final results of the statistics for conservatism as a dependent variable and the distance from power, uncertainty aversion and masculinity,as independent variables, estimated using GRETL software by means of the OLS method. To detect the existence of autocorrelation between the residues, the Durbin-Watson test was applied. According to Field (2009), the values for this statistic close to 2 correspond to the non existence of autocorrelation between the residues. The multicollinearity test was performed using the Variance Inflation Factor (VIF) test, and it was verified that the model is within an acceptable multicollinearity.

Gray (1988) explains that the link between conservatism and the dimensions proposed by Hofstede (1980) are more strongly related to the aversion to uncertainty and less intensely to the distance from power and masculinity, since societies with high levels of this characteristic tend to be more cautious and prudent regarding the accounting process and, according to Table 06, this association is perfectly evidenced both in terms of signs and statistical significance. Therefore, it is clear that the accounting traders interviewed give preference to more conservative measures when profits are obtained, following a concern with safety and prudence and a perceived need to take precautionary measures to contain future uncertainties. Thus, the hypothesis H_{C1} is accepted.

On the other hand, negative signs were expected for the coefficients of the DIP and MAS factors in view of the Brazilian cultural scenario proposed by Hofstede (1980). Low-power societies show more optimistic (and therefore less conservative) citizens compared to those with a high power distance. Thus, for the interviewees, a positive association was expectedetween the distance from power and conservatism, something that is verified, although not statistically significant. In addition, male societies emphasize financial and personal achievement, ambition for performance, and an attempt to excel at the collective, thus indicating a certain trend to individuality. Regarding its relation to conservatism, an inverse relationship is expected, which is not evidenced in the findings of this investigation though.

Table 7:
End result for the model Secrecy = f (Individualism; Aversion to Uncertainty; Masculinity; Distance from Power)

Coefficients	Value		t	Sig.	Collinearity Statistics
					VIF
(Constant)	0.00		0.00	1.00	NA
UNA	0.03		0.63	0.52	1.01
DIP	0.05		0.89	0.37	2.06
MAS	0.05		0.76	0.44	2.08
IND	-0.11		-1.63	0.10	1.39
Summary Model					
Adjusted R squared (%)	**Durbin-Watson**	**Variance Analysis - ANOVA**			
4%	1.83	F	2.84	Sig.	0.45

Source: Research data

Table 7 presents the final results of the statistics for secrecy as a dependent variable and distance from power, aversion to uncertainty and masculinity and individualism as independent variables, estimated using the software GRETL and the OLS method. To detect the existence of autocorrelation between the residues, the Durbin-Watson test was applied. According to Field (2009), the values for this statistic, close to 2, correspond to the non-existence of autocorrelation between the residues. The Multicollinearity test was performed using the Variance Inflation Factor (VIF) test, and it was verified that the model is within an acceptable multicollinearity.

It is verified that none of the factors presented statistical significance, although the constructs "aversion to uncertainty" and "distance from power" presented coefficients with positive signs, and, in this sense, is in agreement with the theoretical excerpt proposed here for Brazil, somehow indicating a preference for the secrecy of the information offered.

Gray (1988) affirms that secrecy is consistent with a preference for collectivism, due to the greater involvement with the company rather than external stakeholders. Moreover, the intimate connection in societies with a high power distance is also undeniable, since this dimension is characterized by the restriction of information to preserve inequalities of power. Therefore, the H_{D1} hypothesis can be accepted, even if partially.

Next, Figure 7 displays the main conclusions on the hypotheses raised:

Hypotheses	Result
H_{A1} = The Brazilian accounting operators tend to grant the power to regulate the accounting profession to the state power.	Partially Accepted
H_{A2} = The Brazilian accounting operators tend to be less independent in their judgment of accounting practices.	Not Accepted
H_{B1} = The Brazilian accounting operators tend to be more uniform in the accounting practices.	Partially Accepted
H_{C1} = The Brazilian accounting operators tend to be more conservative in the accounting practices.	Accepted
H_{D1} = The Brazilian accounting operators tend to be more secretive in the accounting practices.	Partially Accepted

Figure 7. Result of hypotheses tests

Source: research data.

5. Conclusion

The objective of this study was to verify to what extent cultural dimensions impact accounting practices in Brazil. The results indicate that the accounting operators interviewed are mainly conservative, and the cultural values that most impact the accounting practice are "aversion to uncertainty" and "distance from power".

It should be noted that the study presented here did not take into account the specifications of Accounting, which may be somewhat rigid (such as public sector accounting) or more flexible (such as management accounting). However, depending on the performance and the manner in which each accounting specification is handled, this may change. In addition, despite being a survey that included accounting operators from all over Brazil, the data should be considered in the context of the respondents.

Based on the obtained data, it is noticed that, at first, there is no congruence between the values recommended in the international accounting standards and what the agents responsible for its execution perceive, since it provides an improvement in the accounting process, in which these standards were originally conceived (legal tradition of common law), and present a low aversion to uncertainty and distance from power, going against what was found in this investigation, although there are other aspects of these countries that are congruent in the research findings, such as independence of judgment. Thus, this research contributes to the discussion about how other factors - in addition to the legal and regulatory system - influence the accounting process in emerging countries and in the legal code law tradition, whose main characteristic is financial reporting that privileges the stock market less, but which is strongly focused on meeting the normative aspects, thus providing a lesser reflection of the economic reality in a satisfactory way.

As limiting factors of research and recommendations for future research, we have: (i) we observe that the findings of this research, in some aspects, diverge from the theory pointed out, thus suggesting new research with a larger number of participants and using other statistical techniques, such as confirmatory factorial analysis; (Ii) although widely used in cultural research, Hofstede's (1980) construct, as previously pointed out, is open to criticism. Therefore, it is recommended to use other instruments to capture the cultural dimensions, such as the Globe, which contemplates nine factors to capture the cultural dimension; and (iii) the translation into the Brazilian language and the cultural adaptation of the instrument to capture accounting practices, although reviewed by three PhDs in Accounting, may have been the object of semantic loss. In this sense, other scales should be used to capture the accounting practices, or a specific Brazilian scale should be constructed. This also applies to the instrument for capturing cultural dimensions.

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The Impacts of Adopting Active Methods in the Performance of Accounting Students at a Higher Education Institution in the State of Minas Gerais

Abstract
The scientific community has discussed a reformulation in education in order to meet new goals in the learning processes. It is a challenge for universities to modify their social role by adding new teaching methods in their undergraduate programs to fit into this current context. The motivation of this study is to verify if the adoption of active teaching methods in the Accounting course at a private Higher Education Institution located in the region of the Zona da Mata, State of Minas Gerais, contributed to the performance of its students. In this research, performance is characterized at the improvement in students' grades. The active methods, in response to this educational reformulation, are concerned with preparing a critical student, capable of acting in the contemporary market, subject to constant changes. The study period covers the years between 2011 and 2014. We sought to answer the following question: Is there an impact on the performance of accounting students after the implementation of active methods at the HEI investigated? To test the proposed hypothesis, we used Student's T test and regression methods. The analyzed data were collected from documents provided by the institution's employees. The results show that there is evidence that the use of active methods in the accounting course contributed to the students' performance in the period studied.

Key words: Active methods. Accounting course. Student performance.

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1. Introduction

The need for an educational reformulation in the areas of higher education has been discussed internationally with the purpose of defining new objectives for the teaching-learning system, and this discussion has been expanding scientific research on the subject (Lapina & Slaidins, 2014). The challenge of 21st century educational institutions is to meet new social needs (Miter, Siqueira-Batista, Girardi-de--Mendonça, Morais-Pinto, Meirelles, Pinto-Porto, Moreira & Hoffmann 2008).

For Mitre et. al. (2008), these needs are due to the environment we are currently living in: constant changes, new and advanced technologies and perception of a world with dynamic relationships. Thus, the university should rebuild its role in order to provide broad knowledge and social development (Mitre et. al., 2008; Goñi Zabala, 2006).

Thus, in the academy, publications on new teaching-learning approaches are increasing to meet this new scenario, highlighting the active methods in Brazil. Studies carried out with the use of active methods in Accounting courses, involving some disciplines such as Introductory Accounting I, have been showing advantages in such methods, such as improved communication, teamwork and teacher satisfaction (Soares, Araújo & Leal, 2008; Heagy & Lehmann, 2005)

Nevertheless, there is a need for more studies on this topic in the literature, involving more disciplines and more than one active teaching-learning method (Stanley & Marsden, 2012). For Stanley and Marsden (2012), Accounting courses need to reinforce skills future professionals need to obtain, but that seem to be forgotten.

Agreements with universities, also in Brazil, have been established to contribute to the reinforcement and innovation of higher education in the 21st century, as promoted by the Laspau - affiliated with Harvard University in the United States, with Science, Technology, Humanity, Engineering and Mathematics (STHEM Brazil) (Sthem, 2015). It is highlighted that Accounting courses deserve attention for the following reasons: their expansion in recent decades; the changes in Brazilian Accounting resulting from the adoption of international standards; (Mamede, Marques & Rogers, 2015), and the low levels of performance on national exams performed by the students (Mamede, Marques & Rogers, 2015)

Therefore, the following research question was raised: **What is the impact on the performance of Accounting students after the implementation of active methods in HEI?** In this context, the objective of this study is to verify how the adoption of these active methods has contributed to the performance of the Accounting students.

In this study, the Accounting course of a Private Higher Education Institution (HEI), located in the Zona da Mata region of Minas Gerais, has adopted active methods in its teaching programs, in addition to being a member of STHEM (Sthem, 2015). It is expected that the active methods will impact the Accounting students' performance, as they seek to enable them to make decisions and have control over the tasks that need to be performed (Mitre et al., 2008).

As to the structure of this work, we present, in this first chapter, the introductory discussion of the research, the research problem, the motivation to carry out the study and its objective. Chapter two presents the contribution of the literature necessary for the development of this research. The subthemes are: Active Teaching Methods; Higher Education and the Accounting course. Chapter three contextualizes how the process of adopting the active methods in the HEI studied took place and the agreements the HEI signed for the implementation of this new teaching-learning method.

Chapter four constructs the hypothesis of this research. The fifth considers the methodological aspects of the study to obtain the previously proposed objective, as well as data collection, data analysis variables and techniques. Chapter six deals with the analysis of the results, and chapter seven with the conclusions and final considerations of the research.

2. Theoretical Framework

2.1 Active Teaching Methods

The active teaching-learning methods are a process that includes the students actively in the environment related to their profession while still in their training, stimulating them to seek answers to various problems, and this permits putting in practice their ability to investigate and reflect already at the undergraduate level, besides proposing means that make them produce new studies (Mitre et. al., 2008).

By means of real situations or not, the students are able to solve the challenges arising from the social environment in different contexts through the problems they are confronted with (Berbel, 2011). Active learning occurs when the student engages in activities that lead him to think about what he is doing, being concerned with solving problems and developing projects, whether reading, writing, asking and discussing (Bonwell & Eison, 1991; Silberman, 1996).

For these active teaching methods to be applied in undergraduate courses, there are some structural (academic and administrative) challenges, as well as in the beliefs of teachers and students (Wall, Prado & Carraro, 2008). The individuals need to strive to think, reason, observe, reflect independently on what path will be used to provoke active learning (Barbosa & Moura, 2014).

There are teachers who support the idea that students are already actively participating in classes simply because they are involved in attending an expository class. Meyers and Jones (1993), however, state that students need to do much more than just listen to the mentor to learn effectively. They also complement Nihalani and Saha (2012), who argue that it is important for the learner to actively understand what is being done in tasks in order to better secure knowledge, stating that the disposition contributes to understanding and learning.

In the view of Barbosa and Moura (2014), the difference between a traditional teaching environment and an active learning environment is precisely the active attitude of thinking in contrast to the passive attitude, which is associated with traditional teaching methods. Nevertheless, the training of teachers with new learning methods does not happen through regulatory decrees and does not bring expected results if the vision only addresses the training curriculum (Barbosa & Moura, 2014).

It is necessary to involve students, who will be able to build knowledge in groups and solve past problems (Gwee, 2009). In Freire's (1996) view, regarding active methods, new knowledge and experiences provide the construction of knowledge that determines the capacity to learn, and also to overcome challenges and solve problems. Engagement and active participation are necessary to maximize the effectiveness of the teaching-learning process (Souza, 2000).

When using the active method, the teacher acts as a facilitator so that, working together with the student, the two obtain results (Madruga et al., 1996; Cyrilo & Toralles-Pereira, 2004, cited by Silva Souza, Iglesias, & Pazin-Filho, 2014, Mitre et al., 2008). It is noted that the person responsible for the activity is the teacher but, in the active learning method, he adapts to learning at the students' level, seeking results with them (Silva Souza, Iglesias, & Pazin-Filho, 2014).

2.2 Studies on Active Methods

A study conducted by Berbel (2011) discussed the promotion of student autonomy promoted by the active methods with the purpose of promoting the discussion between pedagogy and these methods, to present the convergent points between these areas to educators and trainers. Their findings made it possible to conclude that only the method itself is not capable of transforming education, even if it is the most promising.

In the accounting area, in the application of active methods in an Introductory Accounting I discipline, research has shown that there is no method capable of solving all teaching-learning problems, nor one that guarantees placement in the professional market (Soares et al. , 2008). However, Soares et. al. (2008) highlighted advantages resulting from the application, such as increased responsibility; stimulus for problem solving and for reading; skills to work as a team; and communicate.

Work has already been carried out in relation to the Accounting curriculum, using traditional methods of evaluation and others using Problem Based Learning (PBL), which presented more positive results and led to higher class satisfaction (Heagy & Lehmann, 2005).

For Stanley and Marsden (2012), the relevant ability to question seems forgotten in Accounting, fundamental to it, as it is to the Legal and Medical Sciences. The authors' proposal was to raise a discussion about a possible change in the education environment of the Accounting course at QUT University, where the importance of an active method to solve accounting problems was questioned. Only those students enrolled in a unit of the Accounting course were surveyed by means of a questionnaire. One of the methods applied was the clustering of students to reinforce that they should work as a team to solve problems in Accounting. These methods are unstructured and can be compared in practice (Stanley & Marsden, 2012).

Soares (2008) emphasizes that the subject is new to the accounting area, which favors new studies that can use different disciplines, or the entire semester of research for a greater number of students in Accounting. It was concluded that the objective of the study was reached and that, in the topic explored, the students absorbed knowledge, improved communication and gained confidence (Soares, 2008). Further research is needed in the field of Accounting, since the subject matter is still new in this area, with the use of more data, with a greater number of disciplines or a larger number of students to expand the discussion (Stanley & Marsden, 2012; Soares, 2008).

2.3 Construction of Research Hypothesis

Bonwell and Eison (1991) emphasize that the learning process needs to be carried out by placing the student as an active element in an engaged way, understanding that every cycle of activities will be better utilized when this individual is involved in the task rather than simply absorbing knowledge passively.

Regarding accounting education, for undergraduate studies, Stanley and Marsden (2012) argue that new active teaching methods seem to be forgotten in Accounting, and that, as well as for the Legal and Medical Sciences, it is fundamental to have new research for its findings on the active methods applied in accounting to contribute to Accounting Science.

According to Soares (2008), there is no method capable of solving all problems related to teaching-learning, nor one that guarantees placement in the professional market, but these methods can bring satisfactory results to those involved. In accordance with Lapina and Slaidins (2014), active methods proposed by pedagogical innovation, and participation competences and skills are essential in this process of educational innovation that is currently discussed.

Hence, we expect that the active teaching-learning method exert positive influence on the Accounting students' performance at the HEI studied. Therefore, the following hypotheses will be tested:

- H_0: No impact on the Accounting students' performance after the implementation of active methods at the investigated HEI.

-H_1: Impact on the Accounting students' performance after the implementation of active methods at the investigated HEI.

3. Research Method

3.1 Data Collection

To achieve the research objectives, the institutional documents of the Accounting students at the investigated HEI were used. Data like the end result, attendance, programs and timetable are filed biannually, at the end of an activity cycle. The accounting course at the investigated HEI works on an annual base. In total, students can gain 100 points per year. To pass, an average grade of at least 60% is required.

To measure the students' performance, Student's t-test and regression analyses will be used. First, the students' grade will serve as the dependent variable in the analyses. Then, the same tests are applied using the students' percentage absence.

3.2 Analysis Technique: Student's T test

A test of difference of means (Student's T test) will be applied to verify whether the adoption of the active teaching methods influences the Accounting students' performance. In the test, the grades of the students who received the traditional teaching method are compared with the grades of the students who received the active teaching methods. For the test of means, only those subjects that became active in the Accounting course between 2012 and 2014 were considered.

The students' grades when they received the active methods in the classroom were classified as treatment, while students who only received traditional classes served as controls. The T test is used when two conditions exist and one wants to know if the difference of means is significant for a sample with a smaller number of observations (Dancey & Reidy, 2006).

3.3 Analysis Technique: Regression Model

To verify if the active methods influenced the Accounting students' performance, the linear regression model was used, considering the students' grades in the years analyzed as the dependent variables. The equation was structured as follows:

$$\begin{gathered}\boldsymbol{Grade_i} = \boldsymbol{\beta_0} + \boldsymbol{\beta_1}\, \textit{ofActive Discipline} + \boldsymbol{\beta_2}\, \textit{DTime(Before and After)} + \boldsymbol{\beta_3}\textit{DFail}+ \\ \boldsymbol{\beta_4}\, \textit{DTime (Before and After).DofActive Discipline} + \boldsymbol{\beta_5}\, \textit{DTime (Before and After).DFail}+ \\ \boldsymbol{\beta_6}\textit{Dof Active Discipline.} \\ \textit{DFail} + \boldsymbol{\beta_7}\, \textit{Dof Active Discipline.DFail.DTime (Before and After)} + \boldsymbol{\beta_8}\, \textit{Dgender} + \boldsymbol{\beta_9}\, \textit{Dfies}+ \\ \boldsymbol{\beta_{10}}\, \textit{Dmunigrant} + \boldsymbol{\beta_{11}}\, \textit{Dprouni} + \boldsymbol{\beta_{12}}\, \textit{Dnogrant} + \boldsymbol{\beta_{13}}\, \textit{Dteacherdegree} + \boldsymbol{\beta_{14}}\textit{\%absence} + \boldsymbol{\beta_{15}}\textit{\%age}+ \\ \boldsymbol{\beta_{16}}\, \textit{teacherexp} + \boldsymbol{\varepsilon_i}\end{gathered}$$

Where:

Grade: Dependent variable.

D of *Active Discipline*: Binary explanatory variable, assuming a group of disciplines, equal to 1 if the discipline became active in the course; 0 if not.

DTime (Before and After): Binary explanatory variable equal to:

1 if time > or equal to 2012; 0 if not – For the model 2012

1 if time > or equal to 2013; 0 if not – For the model 2013

1 if time > or equal to 2014; 0 if not – For the model 2014

DFail: Binary variable equal to 1 if the student failed; and 0 if not.

Dgender: Binary explanatory variable equal to 1 if the student is female and 0 if not.

Dfies: Binary explanatory variable equal to 1 if the student got a student loan and 0 if not.
Dmunigrant: Binary explanatory variable equal to 1 if the student is a municipal grantee and 0 if not.
Dprouni: Binary explanatory variable equal to 1 if the student is a PROUNI grantee and 0 if not.
Dnogrant: Binary explanatory variable equal to 1 if the student gets no grants and 0 if not.
Dteacherdegree: Binary explanatory variable equal to 1 if the student holds M.Sc. or Ph.D.; and 0 if undergraduate or postgraduate.
%Absence: Percentage variable of students' absence from classes during the period under analysis.
Age: Explanatory variable of students' age in years.
Teacherexp: Variable indicating teachers' experience in years.

4. Results

4.1 Context of the Adoption Process of the Active Methods at the investigated HEI

The investigated HEI is a member of STHEM Brazil, which is committed to promoting innovative and quality higher education in Brazil (Sthem, 2015), which is an agreement with the Academic and Professional Program for the Americas (Laspau), dedicated to the mission of strengthening higher education In the Western Hemisphere. It is a nonprofit affiliate of Harvard University, founded in 1964 (Sthem, 2015).

The adoption of the active methods at the HEI occurred, according to information collected by the researcher, due to the perception that new approaches on learning are arising and by the reports of other faculties that were successful in adopting this method. Therefore, as from the year 2012, the techniques of these active teaching-learning methods have been gradually used in all undergraduate courses of the institution.

The HEI uses, to date, seven techniques (all used in the Accounting course): Case-Based Method, Team-Based Learning (TBL), PBL, Peer-Instruction, Simulated Jury, Project Methods, Audiovisual Teaching. For the Accounting course, until the year of the research, about 60% of the disciplines receive the method. Traditional classes usually take place, and the teacher can determine whether to use part of the active lesson or the whole class period, depending on the activity to be taught. Therefore, the active methods are complementary to the lectures (traditional classes + active classes).

4.2 Sample Characteristics

To assess whether the active method influenced the Accounting students' performance at the HEI, variables were surveyed that characterized these individuals. The results are demonstrated below.

Table 1:
Descriptive Statistics for Students

		Year								Total	
		2011		2012		2013		2014			
		N	%	N	%	n	%	N	%	n	%
Gender	Female	93	60%	80	62%	87	59%	108	63%	368	61%
	Male	63	40%	49	38%	60	41%	63	37%	235	39%
Age range	19 I-- 24 years	37	24%	57	44%	83	57%	106	62%	283	47%
	24 I-- 29 years	65	42%	49	38%	44	30%	46	27%	204	34%
	29 I-- 34 years	34	22%	17	13%	11	8%	14	8%	76	13%
	34 I-- 39 years	13	8%	5	4%	8	5%	4	2%	30	5%
	Over 39 years	7	5%	1	1%	1	1%	1	1%	10	2%
Primary Education	Private	4	3%	4	3%	6	4%	7	4%	21	3%
	Public	152	97%	125	97%	141	96%	164	96%	582	97%
Grant	Municipal grant	16	10%	15	12%	11	8%	17	10%	59	10%
	Fies	22	14%	35	27%	47	32%	37	22%	141	23%
	Prouni	19	12%	17	13%	22	15%	27	16%	85	14%
	No grant	69	44%	40	31%	47	32%	65	38%	221	37%
	Other benefits	30	19%	22	17%	20	14%	25	15%	97	16%
Total		156	100%	129	100%	147	100%	171	100%	603	100%

Source: elaborated by the authors.

The samples contain a total of 603 students distributed between active and non-active years. When we analyze the variable "Gender", we perceive that the female gender corresponds to 61% of the total, while the male gender corresponds to 39% of the total, analyzing all the years studied. Regarding the age groups, on average, approximately 80% of the samples are composed of students aged 19 to 29 years old, and the other 20% from 29 to over 39 years.

Adoption by the Fies (student loan program) adds up to an average percentage of 23%, and the year 2013 had the highest percentage - 33% of the students joined the funding in that year (a total of 47 students). In Prouni, in the grand total, it presented 14% of student adoption, and 2014 showed the highest percentage - 16% (a total of 27 students).

The variable "Other Benefits" includes business agreements and other grants, such as kinship; Internal programs and Olympiads, in which the student has a discount percentage agreed upon with the institution. In the years analyzed, we can see that these benefits represent, on average, 16% of the total scholarships and financing analyzed.

The year 2014 had the highest number of discounts granted, comprising 25 Accounting students. It is verified that the students enrolled in the HEI came from a public school. This audience is more representative than the private school entrants, who constitute only 3% of the general total of students. In a total of 603 students, only 21 graduated from high school in the private school system. Table 2 below shows the statistics that described the characteristics of the HEI teachers in this period.

Table 2:
Descriptive Statistics for Teachers

Year	Teacher Degree	N	Experience in years (Mean)
2011	Undergraduate	5	8.20
	Post-Graduate	2	3.00
	Master's	11	8.55
	Total	18	6.00
2012	Undergraduate	2	24.00
	Post-Graduate	5	4.00
	Master's	10	8.20
	Ph.D.	1	8.00
	Total	18	3.00
2013	Undergraduate	2	11.00
	Post-Graduate	5	9.00
	Master's	12	7.56
	Ph.D.	1	8.13
	Undergraduate	20	5.00
2014	Undergraduate	2	6.00
	Post-Graduate	8	6.25
	Master's	11	7.95
	Ph.D.	1	11.00
	Undergraduate	22	6.00
Total		**42**	**7,95**

Source: elaborated by the authors.

When dealing with the characteristics of the teaching staff, the teacher's degree, the number of teachers for that year, and the average experience time in years they possess in the educational environment were identified.

In 2011, out of a total of 18 professors, more than 60% obtained the master's degree with the highest average number of years of experience in relation to the others of the same year. In the year 2012, although the master's degree again stood out (10 professors), the average experience in years was highlighted with only baccalaureate professors - two students, with twenty-four years of experience. In that year, a professional holding a Ph.D. was part of the teaching staff at the institution. In 2013, then, two more teachers were hired with a master's degree, increasing from ten to twelve. The number of graduates with an average teaching experience was maintained at 11%; Post-graduate at 9.00%; Master's and Ph.D. degrees at 7.56% and 8.13%, respectively. In 2014, the number of post-graduates rose from five in the previous year to eight, however, the experience of post-graduate teachers fell from 9.00% to 6.25%. In that year, although the number of teachers dropped (compared to the previous year), the teaching experience in years of this profile increased. The professional holding a Ph.D. was maintained, increasing his teaching experience.

4.3 On the Results of the Test of Means

Table 3 presents the means and standard deviation of the students' grades between 2011 and 2014, based on the survey of the grades registered for the disciplines that became active at the HEI.

Table 3:
Mean, Standard Deviation and T-Statistics – Grade Variables

		Group						F test variance	T test for average
		Control (before Active Method)			Treatment (after Active Method)				
Year	Discipline	N (grade)	Mean	SD	N (grade)	Mean	SD	p-value	p-value
2012	Organizational Behavior	30	64.55	21.21	102	66.87	13.70	0.044	0.478
	Management Accounting	24	74.56	8.53	60	62.72	17.11	0.134	0.002***
	Controllership	46	70.66	12.62	77	65.10	7.82	0.226	0.003***
	Philosophy and Ethics	25	71.78	7.77	87	70.20	14.19	0.318	0.595
	Accounting Laboratory	46	93.63	5.92	77	77.94	16.85	0.000	0.000***
	Mathematics	40	74.40	11.48	129	74.27	15.34	0.120	0.962
	Research Method	40	67.72	22.13	121	65.02	18.21	0.197	0.444
	Total 2012	**856**	**67.99**	**17.55**	**199**	**69.47**	**15.55**	**0.168**	**0.275**
2013	Accounting for Agriculture	67	72.85	13.14	58	79.86	14.03	0.998	0.005***
	Economics	70	66.23	19.49	89	72.26	12.75	0.111	0.020*
	Basic Statistics	71	63.75	23.14	96	67.49	19.10	0.163	0.255
	Social and Labor Legislation	50	70.82	6.75	59	73.58	9.46	0.045	0.088*
	Accounting Systems	55	75.79	17.12	63	65.62	12.88	0.012	0.000***
	Accounting Theory	50	66.90	13.02	60	64.60	12.80	0.987	0.354
	Contemporary Topics in Accounting	67	69.65	11.16	56	66.77	12.92	0.795	0.187
	Advanced Accounting	97	65.29	18.31	38	58.86	18.07	0.704	0.067*
	Total 2013	**745**	**68.54**	**17.48**	**435**	**70.70**	**14.09**	**0.004**	**0.028****
2014	Statistics and Actuarial Accounts	97	70.26	18.58	42	72.55	13.72	0.338	0.473
	Public and Private Law Institutions	94	75.50	14.17	37	80.73	8.81	0.326	0.039*
	Business Administration Theory	121	63.00	17.14	52	62.29	21.27	0.420	0.815
	Organizational Sociology	97	74.44	15.66	38	80.45	10.74	0.176	0.032**
	Introductory Accounting I	123	73.17	24.80	52	66.66	19.18	0.113	0.092*
	Introductory Accounting II	112	61.39	24.24	50	57.68	18.99	0.294	0.339
	Commercial and Financial Law	95	68.23	16.02	37	72.24	10.67	0.662	0.162
	Cost Accounting	96	62.21	22.95	36	78.22	9.38	0.014	0.000***
	Total 2014	**458**	**68.07**	**16.30**	**882**	**68.72**	**17.06**	**0.314**	**0.502**

*, **, *** significant at 10%, 5% and 1%, respectively.

Source: elaborated by the authors.

Through the results, it can be identified in a general analysis that only those disciplines that received the active methods in the year 2013 presented a significant difference of means, at the level of 5%, in the comparison of their treatment and control averages. When observing per individual discipline, we noticed that, of the 23 active subjects, we obtained twelve significant results at 1, 5 or 10% of significance. However, of these results, six subjects presented average results of lower grades when the classes were taught using active teaching methods, four of these at 1% of significance.

In this way, it is understood that students' grades, when submitted to the disciplines with active teaching methods, dropped when compared to students in traditional methods. The disciplines that had lower grades result when administered with the active methods were: Management Accounting, Controllership, Accounting Laboratory, Accounting Systems, Advanced Accounting and Introductory Accounting I.

Of the disciplines that obtained better results with the active methods, only two directly involve Accounting: Agribusiness Accounting and Cost Accounting, both significant at 1%. The others, which produced better results when applying the active methods, at the level of 5 to 10%, were: Economics, Social and Labor Legislation, Public and Private Law Institutions and Organizational Sociology.

Despite presenting these results, the regression model was constructed to understand the behavior of students' grades when they received the active methods, and when not, during the time period studied with the inclusion of control variables.

4.4 Regression Analyses

To develop the regression model, variables were used that, as presented in the course of this chapter, can influence the performance of the students who participate in classes using active teaching-learning methods.

The premises that validate the regression models were satisfactory: in the general adjustment using F statistics (p-value), test of independence (Durbin Watson) and normality of the residues.

4.4.1 Analysis for 2012 till 2014

Through the results presented in Table 04, we noticed that, during the years of the research, students' scores, regardless of the association with active methods, were already falling, indicating a drop in students' performance before the implementation of active methods in the disciplines. This statement can be validated by observing the Dummy "Time" in the years of the survey. It is evident that, as from the years studied, the students' scores dropped regardless of the method applied.

Analyzing the 2012 regression model separately, we saw based on the Dummy results of "Active Discipline" that, when the disciplines received the active methods, student scores increased and that, as from 2013 and 2014, performance dropped. However, when we associate the disciplines that received the active methods over time, related by means of the Dummy "Time" * Dummy "Active Discipline", it turns out that, as from 2012, when the disciplines were taught with the new methods, the Students' scores dropped more than when they were taught only traditionally. Based on this result, we can assume that, as of that year, the disciplines with active methods reduced the performance of Accounting students even further, with the greatest drop in performance after its adoption among all years.

As from the following year, concerning the results of the model for 2013, we saw that, when the time was associated with the active disciplines, students' scores were not statistically significant. Nevertheless, in a general analysis, as from that year, we observed that for the Dummy variable "Active Discipline" and the Dummy "Time", the students' scores decreased again. However, we can assume, based on the figures obtained, that, starting in 2013, the disciplines that received the methods that are active as a function of time are on the same level as those that did not receive the traditional methods, that is, for that year, the students' performance with the active methods, may not have worsened in the disciplines, but it did not improve either.

Specifically for the students who failed, we saw that, as from 2013, regardless of the method applied, the students who failed received better grades, even though they did not pass the subjects. However, when they received the active teaching methods, the average grade dropped in the same proportion, according to the Dummy interaction of "Active Discipline" * Dummy "Fail" * and Dummy "Time", based on which we reaffirm that, for this model, the active methods did not improve the performance of the students, and the drop was equivalent to that of the performance without the active methods.

For the 2014 model, when the disciplines taught with the active methods were associated with the Dummy "Time", we noticed an increase in the performance of accounting students. However, regardless of the time, when the subjects were actively taught, as presented by the Dummy "Active Discipline", performance dropped. Also, through the Dummy interaction of "Active Discipline" * Dummy "Fail" * and Dummy "Time", we identified a drop in the performance of the failed students who received the active methods as of that year.

For the 2014 model, we can show that the application of active methods in the classrooms did not lead to improvements in students' performance. Comparing the figures of this model with those of 2013, we saw that the students' scores, even those who failed, who received the active teaching methods, remained constant, and that the scores verified by the traditional disciplined continued to fall.

Although performance has not improved in the past year, it has not worsened with the use of the methods. As a result, we evidence that, in the course of the process, the active methods have gained maturity in their applicability, and that, for this reason, in 2014, the general scenario has improved.

Based on the findings by Cornachione Junior, Cunha, De Luca and Ott (2010), which identified that most Accounting students consider their own effort as one of the causes of a successful performance, the researcher again performed a linear regression test, now considering the variable % of absences (control variable that contributed to the above results).

Table 4:
Multiple Regression Results

Regression Model – Dependent Variable Grade			
	2012	2013	2014
	B/p-value	B/p-value	B/p-value
Constant	75.092***	74.322***	74.063***
Dummy Active Discipline	1.872*	-0.852*	-1.460***
Dummy Time (Before and after)	-2.031***	-1.552***	-42.436***
Dummy Fail	-48.731***	-42.755***	-42.436***
Dummy Time (Before and after)*Dummy Active Discipline	-2.872***	0.305	2.160***
Dummy Time (Before and after) *Dummy Fail	11.134***	3.599***	2.774**
Dummy Active Discipline *Dummy Fail	3.348	3.599*	7.632***
Dummy Active Discipline *Dummy Fail * Dummy Time (Before and after)	-4.474	-5.746**	-7.336***
Dummy Gender	0.560*	0.525*	0.589*
Dummy Fies	0.092*	-1.711***	-1.801***
Dummy Municipal Grant	-0.091	-0.191	-0.101
Dummy Prouni	6.100	6.026***	5.942***
Dummy no grant	-0.511	-0.440	-0.474
Dummy Teacher Degree	-1.210***	-1.583***	-1.627***
% Absence	-0.349***	-0.362***	-0.367***
Age	0.092***	0.109***	0.117***
Teaching Experience	-1.060***	-1.450***	0.650

*, **, *** significant at 10%, 5% and 1% respectively.

Source: Elaborated by the authors.

The goal is to discover the students' behavior using the active teaching methods as well by means of the variation in the percentage of absences, as their attendance in class can be considered of interest when active teaching methods are applied. Hence, we use the above regression model, in which the dependent variable is now "% Absence", while "Grade" turns into a control variable.

4.5 Analyses for 2012 till 2014 % Absence as Dependent Variable

When we assume the variable "% Absence" as the dependent variable in the model, we were able to capture the following effects: as from the year 2012, through the interaction Dummy Time * and Dummy Active Discipline, we realize that, by receiving the disciplines with the active methods, the students' absences dropped compared to the students who received only traditional classes. Also, when we associate the Dummy Variables of Active Discipline *, Dummy Disapproval * and Dummy Time, which present the failed students who received the disciplines with active methods as from the year 2012, we identify that their absences also fell, that is, when they participated in the classes with active methods, we can assume that, as from 2012, the number of students in the classroom increased, even though they failed due to their grade.

With the interaction Dummy Time * and Dummy Active Discipline, we saw that the of students' percentage (%) absences also decreased, implying that when they received the active methodologies from that year, the average percentage of students' absences also decreased . The Dummy Interaction of Active Discipline *, Dummy Disapproval * and Dummy 2013 demonstrated that the absences of failed students who received active teaching methods as from the year 2013 also dropped.

Regardless of the time, in the 2014 model, we saw, through the Active Dummy, that the students who received the active methods reduced the percentage absence in those classes. With the interaction Dummy Time * and Dummy Active Discipline, we realized that, when students received the subjects with active teaching methods, as from 2014, their absences decreased compared to students who did not receive these subjects. In the 2014 model, we also saw that, regardless of the year, through the interaction Dummy Active Discipline * and Dummy Fail, the failed students and those who received the active methods increased the percentage absence in class but, when we associated the variable time, through the Interaction between the Dummy Active Discipline *, Dummy Disapproval * and Dummy Time, we again witnessed that, even when they failed, the percentage absence of these students dropped when they received subjects with active methods.

Table 5:
Multiple Regression Results

Regression Model – Dependent Variable %Absence			
	2012	2013	2014
	B/p-value	B/p-value	B/p-value
Constant	14.651***	15.082***	15.924***
Dummy Active Discipline	0.650	0.101	-0.427*
Dummy Time (Before and after)	0.579**	0.382	-0.479*
Dummy Fail	8.318***	6.031***	4.947***
Dummy Time (Before and after)*Dummy Active Discipline	-1.655***	-1.343***	-1.114**
Dummy Time (Before and after) *Dummy Fail	-2.427***	0.827	4.540***
Dummy Active Discipline *Dummy Fail	1.209	1.691	-1.755**
Dummy Active Discipline *Dummy Fail * Dummy Time (Before and after)	-6.596***	-9.763***	-9.775***
Dummy Gender	-0.736***	-0.737***	-0.768***
Dummy Fies	-0.589*	-0.601*	-0.779**
Dummy Municipal Grant	-0.586	-0.579	-0.492
Dummy Prouni	0.615*	0.661*	0.664*
Dummy no grant	-0.846***	-0.837***	-0.831***
Dummy Teacher Degree	-2.289***	-2.349***	-2.425***
% Absence	-0.141***	-0.144***	-0.146***
Age	0.125***	0.124***	0.114***
Teaching Experience	-0.530***	-0.86***	-0.410***

*, **, *** significant at 10%, 5% and 1%, respectively.

Source: elaborated by the authors.

Figures 1 and 2 illustrate the behavior of the students' grades and percentage absence in the accounting course before and after the adoption of the active teaching methods, as described earlier.

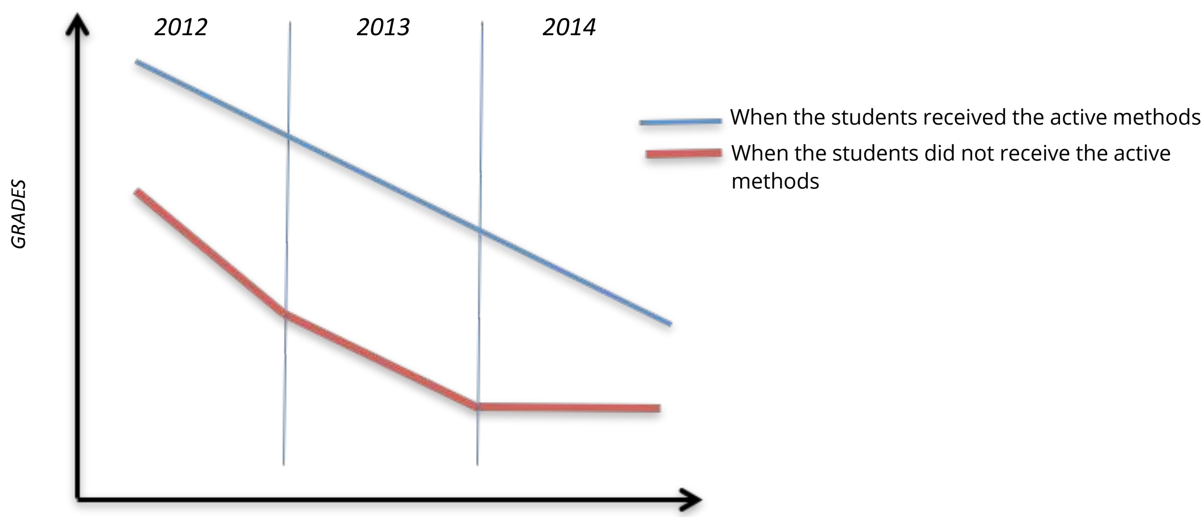

Figure 1. Behavior of students' grades during research period.

Source: elaborated by the authors.

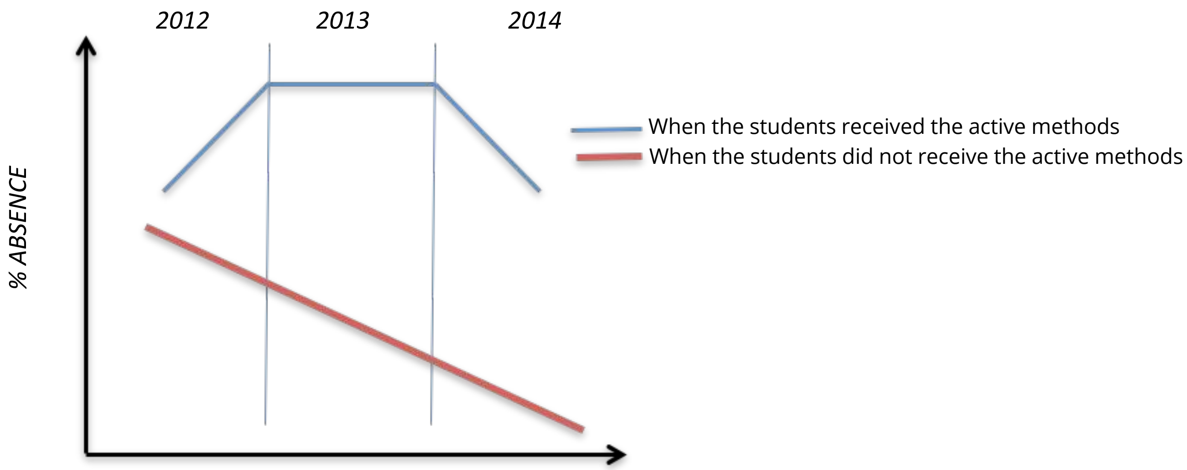

Figure 2. Behavior of percentage absence of students during research period.

Source: elaborated by the authors.

After presenting the results of the Regression tests, based on the literature, we can state that the results found in this study can be explained by factors such as: student control; the effort that it exerts on the activities; mood; difficulty to perform tasks; disease; and instability (that the student's interest can change over time), as these are determining factors for students to succeed or not in student performance (Weiner 1982, Cornachione Junior et al., 2010) .

Bzuneck (2005) further states that motivational problems are linked to student learning and are related to their success. The classroom environment, teacher actions, student non-involvement and misuse of learning strategies may also be related to the findings in this research, as confirmed by Guimarães (2003); Ruiz (2005); Zenorini and Santos (2003).

Regarding the better performances of female students in relation to male students, both in the grade and in the percentage absence, Zenorini and Santos (2003) affirm that female subjects are more learning-focused as a goal. For Glewwe, Hanushek, Humpage, and Ravina (2011), students in the business area, whether in Accounting or related areas, who achieve good results in the classroom, tend to obtain good professional performances, such as increased income and higher productivity.

Due to the need to understand the learning process, several researchers in psychology seek explanations for what may affect student performance. Thus, there are some answers, such as optimism, student motivation, personality, work experience and psychological variables (Miranda, Lemos, Oliveira & Ferreira, 2015).

Regarding students who failed, even though they have access to active methods, Zenori, Santos, Monteiro (2011) affirm that the teaching-learning process cannot be reduced to simply aiming for "good grades", since not always getting a good grade means the students' true learning.

Setton (1999) also permits discussing that, with the expanded access to undergraduate education in the country, there was a range of economically, socially and culturally different populations, influencing the teaching-learning process. However, it is important to consider that, in the Brazilian educational system, problems are met such as lack of suitable teacher training, poor infrastructure and methods used, especially in the public network, reflecting a dilemma of how to prepare students from public secondary education (large majority in this study) for higher education (Zenori, Santos, & Monteiro, 2011). For Zenori, Santos and Monteiro (2011), that shortage is already witnessed in high school, when one perceives students of so different natures migrating to higher education - sometimes even minimally literate.

5. Final Considerations

The general objective in this study was to verify if the adoption of active teaching methods in the Accounting course at a private Higher Education Institution located in the region of Zona da Mata, Minas Gerais, contributed to the students' performance in this course. In order to reach the general objective, all the variables provided by the HEI were used as performance proxies.

The contribution of this study to the academy and society gains relevance when expanding research in the area of accounting education on the use of active teaching-learning methods in undergraduate Accounting courses, given the need for new discussions about Accounting education (Stanley & Marsden, 2012).

Concerning the active methods, Bandura (1977, apud Miranda et al. (2015)) and Ribeiro (2000, apud Miranda et al. (2015)) corroborate that behavioral psychology has shown that teacher performance is linked to task control and that, the more he feels in control of the activities to be performed, the more chances there are that he will persist until the completion of the tasks.

The results found show that, when the active methods were implemented, the students' scores in the Accounting course had been falling historically year after year. As from the adoption of active teaching methods, we noticed that, even without the increase in grades, they gained maturity over the period, perhaps due to the evolution or maturity of teachers, students or trainers, so that active activities were transmitted in the classrooms.

Moreover, although the grade of the failed students dropped when the classes were taught with the active methods, the average difference in grades between the passed and failed students also dropped. Another contribution of the active method is related to the percentage of absences of Accounting students, since we noticed that, when this was tested, positive results were obtained with the active method, in the regression model, when there was a reduction in the percentage absence of students who received the active methods - even those who failed - suggesting that they spent more time in the classroom with the new method.

Being in the classroom, for example, may have contributed for the students' grades to remain constant, although not improving, as from 2014. Thus, the results found evidence that the active methods contribute to the Accounting students' performance for the studied period. Based on the results, there are indications to accept the alternative hypothesis (H1), that is, the implementation of active methods at the HEI influences the Accounting students' performance.

It is a fact that this research has limitations, such as: the analysis period, the education received before graduation (Mainardes & Domingues, 2010), the relation of the students with accounting practice (Mamede et al., 2015), as the active method bring the students in very close contact with the professional reality (Gasque, 2008; Mitre et a., 2008; Lapina & Slaidins, 2014) and the individual characteristics of each profile (Neves Junior & Rocha, 2010).

It is worth emphasizing that, for these active teaching methods to be applied in undergraduate courses, there are some structural - academic and administrative - challenges and in teachers' and students' beliefs, which need to be involved in this process (Wall, Prado & Carraro, 2008). Thus, it is necessary for the individual to engage in thinking, reasoning, observing, and reflecting independently on which way will be used to provoke active learning (Barbosa & Moura, 2014)

It is suggested that new research be performed, considering other control variables at the investigated HEI or at educational institutions that are part of STHEM Brazil, or at other institutions that use the active methods in traditional classes, so as to discover new results in course in Accounting or other educational areas.

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Determinants of Board Interlocking in the Brazilian Capital Market

Abstract:
The objective in this article was to identify the main determinants of Board Interlocking in the Brazilian capital market. As the theoretical structure, the Agency theory and Corporate Governance, the Resource Dependence theory and the Board of Administrators and the Characteristics of Board Interlocking. The sample consists of 58 Brazilian companies that participate in the Bovespa Index (Ibovespa). An empirical-analytic study was undertaken. With regard to the objectives, it is characterized as exploratory and, with regard to the procedures, a documentary research was undertaken. The data on the Boards of Administrators were collected from the Reference Forms available on the website of the São Paulo Stock Exchange (BM&FBOVESPA). The results found demonstrate the generalized presence of Board Interlocking in these companies, normally associated with four factors: (1) economic group formation; (2) governmental control; (3) formation of pension funds; and (4) presence of professionals with acknowledged market experience. The results also suggest that the first three factors give rise to long-lasting links and that these connections are hard to break. On the other hand, the links established through professionals with market experience tend to be more unstable because the presence of these professionals is highly demanded to serve on the board of different companies.

Key words: Board Interlocking; Board of Administrators; Brazilian capital market; Bovespa. Social networks.

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1. Introduction

The formation of Board Interlocking is associated with the financial connections of the organization and the existence of economic groups (Dooley, 1969). However, Schoorman, Bazerman and Atkin (1981), Hillman, Cannella and Paetzold (2000) and Barringer and Harrison (2000) suggest that the presence of professionals on different boards is tied to the exchange of knowledge and expertise that professionals provide to the company and the favoring of the image in the market. The growth of organizations and the development of the world economy were decisive for the separation of ownership and control in modern companies. Individual control that was previously dominant became infeasible. To maximize their wealth, investors have been forced to hire specialist people to run their organizations.

With the pulverization of capital, the power of managers was strengthened, allowing autonomy and decisions aligned with their own interests. This strengthening has created problems, since some managers' decisions are not necessarily consistent with shareholders' interests. The need to control different interests converged to the creation of boards of directors. The main role of the Board of Directors is to monitor the conflicts between agents (Fama & Jensen, 1983). However, in recent years, the Resource Dependence theory (Pfeffer, 1972, Pferffer & Salancik, 1978) has highlighted the use of board professionals as a means of linking business, a phenomenon known as Board Interlocking. Such links are sources of important resources for the company, but they can also become channels for dissemination of corporate practices, such as results management, for example.

Studies on boards of directors have focused on two main theoretical lines: (i) agency theory (Fama & Jensen, 1983) and (ii) resource dependence theory (Pfeffer, 1972; Johnson, Daily & Ellstrand, 1996). The Agency theory assigns to the Board of Directors the role of controlling and monitoring the decisions made by managers, minimizing the conflict of interest between the parts of the organization (Fama & Jensen, 1983). Most board studies are based on Agency theory (Hillman & Dalziel, 2003). However, the complexity of corporate environments has limited the application of this theory, because it is not able to explain some social phenomena related to the council (Eisenhardt, 1989).

The Resource Dependence theory seeks to fill this gap left by the Agency theory. In the view of the Resource Dependence theory, the board acts as a reducer of uncertainties in the corporate environment, establishing links with other companies through its directors, and, therefore, seeking the funding needed for the development of the organization (Pfeffer, 1972, Pfeffer & Salancik, 1978).

The reduction of environmental uncertainty can be managed by the organization, employing certain strategies (Pfeffer, 1972). The relationship between the firm and the environment is a process of exchange (Camilo, Marcon & Bandeira-de-Mello, 2012), in which the organization needs vital resources to be promoted, which are obtained through interaction with the environment. This interaction is a way of responding to competitiveness factors, improving performance (Pearce, 1983).

The presence of a board member on another company's board characterizes a phenomenon known internationally as Board Interlocking (Knowles, 1973). Thus, it is understood that this phenomenon occurs when a director of one company holds the same position in the board of directors of another. Board Interlocking is an important phenomenon in the organizational context (Fontes Filho & Leal, 2012). Through it, companies get important resources, such as access to business partners and specific knowledge (Gales & Ksner, 1994). In this context, this article intends to answer the following question: What are the determinants of the formation of Board Interlocking for companies in the Brazilian capital market?

The article seeks to identify the main determinants for the formation of Board Interlocking in the Brazilian capital market. In order to do so, we seek to contemplate the organizational aspects that influence the formation of corporate ties between organizations and, specifically, consider the phenomenon of Board Interlocking. It is noteworthy that there are few studies on Board Interlocking found in the Brazilian economy. That creates the possibility for the present article to arouse the interest in the subject and to permit the appropriate theoretical discussion and the corresponding empirical studies in Financial Accounting and Corporate Finance research.

2. Agency Theory and Corporate Governance

Adam Smith, in the eighteenth century, fostered the discussion about the separation between ownership and control, a theme later studied in the financial literature on the Corporate Governance structure. In the book The Wealth of Nations, Smith (1776) showed concern with the separation between ownership and control in organizations and highlighted managers' disdain for investors' money. The organizational characteristics of the time did not allow this proposition to be empirically proven.

After a long period of time, Berle and Means (1932), in The Modern Corporation and Private Property, rekindled the discussion about the separation of ownership and control. For Iudícibus and Lopes (2004), this work was fundamental to introduce the essential bases for understanding the agency conflict between the shareholder and the executive. Berle and Means (1932) observed that, as the organizations grew, they could no longer be controlled by a single person or a single family. They demonstrated that the division of control had become necessary to maximize organizational wealth. The pulverization of control strengthened the power of managers, allowing them to have autonomy in decisions and to act in favor of their own interests. Berle and Means' (1932) study provided empirical evidence on the concentration of ownership, but the absence of mandatory reporting by companies put an important constraint on results.

Problems arising from the separation between ownership and control in organizations are related to one of the most important theoretical paradigms in accounting literature, the Agency theory (Lambert, 2001). That theory has since helped to explain the conflicts between managers and majority shareholders and between the latter and minority shareholders. The studies of Spence and Zeckhauser (1971) and Ross (1973) stand out as being the first to evidence the Agency theory. Both works were based on the analysis of executives' varying remuneration structure.

The agency relationship can be defined "as a contract in which one or more persons (the principal) employs another person (the agent) to perform a service or work on their behalf, involving the delegation of some authority" (Jensen & Meckling, 1976, p.310). The authors postulate that the contract between the shareholder and the executive is permeated by a list of agents, in which the agent is seen as the principal and the agent. If both parties act in a way that maximizes their wealth, it is consistent to believe that the agent will not always act on the principal's behalf. This distinction between the behavior of the principal and the agent is the fundamental premise that transcends the Agency theory. In 1994, in The Nature of Man, Jensen and Meckling (1976) discussed human behavior, contemplating the idea of the impossibility of an individual prioritizing the maximization of another person's wealth to the detriment of his or her own. Thus, an environment is created to base the main hypothesis of the Agency theory: the lack of a perfect agent (Okimura, 2003). This hypothesis opens gaps for the divergence between the behavior expected by the principal and that actually manifested by the agent.

Iudícibus and Lopes (2004) argue that the agency conflict arises when agents have divergent interests from the principal and, by putting their personal interests on the forefront, end up harming the functioning of organizations. According to this view, the shareholder must protect himself against the intended expropriation by the administrator. This expropriation can happen through a simple misappropriation of an asset or even through more sophisticated forms, such as making investments with a dubious return, increasing the manager's power in the organization and reducing the amount of dividends to be distributed.

For Barney and Hesterly (2004), the transfer of power from the owner to the executive can be problematic for three reasons: (i) the divergence of interests that normally occurs between the principal and the agent; Ii) the costs inherent in monitoring the actions of the agent; and (iii) the costs incurred in obtaining the information available to the agent or in his possession. The costs of perfectly monitoring the manager's actions are related to information asymmetry since, on many occasions, managers have a much higher level of information than investors.

Recent studies involving agency conflicts converge to problems generated by incomplete information, a situation in which not all participants in the organization have the same level of information. This phenomenon is known in the financial literature as informational asymmetry (Hendriksen & Van Breda, 2007). For Copeland, Weston and Shastri (2005), information asymmetry cannot be understood as an event, but as an inherent process in the existence of different levels of knowledge between the parties that negotiate.

For Pratt and Zeckhauser (1985), the available information is hardly complete. This informational imperfection causes the principal to enter into contracts with the agent so that his interests are respected. Dependence behavior among individuals causes agency problems. Therefore, it is interesting to identify the level of informational asymmetry, since the ability to observe the environment is limited. If this did not happen, the information would be transparent and there would be no agency problems (Segatto-Mendes, 2001).

Practical examples of conflicts of interest and informational asymmetry problems have been observed since the end of the 20th century due to corporate scandals, especially in the United States. The stories of the American giants, Enron, WorldCom and Tyco were instrumental in reinstating government entities to rethink new ways of controlling executives' powers (Guerra, 2009). The existence of agency problems and different levels of knowledge among investors and managers were decisive for the creation of a set of internal and external mechanisms to harmonize the relationship of interests between the principal and the agent. For this set of mechanisms, it was called Corporate Governance (Silveira, Barros & Famá, 2003).

From the 1990s, the term Governance became widespread in the general public (Carlsson, 2001). For Shleifer and Vishny (1997), Corporate Governance can be defined as a set of mechanisms by which the investor guarantees the return on his investment. In further detail, the Organization for Economic Co-operation and Development (Oecd, 2004) defines Corporate Governance as a set of relationships among investors, executives, advisors and other stakeholders, providing a structure in which the organization's objectives are defined and performance is monitored. Corporate Governance is not restricted to guaranteeing the return to investors, but it proposes the definition of organizational objectives and the valuation of corporate performance.

For the Brazilian Institute of Corporate Governance (IBGC, 2004), in the conception of the Traditional Economic theory, Corporate Governance serves to overcome the problems between agent and principal, present due to the separation between ownership and control in organizations. In this sense, the Brazilian Securities and Exchange Commission (CVM, 2002) describes Corporate Governance as a set of practices that seek, in addition to protecting stakeholders, to improve company performance and facilitate access to capital.

The emergence of Corporate Governance is associated to business control and monitoring, helping to identify and solve possible agency problems and allowing the company to have better access to the capital market. According to Guerra (2009), the implementation of the Corporate Governance model was demanded from the private sector after the corporate scandals. Cadburry and Millstein (2005) point out that the events led to the introduction of new standards, such as the Sarbanes-Oxley Act (SOX), in 2002, which made certain voluntary practices mandatory for companies listed on the New York Stock Exchange. These regulatory changes, according to Becht, Bolton and Röell (2005), were aimed at re-establishing investor confidence in companies' financial reports.

3. Board of Administrators and Resource Dependence Theory

The Board of Directors is one of the main Corporate Governance mechanisms (Shleifer & Vishny, 1997). Its importance is supported by the adoption of actions for the transparency, integrity and accountability of the company and its management, including board supervision (Terra & Lima, 2006). From the perspective of the Agency theory, the Board of Directors is fundamental in solving conflicts of interest inherent in organizational management, constituting an important internal mechanism for the governance structure of large corporations (Hermalin & Weisbach, 2001). Williamson (1984) describes that the legal authority granted to the board of directors to hire, dismiss and compensate managers is one of the characteristics that make the board an essential element of Corporate Governance.

The performance of the Board of Directors has stood out by minimizing problems arising from a pulverized capital organization. In this type of organization, investors adopt a passive position as shareholders, leaving executives the role of defining and executing corporate strategies. The passivity of investors opens space for countless cases of opportunism, when executives act according to their own interests (Fontes Filho & Leal, 2012).

In countries like Japan and Germany, characterized by the concentration of ownership around corporate groups and banks, the board's performance has been directed to meeting the expectations of interest groups and society's demands (Fontes Filho & Leal, 2012). Therefore, in concentrated property markets, it is noted that the board of directors has stood out for playing another important role: the liaison role between the organizations.

It should be noted that the concentration of ownership in Brazilian corporations also reaches very high levels. According to Clemente, Taffarel e Silva (2012), only eight sectors correspond to 85% of the trading volume of the shares, with 24 companies representing 72.30% of this volume. Although Agency theory has proved essential to understand the role of Board of Directors control, Eisenhardt (1989) describes that it alone is not sufficient to understand the complexity of organizations. According to Huse (2007), Agency theory has long been considered a "divine authority" in Corporate Governance debates. However, its attributions have been a source of questioning for not considering the social characteristics of individuals. In this context, the need for another theoretical approach becomes important to understand some phenomena that occur in the organizational scenario.

In this discussion, several studies (Boyd, 1990; Pearce & Zahra, 1992; Daily & Dalton, 1994; Gales & Kensen, 1994; Hillman & Dalziel, 2003) have used management theory as a source of essential organizational resources.

The Resource Dependence theory proposes that the board of directors is an external resource management mechanism (Pfeffer & Salancik, 1978), acting as a reducer of uncertainties (Pfeffer, 1972) and providing for a reduction in transaction costs (Williamson, 1984). The role of counselors according to the Resource Dependence theory diverges from the agency role, although counselors can play both roles simultaneously (Johnson et al., 1996). From the perspective of resource dependence, directors serve as connections between the firm and the corporate environment, minimizing the uncertainties of contingency factors (Hillman, Cannella & Paetzold, 2000).

According to Zald (1969), the premise underlying the Resource Dependence theory is based on the idea that organizations, however independent they may seem, cannot disregard the relevance of external resources for their development. In other words, however autonomous the organization, it will always need resources that are not in its power. For Thompson and McEwen (1958), access to external resources becomes easier when corporations establish links with other firms, working towards common goals.

To survive, organizations need to deal efficiently with uncertainties (Pfeffer & Salancik, 1978). Such uncertainties restrict the access and control of organizations in relation to strategic resources and choices, compromising their performance. To minimize the level of uncertainty, organizations use the board as a mechanism to access other corporations, bringing resources such as information, skills, access to funding sources and legitimation (Gales & Kesner, 1994). The consolidation of these connections is due to the insertion of professionals in common in the boards of directors, that is, a same professional acting on the board of two companies.

According to Judge and Zeithaml (1992), the involvement of the Board of Directors in strategic decisions is a complex process. Changes in the environment are usually associated with transformations in corporate strategies (Hillman, Cannella & Paetzold, 2000). These changes can partially be explained by the existence of contingent factors inherent in the organization.

Contingency factors can influence the organizational environment, both internally and externally. For Mintzberg (1983), factors of external origin, such as market, customers, government, society and competitors, are more important because the organization cannot directly control them. These factors hinder the company's acquisition of resources and increase the level of market uncertainty (Hung, 1998). Under the influence of contingent factors of external origin, the board of directors has an important role in accessing resources critical to the company, as is recognized in the Resource Dependence theory (Pfeffer, 1972). According to this perspective, companies depend on each other to gain valuable resources, establishing links between them in an attempt to regulate their interdependence (Hung, 1998). When the connections occur through the board of directors, the phenomenon called Board Interlocking appears.

4. Characteristics of Board Interlocking

The expressions *Board Interlocking* (Santos & Silveira, 2007; Bizjak, Lemmon & Whitby, 2009; Silva, 2010; Connelly & Slyke 2012), *interlocking directorship* (Zajac, 1988; Hung, 1998; Au; Peng & Wang, 2000), *board network* (Battiston, Weisbuch & Bonabeau, 2003; Kim, 2005), *director interlocks* (Hauschild & Beckman, 1998) and *interlocking directorates* (Dooley, 1969; Ornstein, 1982) have been used in the financial literature to define links between companies through the Board of Administrators.

Board Interlocking occurs when a professional acts simultaneously on the Board of Directors of two companies. In other words, it is a social relation created between two companies through the inclusion of a professional in common in the boards of directors (Fich & White, 2005). This professional provides access to important resources indispensable to the company (Hung, 1998).

In the US, it is common for board members and executives to participate in more than one company (Fontes Filho & Leal, 2012). In the 1930s, Dooley (1969) found that, of the 250 largest American organizations, 90% had at least one advisor working in another company. Davis (1991) describes that the presence of links between American organizations was evident in the 1980s. Large corporation advisers participated on average in the board of directors of seven other large corporations, forming networks of more than forty companies.

In Canada, the presence of Board Interlocking is a common phenomenon among the largest corporations. Ornstein (1982) found that, in the period from 1946 to 1977, the 100 largest Canadian firms presented approximately 1,600 ties in each period. Au, Peng and Wang (2000) identified Board Interlocking in approximately 61% of the 200 largest companies in Hong Kong in 1997, slightly below that of England (69%) and the United States (64%) for the same period. Cox and Rogerson (1985) investigated the 115 largest organizations in South Africa, 110 industries and five banks showed that approximately 50% have a director acting in more than one corporation.

Santos and Silveira (2007) investigated 320 companies traded in the Brazilian capital market, in 2003 and 2005. The results indicated a percentage of 74% (2003) and 68.8% (2005) of Board Interlocking. Also, in 2005, about 50% of the professionals who served as chairman of the board participated in the council of another company, simultaneously. Silva (2010) studied 452 companies from 1997 to 2007, and found that, on average, 60% of the directors were connected to seven companies.

The main studies on Board Interlocking are based on the Resource Dependence theory to explain the reasons for the connections created between the companies (Hillman, Cannella & Paetzold, 2000). Pfeffer and Salancik (1978) describe that, when an organization appoints a professional to serve on its board of directors, that advisor is expected to provide resources to help the company develop. It also suggests that the adoption of Board Interlocking may provide several benefits to the entity, such as: i) provision of specific resources; (ii) assistance in securing support from important outside parties; iii) legitimacy; and iv) creation of a channel of communication between organizations.

Hillman, Cannella and Paetzold (2000) explain that Board Interlocking is a substantial source of external resources and that companies seek to include professionals on their boards who perform managerial functions in other organizations, in order to increase the sources of funding. These professionals add valuable resources as they provide information and help in the decision-making process of the company. The basic premise of the Resource Dependence theory suggests that the provision of resources through Board Interlocking is directly related to the firm's performance (Hillman, Cannella & Paetzold, 2000).

Board Interlocking is beneficial for companies gaining support from important external elements. The inclusion of professionals representing social groups or movements can help the organization to avoid conflicting actions with such groups (Selznick, 1965). Another benefit gained when companies establish connections among themselves through their advisors is legitimacy. For Schoorman, Bazerman and Atkin (1981), Hillman, Cannella and Paetzold (2000) and Barringer and Harrison (2000), it is interesting to add professionals with recognized experience and knowledge to their advice. This attitude reflects a good image of the company in the market. Finally, companies seek to add professionals to the board who are linked to organizations that dominate scarce resources, thus gaining easy access. Pfeffer and Salancik (1978) point out that the companies include professionals in their board who belong to financial institutions in order to obtain easier access to differentiated lines of credit.

It is noted in the international literature that there are different causes for the formation of Board Interlocking, such as the search for support from external groups (Selznick, 1965); Legitimation (Hillman, Cannella & Paetzold, 2000); and easy access to scarce resources (Pfeffer & Salancik, 1978). However, in the Brazilian literature, there are still practically no studies on the factors that determine the existence of corporate connections. Thus, this article seeks, through the analysis of the companies on Ibovespa, to launch the first questions about this practice in the Brazilian capital market, identifying its main determining factors.

5. Method

The Bovespa Index (Ibovespa) represents a theoretical portfolio based on the average performance of the most representative stock prices in the Brazilian capital market. The inclusion of the security on Ibovespa is subject to certain requirements: i) figure among the eligible securities that have a Tradability Index (TI) of more than 85%, taking into account the last three portfolios; Ii) have a presence of 95% in trading sessions; Iii) hold a participation of 0.1% or higher in the financial volume; and iv) does not qualify as a "Penny Stock", that is, an asset whose quotation is lower than R $ 1.00 (one real) (BM & FBOVESPA, 2015).

The theoretical portfolio of Ibovespa has a four-month term, coming into effect on the first Monday of each period. At the end of each four-month period, the portfolio is rebalanced for the new portfolio (BM & FBOVESPA, 2015). For the study, the portfolio corresponding to the period from September to December 2013 was used, represented by 69 shares. Among the stocks identified, there were cases of the same company in the composition of the index, with common and preferred stock, like in the cases of: Petrobras, Eletrobras, Vale, Usiminas and Oi. Therefore, the number of companies analyzed was reduced to 64 stocks. In addition, financial institutions (6 companies) were excluded from the sample, in order not to distort the analysis, thus constituting a sample based on accessibility.

This article covers the Brazilian companies that entered the composition of Ibovespa in the period from 2008 to 2014. The sample comprises 58 non-financial companies, distributed among 14 sectors of activity, according to the classification of the Economática database, as presented in Table 1.

Table 1:
Distribution of research sample

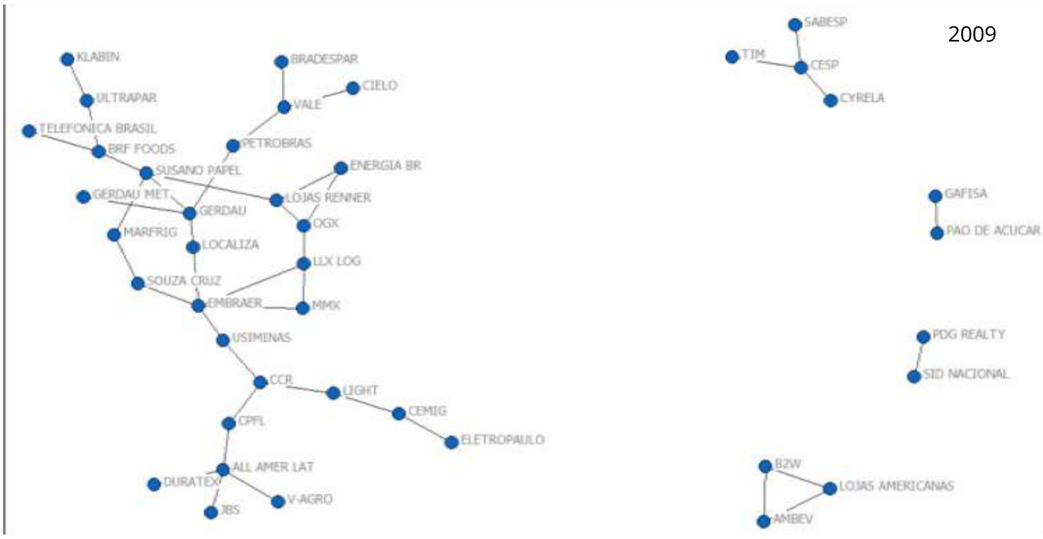
	Sectors	Sample	%
1	Food and Beverages	4	6.90%
2	Trade	6	10.34%
3	Construction	7	12.07%
4	Electric Energy	10	17.24%
5	Mining	3	5.17%
6	Others	9	15.52%
7	Paper and Pulp	3	5.17%
8	Oil and Gas	2	3.45%
9	Chemistry	2	3.45%
10	Iron and Steel	4	6.90%
11	Software and Data	1	1.72%
12	Telecommunication	3	5.17%
13	Transport Service	3	5.17%
14	Vehicles and parts	1	1.72%
Total		**58**	**100.00%**

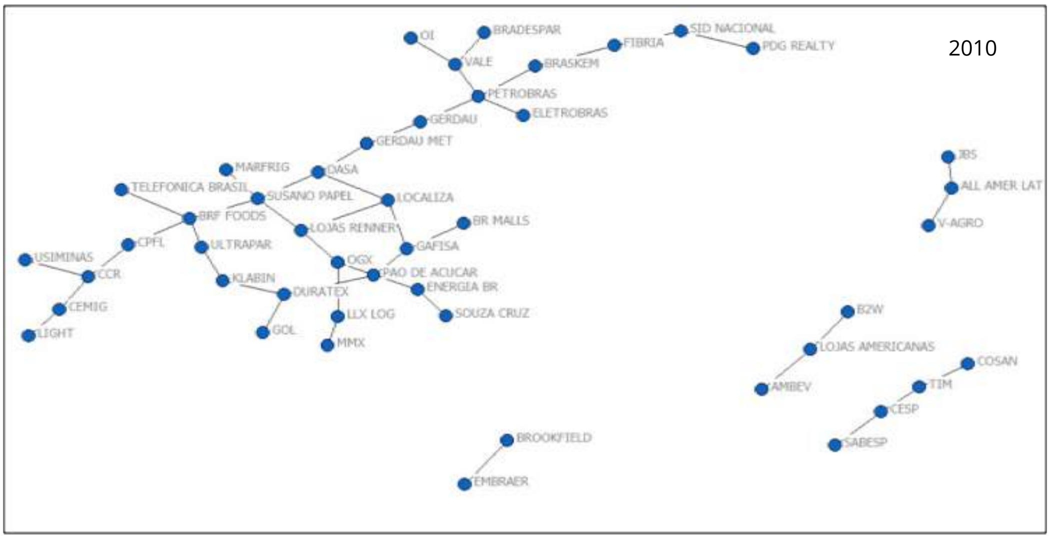
Source: data from Economática® database

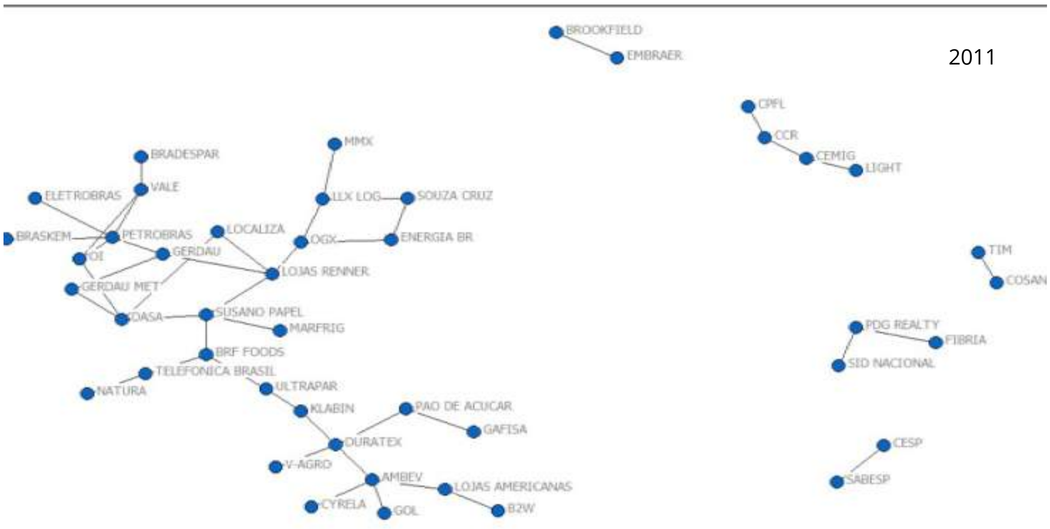
The classification per sector followed the Economática® criteria. This database classifies the companies into 20 sectors, 14 of which were covered in the sample. The electric energy stands out as the largest in the sample with approximately 17%. To identify the data on the boards of administrators, the information in the Reference Forms was used, available on the website of the São Paulo Stock Exchange (BM&FBOVESPA). This information permitted the collection of variables and measures employed in social network analysis. First, for each of the six years, information on the board members was collected. Then, using MS Excel, squared matrices were developed to identify the links between companies. After creating the matrices, *Ucinet 6* and *Net Miner 3.0* were used to obtain the social network measures.

6. Structural network analysis

In Figure 1, the corporate network configurations of Brazilian companies listed on Ibovespa between 2009 and 2014 are displayed.


2009
KLABIN
ULTRAPAR
TELEFONICA BRASIL
BRF FOODS
SUSANO PAPEL
GERDAU MET
GERDAU
MARFRIG
LOCALIZA
SOUZA CRUZ
EMBRAER
USIMINAS
BRADESPAR
CIELO
VALE
PETROBRAS
ENERGIA BR
LOJAS RENNER
OGX
LLX LOG
MMX
CCR
LIGHT
CEMIG
ELETROPAULO
CPFL
ALL AMER LAT
DURATEX
JBS
V-AGRO
SABESP
TIM
CESP
CYRELA
GAFISA
PAO DE ACUCAR
PDG REALTY
SID NACIONAL
B2W
LOJAS AMERICANAS
AMBEV


2010
OI
BRADESPAR
VALE
BRASKEM
FIBRIA
SID NACIONAL
PDG REALTY
PETROBRAS
ELETROBRAS
GERDAU
GERDAU MET
MARFRIG
DASA
TELEFONICA BRASIL
SUSANO PAPEL
LOCALIZA
BRF FOODS
LOJAS RENNER
BR MALLS
CPFL
ULTRAPAR
GAFISA
USIMINAS
CCR
OGX
PAO DE ACUCAR
KLABIN
DURATEX
ENERGIA BR
CEMIG
LIGHT
GOL
LLX LOG
SOUZA CRUZ
MMX
JBS
ALL AMER LAT
V-AGRO
B2W
LOJAS AMERICANAS
AMBEV
COSAN
TIM
CESP
SABESP
BROOKFIELD
EMBRAER


2011
BROOKFIELD
EMBRAER
CPFL
CCR
CEMIG
LIGHT
MMX
BRADESPAR
VALE
ELETROBRAS
LLX LOG
SOUZA CRUZ
BRASKEM
PETROBRAS
LOCALIZA
OGX
ENERGIA BR
OI
GERDAU
LOJAS RENNER
GERDAU MET
DASA
SUSANO PAPEL
MARFRIG
BRF FOODS
TELEFONICA BRASIL
NATURA
ULTRAPAR
KLABIN
PAO DE ACUCAR
GAFISA
DURATEX
V-AGRO
AMBEV
LOJAS AMERICANAS
CYRELA
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B2W
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COSAN
PDG REALTY
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SID NACIONAL
CESP
SABESP

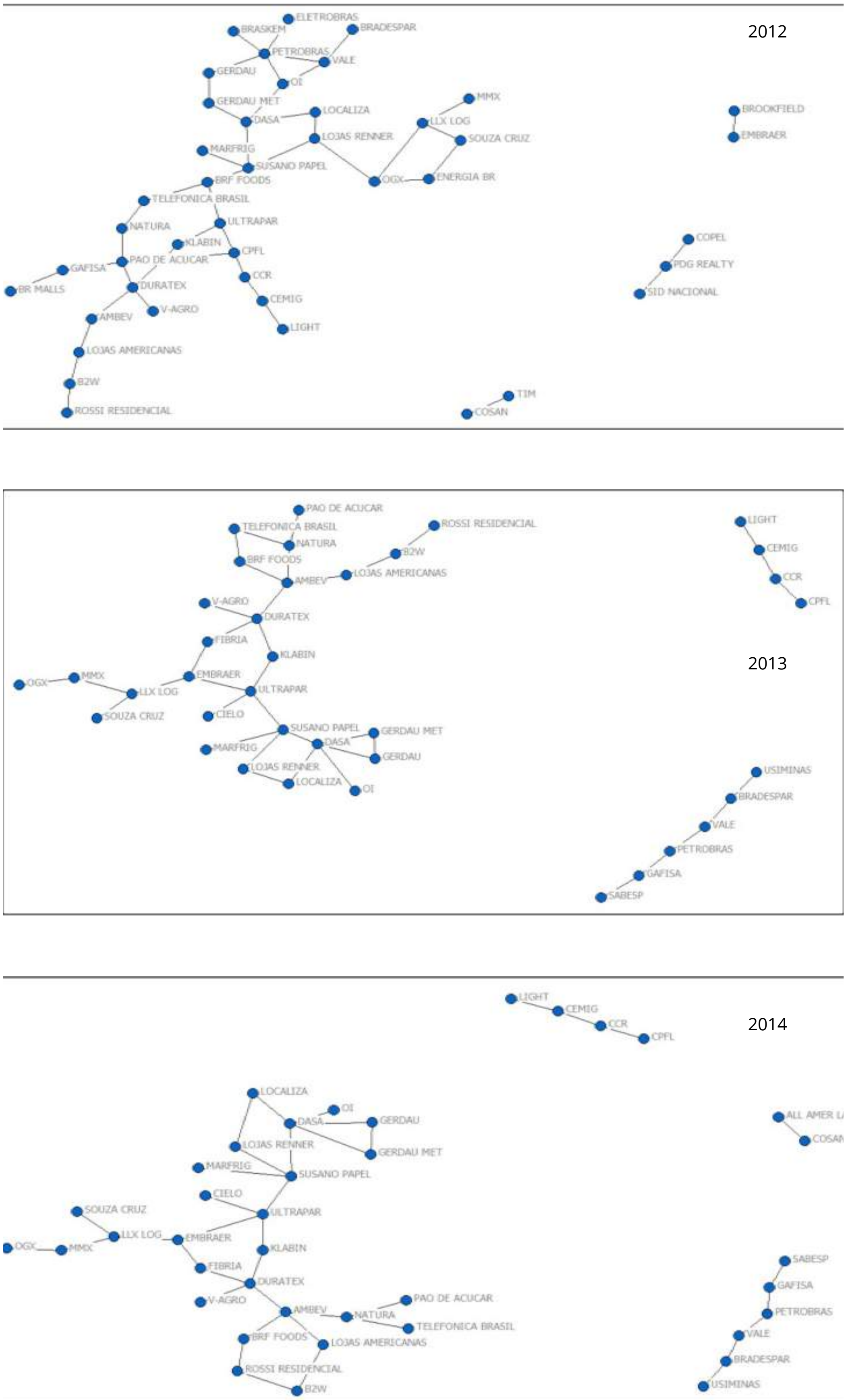

Figure 1. Configuration of links among companies on Ibovespa between 2009 and 2014

Source: elaborated by the authors.

The arrangement of the sample companies in 2009 shows a large network comprising more than 60% of the companies on Ibovespa, in addition to four minor links. Among the companies belonging to the largest network, Suzano S.A. has eight direct links, that is, it shares its board members with BRF Foods, Gerdau, Lojas Renner, Marfrig, OGX, Localiza, Ultrapar and Gerdau Metallurgy.

A priori, there are some changes in the structure of the connections in relation to 2009. The network of the companies Pão de Açúcar, Gafisa and BrMalls, which were isolated in 2009, became part of the main network through the sharing of an advisor from Pão de Açúcar with Klabin and Duratex. A similar situation occurred with Siderúrgica Nacional and PDG Realty. The companies Usiminas, CPFL, CCR, Cemig and Light dismantled themselves from the main network to constitute a smaller network. These changes demonstrate the dynamics of the corporate environment and lead one to think that, although links between companies belonging to the core network are more consistent, replacing advisors in peripheral networks is a common feature.

The structure of the networks showed changes compared to 2010. Companies such as Tim, Cosan, Cesp and Sabesp, which formed a network of contacts, separated themselves into two small networks; the first formed by the companies Tim and Cosan; and the second by Cesp and Sabesp. This segmentation may be associated with the departure of former BNDES president Andrea Sandro Calabi from Tim's Board of Directors, to assume the post of Secretary of Finance of the State of São Paulo. His departure from the company broke the ties the company had with Cesp and Sabesp.

With the departure of BNDES director of Capital Markets Eduardo Rath Fingerl from Brasken's Board, Fibria dismembered the main network and created a new network with PDG Realty and Sid. Nacional. On the other hand, companies such as B2W, Lojas Americanas and Ambev became part of the main network through the sharing of directors with Duratex and Gol. B2W, Lojas Americanas and Ambev are part of the economic group of the Lemann family. The group's connection with Duratex and Gol was due to the sharing of former Citibank Private Bank president Álvaro Antônio Cardoso de Souza. For the market analysts, the inclusion of Álvaro de Souza on the Board of Directors adds experience and credibility to the organizations.

It is observed that the main network absorbed some networks that were isolated. Companies such as Light, Cemig, CCR and CPFL, which formed a small network in 2011, joined the main network, sharing advisors with Ultrapar and Pão de Açúcar. The connection of the company CPFL with the company Pão de Açúcar arose from the insertion of the former president of the Securities and Exchange Commission (CVM), Maria Helena dos Santos Fernandes Santana, in the Board of both companies. Her presence was mainly due to her experience in the capital market.

On the other hand, the ties created between CPFL and Ultrapar are related to the control exercised by Banco do Brasil employees' pension funds. This premise is based on the presence of banker Ivan de Souza Monteiro on the Board of Directors of both companies. This link leads one to think that companies tend to include professionals in the board of companies linked to pension funds as a way to monitor the decisions made by executives of these organizations. Table 2 shows the links between organizations in the period analyzed.

Table 2:

Relation between companies and Board Interlocking

	Absolute Frequency	Relative Frequency
None	6	10.34%
Presented during one year	2	3.45%
Presented during two years	3	5.17%
Presented during three years	8	13.79%
Presented during four years	8	13.79%
Presented during five years	3	5.17%
Presented during six years	28	48.28%
Total	**58**	**100.00%**

Source: research data.

As observed, 28 out of 58 companies analyzed, slightly more than half, maintained Board Interlocking throughout the six-year period. Only six companies, about 10%, did not present Board Interlocking in that period. Five of these six present capital spread. That suggests that companies with this characteristic tend not to establish links and to maintain their boards independent from others. In that sense, the high incidence of Board Interlocking among the companies listed on BM&FBOVESPA is associated with the presence of economic groups with a strong majority presence, governmental control and the activity of pension funds.

In Figure 2, the companies are presented whose bonds remained stable during the period from 2009 till 2014.

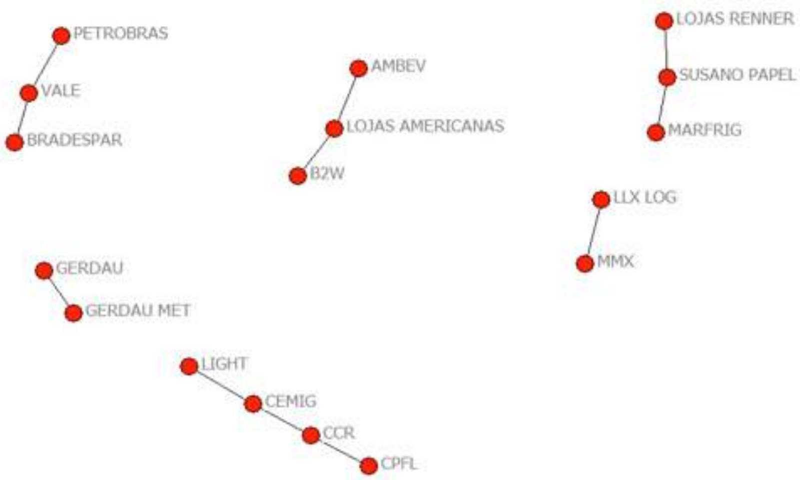

Figure 2. Continuing bonds from 2009 till 2014.

Source: elaborated by the authors.

There are six permanent networks among the companies analyzed. The networks formed by Gerdau and Gerdau Met and MMX and LLX (Prumo Logística) represent the formation of economic groups. The network constituted by Petrobras, Vale and Bradespar characterizes the establishment of connections from the perspective of governmental controls. Indirect governmental connections are also noted in which, through BNDES, the government exerts its influence in the companies' top management.

It is also noted that the existence of pension funds can be decisive for the establishment of links between boards. Previ (Banco do Brasil), Petros (Petrobras) and Funcef (Caixa Econômica Federal) hold a stake in several publicly traded companies. Thus, the inclusion of joint counselors among companies tends to assist in monitoring decisions made by the investee. Finally, it was observed that the networks are constituted by the presence of professionals with market knowledge and expertise, since the insertion of people like these tends to favor the image of the organization towards investors.

Therefore, it is noted that the presence of Board Interlocking is a common feature among the companies on Ibovespa. According to the results obtained, this characteristic can be associated to the following factors:

- **(i)** **existence of economic groups:** it occurs when professionals serve simultaneously on the board of companies belonging to the same group, acting as a source of information between parent and subsidiary. This fact was observed among the companies OGX, MMX and LLX, Gerdau and Gerdau Metalúrgica and Ambev, Lojas Americanas and B2W;
- **(ii)** **government control:** verified when the Union, through its entities, exerts influence in the control of certain companies. BNDES Participações S.A. is an example. Its representative share in companies like Petrobras, Vale, Suzano, Klabin, Gerdau, CPFL, among others, allows the inclusion of professionals on the board of those respective companies;
- **(iii)** **existence of pension funds:** it happens when companies create investment portfolios to assist in the retirement of their employees. Banco do Brasil is a company that makes this type of investment. Therefore, the inclusion of professionals in the board of companies with shares belonging to the pension fund is essential for the control of managers' decisions; and
- **(iv)** **inclusion of professionals with acknowledged market experience:** companies usually seek to include professionals with great market knowledge in their boards, so that their experiences help in the decision making process. Professionals like Maria Helena dos Santos Fernandes Santana and Álvaro Antônio Cardoso de Souza, for example, are highly requested by companies, since their knowledge baggage is an important source of information when adopting certain corporate practices.

It is also worth noting that most of the changes in the configuration of corporate networks occur due to connections between companies through professionals with recognized experience. These links tend to be more fickle, since such professionals are much in demand by companies. On the other hand, ties associated with other factors, such as economic groups, government control and pension funds, tend to be more stable because they correspond to long-term relationships.

7. Conclusions

The research aims to identify the main determinants for the formation of Board Interlocking in the Brazilian capital market. For this purpose, 58 Brazilian companies on Ibovespa were used as a sample. The study contributed to the understanding of organizational aspects that influence the formation of corporate ties in organizations, specifically when considering the existence of Board Interlocking.

The exploratory analysis was performed based on data referring to the Board of Directors in the Reference Forms, available on the website of the São Paulo Stock Exchange (BM & FBOVESPA). Such information was collected for each of the six years and later converted into squared matrices, so that the connections between companies could be identified.

Based on the identification of the connections between the companies, the results found demonstrate that the presence of Board Interlocking is common for the companies belonging to Ibovespa and are usually associated to four factors: (1) formation of economic group; (2) government control; (3) formation of pension funds; and (4) the presence of professionals with acknowledged market experience. The first three factors give rise to longer lasting connections, and such connections are rarely broken. On the other hand, the connections established through professionals with market experience tend to be more unstable, due to the fact that the presence of these professionals is much requested on the board of different companies.

The results partially agree with the study by Dooley (1969) regarding the favoring of Board Interlocking due to the existence of economic groups; with the studies by Schoorman, Bazerman, and Atkin (1981); Hillman, Cannella, and Paetzold (2000) and Barringer and Harrison (2000) regarding the inclusion of a professional with knowledge and expertise on the company's Board of Directors. This attitude reflects a good image of the company in the market.

It is believed that, in terms of the Resource Dependence theory, the connections established through Board Interlocking are fundamental to facilitate the obtaining of important financial resources for the company, but they can also become channels for the dissemination of corporate practices, such as earnings management, information asymmetry and loss of information quality.

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Influences of Economic Theories on Accounting Theory: the case of the Objective Function of the Firm

Abstract

This essay aims to establish the relationship between the theoretical precepts that guide the accounting disclosure procedures for its stakeholders, both internal and external, and the two main theoretical trends that address the firm's objective function: the Shareholder theory and the Stakeholder theory. In the perspective of the Shareholder theory, the firm has to define a single objective, which is to maximize shareholder wealth. In the context of Stakeholders theory, the firm must establish a multiple objective, which is to meet the interests of all those involved with its activities. We discuss to what extent theories, standards and accounting practices emanate from the concepts of the two models, especially regarding the users' demand for useful and relevant information. There is a predominance of Shareholder theory in influencing accounting principles that guide the disclosure of information, although different accounting reports are already discussed and presented, oriented to the Stakeholders of the firm, without establishing a set of concepts that explain and justify them within the scope of Accounting theory. Additionally, it is argued that, all things taken into consideration, both currents of the Economic theory point in the same direction: to seek the wellbeing of the firm's stakeholders. The research contributes to the accounting literature, in the sense of clarifying the impacts arising from the two economic models that deal with the objective function of the firm in the evolution of Accounting theory, not yet captured directly in the discussion of the fundamentals of accounting theory.

Keywords: Accounting Theories and Practices. Objective Function of the Firm. Shareholder Theory. Stakeholder Theory.

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1. Introduction

Accounting can be understood as a social practice that has its roots in Economic theory, since its primary function is defined as the act of collecting, recording, accumulating and communicating economic events related to the operation of firms (Santos, Calíope & Coelho, 2015), which together represent the essence of the economic activity of a society (Hart, 1989).

Coase (1990) argues that Accounting System theory is part of the theory of the Firm. In other words, it can be affirmed that the utility of Accounting, as an information tool, receives manifest influences from economic concepts associated to the firm and the related events. Among these concepts, the objective function of the firm stands out which, through the conceptual extension established below, may have influenced or influence the development of current and evolving accounting theories, which also influences the accounting practice, especially with regard to the informational function of accounting.

This conceptual attribute of the firm has been a source of intense discussion in the context of the theories of the firm, regarding the motivations that drive and guide decisions and actions of managers in the search for a certain result or the search for direction and meaning for the company's operation. Silveira, Yoshinaga and Borba (2005) highlight the two main branches that investigate explanations for such decision making, namely:

a) the conduct of business by maximizing shareholder wealth (shareholder theory);
b) the forwarding of business activities in order to balance and satisfy the interest of all stakeholders of the organization (stakeholder theory).

From this debate, two main currents of thought emerge that can contribute to the direction of the informational logic of Accounting: the main or dominant accounting paradigm points to prioritizing information directed at shareholders, investors and creditors in the financial markets whose demand is focused on profit information, synthesized in the bottom line of the income statement. Accounting researchers, in another line of thought, present alternatives to focus on information demanded by all stakeholders, focusing on the inclusion of social and environmental information in the scope of the financial statements.

It is emphasized that the Manichean nature of the above argument is characterized by the explicit adoption of one of these theoretical approaches by accounting researchers. In this sense, studies can be segregated in the Brazilian accounting literature that adopt either the informational approach directed at shareholders - examples are the studies by Coelho (2007) and Lopes (2001) and by Lopes and Martins (2005) - or the focus on stakeholders, especially the studies by Santana, Góis, De Luca and Vasconcelos (2015), Vellani and Ribeiro (2009) and Macêdo, Cordeiro, Pereira, Ribeiro, Torres and Lopes (2011).

This behavior of accounting researchers, as well as the current accounting practices, could be explained and debated from the perspective of the theories that discuss the objective function of the firm, which imperatively presses the demand for this or that information about the firms, influencing the position of managers and accountants in outlining information that is useful to external users.

Until the end of the last century, financial theory, almost mandatorily, declared and developed models in which the primary and sole objective of firms was the maximization of shareholder wealth, presenting the clear and direct objective function that the maximized firm value would lead the economic system to efficiency as a reference framework (Boaventura, Cardoso, Silva, & Silva, 2009).

In this sense, Berle (1931) argued that all the powers granted to the management of a company should be directed at the well-being of the shareholders. This approach proved to be well adjusted to the effective behavior of companies, to the extent that it was predominant in the last 150 years (Sundaram & Inkpen, 2004).

Based on the premises associated with the neoclassical theory of the firm, the Shareholder theory focuses on the figure of the owner, whether individual, partner or shareholder in its various classes, with the firm aiming to maximize its own value (Sunder, 2009), which implies maximizing the wealth of partners, owners of resources allocated as firms' equity.

However, it should be pointed out that, unlike the shareholder theory, the neoclassical approach of the firm does not present a separation between ownership and management, that is, there is no distinction between the owner and manager figures, since both are mixed up in roles played by the same agent according to this approach (Sunder, 2014).

In this stage of ideas on the understanding of the firm, at first, accounting chooses the control of the partners' equity as its main function, basic conceptual support that can be summarized in the classic definition of Accounting as "a science that studies the equity phenomena" (Sá, 2002, p. 46), this function is extensively developed in the important Italian school, based on the concept of "azienda", highlighting the representation of the owners' wealth (Sá, 1997).

In the American school, when the focus of Accounting shifts to the production of statements for the audiences interested in the firm. The object (control for information) changes, but the provision of profit information is still predominant as the main motivation for disclosure. That is, the main target of accountants and managers is to demonstrate the company's performance towards the partner, the owner.

Thus, from the point of view of theoretical positions, or in the development of accounting activities, targeting is similar to the objective function direct at the shareholders.

On the other hand, difficulties in the functioning of the stock market, due to corporate scandals in 2001 and 2002, led to a resumption of debate about the purpose of firms as a fundamental institutional tool for the functioning of markets (Sundaram & Inkpen, 2004).

Based on cases like Enron and Worldcom, which influenced the efficiency of the global economic and financial system by compromising the wealth of investors and other suppliers of the company by the forced reduction of their expected future cash flows, the dominant objective function started to be contested, as if it were unable to meet the interests and expectations of the other economic agents involved in the economic activity of the firms, especially in the case of consumers and intermediate producers.

In particular, it was argued that the goal of shareholder wealth maximization (Sundaram & Inkpen, 2004) would not be able to represent the entire institutional complex of markets efficiently, fairly and equitably. In other words, the objective function of maximizing the wealth of shareholders should also contemplate meeting the interest of other stakeholders in the operation of the firm.

As an alternative to the predominant focus, the proposition of an alternative approach to the firm's objective function is outlined, which became known as the Stakeholder theory, in which it is emphasized that the corporate objective should be established as a function aimed at the equilibrium and the satisfaction of the interests of all audiences involved in the firm (Silveira et al., 2005).

Although this proposition dates back to the beginning of the 21st century, the theoretical bases of the stakeholder theory date back to the end of the 20th century, initially to Freeman's work (1984), to whom the pioneering belief in the existence of a relevant link between the group of stakeholders and the strategic management of firms (Sundaram & Inkpen, 2004) is credited. In this sense, the original proposition still had characteristics of changing behavioral patterns of firms' internal management, without greater concern with governance, in the sense of protection of resources delivered to the firm.

It is only from the commented accounting-financial scandals that the Stakeholder theory evolves to try and explain the firm's relationships with its external audiences, including society as a whole, non--tax government bodies and the remuneration of all those involved in the firm.

The accounting academy reacts fundamentally with research and proposals that modify the fulcrum of accounting information, proposing the introduction of less financial accounting (in the sense of attending to shareholders' interests) and more social statements, instigating managers to provide more information about aspects referred to the other stakeholders in the form of environmental, social accountability and value added reports, in short, social balance sheets (Iudícibus, Martins, & Carvalho, 2005).

It should be noted that, in the mid-twentieth century, Dodd (1932) presented an initial draft of the Stakeholder theory, arguing that the firm as an economic institution has a social service to fulfill.

Both currents, both Shareholder theory and Stakeholder theory, can be considered as crucial to explain the origin and content of the accounting theories under discussion and the debate in the academic and regulatory environment of this discipline, especially with regard to the structure and content of the information to be offered to the users of the accounting information, from the viewpoint of the external users of the accounting information. Influences of these conceptual apparatuses can also be visualized in theories that try to explain the production of management information for control purposes of the firm's resources and activities.

Accounting theory, in turn, seeks not only the development of fundamental principles for accounting practice, but also the understanding of the forces that shape this practice (Hendriksen & Breda, 1999). Thus, both the Shareholder theory and the Stakeholder theory act as purely theoretical forces that influence the accounting practice.

The issue is to outline and establish the provision of information to external users, speculating on such demands, differentiated according to the focus on the shareholders or the approach of the stakeholders. It should be added that the application of such rules involves differentiated costs, which would only be justified by the utility generated by the reports disclosed to meet the various stakeholders in the operation of the firm.

Lopes and Martins (2005) contribute to the discussion, arguing that one of the main intentions of the accounting information would be to contribute to the reduction of the information asymmetry between the managers and the external audience of the firm. However, this asymmetry would not only be characterized by the quantity, relevance, timeliness, consistency and uniformity, in short, by attending to all these fundamental characteristics of the accounting information. The usefulness of accounting information would also depend on its ability to communicate what is effectively required by the objective function of the users. In this sense, it would also be important, for example, to incorporate the needs of internal users, mainly represented by the managers of the firm.

This logic of meeting the demand of internal users presupposes that the objective function of firms leads managers to appropriate accounting information directed at the control of the actions of internal agents, which is called Management Accounting or Controllership (Lopes, 2012).

In this context, Martins (2012) states that Accounting was born focused on internal users, which were losing space in their normative process, entailing the orientation of this process almost exclusively to external users, more specifically the suppliers of financial resources. This direction, driven by the separation of management and property, began to take place and consolidate throughout the 20th century.

The question that arises in this essay lies in proposing a debate about the interaction between Accounting theory and Economic theory in relation to the two competing currents that try to explain the objective function of the firm, summarizing the theoretical frameworks of the two currents of thought and exploring the clarification of what each of them proposes; and to synthesize favorable and unfavorable arguments in relation to the theories under debate.

Thus, the main objective in this essay is to establish points of correspondence between the precepts of accounting theory that guide the accounting disclosure procedures of economic, financial and social facts of the company to its audiences of interest, both internal and external, and the theoretical currents that discuss the objective function of the firm. Additionally, a secondary objective of the study is to propose that both theoretical currents discussed here converge to the same proposal: to contribute to the wellbeing of all those involved in the firm and its activities, suggesting debates and alternative issues.

It should be pointed out that, although Accounting theory, in the current context, has been and continues to be influenced by phenomena such as the international harmonization of accounting standards, it is assumed that such standards derive from theoretical foundations supported by the current accounting theoretical framework. This, in turn, rests on economic, financial and administrative theories. In this essay, we propose to focus on this exchange based on the Shareholder and Stakeholder theories.

2. Review of the Theories

Firms are the driving force of modern capitalist economies (Hart, 1989) and also represent the essence of a society's economic activity. The meaning of this type of organization (firms), however, is influenced by the historical context and the theoretical paradigm they belong to. Its objective function, therefore, has varied as conceptual explanations for its existence and form are drawn.

In this sense, up to the 19th century, the firm was understood as a monolithic maximizer of profit, being a model designed to explain the equilibrium in markets for inputs and their products, when the Neoclassical Firm theory ruled (Sunder, 2014). In this theoretical approach, the firm's only objective function was to maximize profit.

From the 1920s, with the first questioning of the neoclassical model, the theory related to the firm truly develops, also returning its studies to its internal functioning (Tigre, 2009).

Among the seminal studies on the nature of the firm and its relationship with economic agents, we highlight the work of Berle and Means (1932), in which these authors documented the effective separation between managerial controllers and ownership in large corporations in the United States (Sunder, 2014).

Coase (1937), on the other hand, discusses and suggests fundamentals that may explain the emergence and maintenance of the economic organization represented by the firm. He noted that production was coordinated by the firm and not by the market, as a result of the transaction cost savings, and the reason for establishing a firm was attributed to this fact. This mechanism would also be responsible for the internal design of the firm, in terms of size, corporate organization and manner of operation.

In addition, Coase (1937) asked a simple question that still provokes a long debate: "Why the firm, and not the market?".

Until then, economists had taken the firm as the smallest unit of economic activity (Fontrodona & Sison, 2006). The firm would exist, according to Coase (1937), to allow the entrepreneur to coordinate the production, contrary to the neoclassical paradigm, according to which this coordination would be only be done efficiently through the price mechanism operated in the market. The discussions mentioned above, while refuting neoclassical paradigms, do not deepen the discussion about the firm's objective function.

Both the work of Berle and Means (1932) and Coase (1937) present the maximization of shareholder wealth (Sundaram and Inkpen, 2004) as an objective function for the firm, supported by property rights, strengthening, in that sense, the neoclassical theory of the firm that always maintained the objective function of the firm centered on the figure of the owner.

Berle (1931) had already begun the debate on the objective function of the firm, which has since been discussed predominantly under the two prisms already anticipated: on the one hand, the model aimed at maximizing the wealth of shareholders, one of whose precursors was exactly Berle (1931); on the other hand, the conceptual model is developed that is focused on presenting the firm with the objective function of meeting the interests of all those involved in the organization, the stakeholders. One of its precursors is Dodd (1932), who states that the firm must be seen as an economic institution that has a social role to play.

In the 1980s, the objective function of the firm focused on the interest of all stakeholders comes to fruition with the development of the Stakeholder theory, credited to Freeman (1984).

This approach envisages the firm as a social organism, which interacts with the environment it operates in, based on systemic theory, and should guide its strategies based on social responsibility (Freeman & McVea, 2000). It should be emphasized that this approach rejects any idea of maximizing a single objective function as a path towards the firm's strategic management (Freeman & McVea, 2000).

2.1 Shareholder Theory

Shareholder theory or the theory of Maximization of Shareholder Wealth, as it is also known, has its roots in economics and finance theories (Jensen, 2001). In this perspective, a definition that best illustrates the value of 200 years of work in economics and finance indicates that social welfare is maximized when all firms in the economy maximize their total value (Jensen, 2001). This argument is reinforced in most Financial Management books, according to Brealey, Myers and Allen (2013), who assert that the financial manager should act in the interest of the owners, aiming at maximizing their wealth.

The primacy of shareholder wealth maximization is based on the theories of the firm, precisely on the Contract theory of the firm (Silveira et al., 2005). In this perspective, two seminal works deserve attention in this discussion, namely: the studies of Berle and Means (1932) and Coase (1937).

Berle and Means (1932) relied on the premises of property rights to argue that management for the welfare of shareholders is essential for administrative decisions, since shareholders are the owners of the firm.

Coase (1937), in turn, argues that firms correspond to a nexus of contracts to minimize transaction costs that may be present in the markets, leading the existence of the firm to something that is not at all related to state benevolence or to meeting social needs, but focused on maximizing entrepreneurs' usefulness.

Further research has reinforced the view of the shareholder theory - Macey (1991), Bainbridge (1993) and Smith (1998) -, emphasizing the primacy of maximizing shareholder wealth, also through corporate standards like the firm's objective function.

From the perspective of the theories of the firm, the main theses related to this point of view in the field of the economic theories stand out, with the argument that the owners of the resources, without a devolution clause, should have the right to profits and decision taking in the context of the company (Silveira et al., 2005).

Thus, if shareholders are entitled to the residuals (profits) of the resources produced by the company, then the firm, by maximizing its value, will also maximize the wealth of shareholders. In addition to this argument based on the residual right of shareholders, there is also the traditional argument that, as the shareholders are the stakeholders who carry more risks and less legal rights in relation to the firm, it must be in their favor that decisions should be taken (Fontrodona & Sison, 2006; Silveira et al., 2005).

Besides this situation, Silveira et al. (2005) also discuss some issues that reinforce the proposal about the primacy of the shareholders' interests, namely: the hierarchy of receipts, the right to sue the company; and the competitiveness problems that the company may be facing, a situation in which all stakeholders can stop renewing their contracts, except for the shareholders.

In summary, the Shareholder theory argues that managers have to make all decisions in order to increase the firm's total market value in the long term (Jensen, 2001). Therefore, the relationship between managers and shareholders needs to be approached from the perspective of the Agency theory.

In the Agency theory, this relationship takes the form of a contract between stakeholders and shareholders, so that the shareholders delegate decision-making power to the stakeholders, creating the principal (shareholders), who delegate power, and the agent (stakeholders), who make decisions on behalf of the principal (Fontrodona & Sison, 2006). It should be emphasized that the inverse relationship is also possible, that is, shareholders can assume the role of agent, while stakeholders assume the role of principal in the contractual relationship.

From the perspective of this theory, if the agents commit themselves to the goals set by the shareholders, and their interest is purely economic, then the firm's objective is to maximize the wealth of the shareholders (Fontrodona & Sison, 2006).

By maximizing shareholder wealth, the company value would also be maximized as a whole and, thus, this objective would favor all stakeholders in the firm (Sundaram & Inkpen, 2004).

The firm creates social value when it produces outputs or a set of outputs that are evaluated by its customers, surpassing the value of the inputs consumed in the production process (Jensen, 2001). In other words, the value of the firm corresponds to the market value of this flow of benefits (still according to Jensen, 2001).

Among the several arguments that are coherent with the Shareholder theory, one that stands out and reinforces the perspective of this theory is the proposal that the firm needs to have a single-valued objective function that corresponds to the search to maximize the value of the firm or, in other words, to maximize the wealth of the shareholders (Jensen, 2001).

For Jensen (2001), multiple objectives are not objective because it is logically impossible for the firm to maximize its value in more than one dimension at a time, unless the dimensions are transformations of another dimension. In addition, Sundaram and Inkpen (2004) argue that the Shareholder theory does not exclude stakeholder participation and rights.

Assaf and Lima (2014) present the following formula to determine the value of the firm:

$$V = FC_i / K$$

Where:

V = Firm Value;

FC_i = Operational cash flow estimated for the i-eth period, with i tending towards the infinite;

K = Rate that discounts the uncertainty of achieving the estimated cash flows.

In the model, one can observe, among the various possibilities, two ways for managers to maximize firm value and, consequently, shareholder wealth: maximize the operational cash flow, maintaining the constant uncertainty rate; or reduce the uncertainty rate, keeping the operating cash flow constant.

However, for both ways, the manager will need to efficiently manage the contracts of the other stakeholders in the company, that is, managers also have to stick to the objectives of the stakeholders. Therefore, when using the assumptions of the Shareholder theory, the wellbeing of the other stakeholders will be an additional objective.

Concerning the criticism against the Shareholder theory, the most obvious criticism is the question that the maximization of the company value can give rise to distributional implications, that is, the managers can transfer value to the shareholders from other stakeholders, instead of creating value and increasing the size of the pie (company value) (Sundaram & Inkpen, 2004). In addition to this criticism, Sundaram and Inkpen (2004) also criticize the shareholder theory as the implication of contractual failures with the imposition of external factors in direct contracts with third parties, and that such externalities do not only occur for shareholders.

A reflection of the Shareholder theory from the point of view of the contractual theory of the firm should be highlighted. According to this theory, the firm can be seen as a set of contracts between rational agents (Sunder, 2014).

However, if the firm represents a nexus of contracts, then there is not a single owner, but a set of proprietors (Fontrodona & Sison, 2006). It is important to highlight the owners' clear identification of the production factors (shareholders), but there is no reason to equate the owner of the capital with the owner of the firm (Fontrodona & Sison, 2006).

In contrast to the Shareholder theory, the Stakeholder theory argues that the firm needs to try to balance and satisfy the interests of all the stakeholders involved in the firm (Silveira et al., 2005). In the following section, relevant aspects of this theoretical approach are discussed.

2.2 Stakeholder Theory

Stakeholder theory has its origins in the mid-1980s, the initial focus being the publication of R. Edward Freeman's work in 1984, called Strategic Management - A stakeholder Approach (Freeman & McVea, 2000). Freeman envisioned the need for a conceptual framework that was different from the traditional economic roots and more consistent with changes in the business environment of the 1980s. Thus, the Stakeholder theory was responsible for this challenge (Freeman & McVea, 2000).

Although the stakeholder approach was demonstrated in the 1980s, the idea was not entirely new. In the early 1930s, there was already an incipient outline of the Stakeholder theory in Dodd's work (1932), in which it was argued that the firm as an economic institution has a social role to play. It is worth noting that the use of the term stakeholder grew based on the pioneering work of the Stanford Research Institute (SRI) in 1960 (Freeman & McVea, 2000).

The Stakeholder theory has its roots mainly in the field of sociology, organizational behavior, and the policy of specific groups' interests (Silveira et al., 2005), in contrast to the shareholder theory, which has its roots in economics and finance theories. In this sense, one of the profitable fields of research involving the concept of stakeholder refers to corporate social responsibility (CSR) (Freeman & McVea, 2000).

According to the Stakeholder theory, managers need to make their decisions taking into account all audiences involved in the firm (Jensen, 2001). Stakeholder theory attempts to address the question of which stakeholder group deserves or demands attention from managers (Sundaram & Inkpen, 2004). In this perspective, Freeman and McVea (2000) argue that the interests of key stakeholders should be integrated into the firm's purpose, and stakeholder relationships should be managed in a coherent and strategic manner.

It is necessary to highlight what is referred to as the term stakeholders. According to Jensen (2001), stakeholders can be defined as any individual or group that affects or is affected by the achievement of a firm's objectives, encompassing not only financial claimants, such as shareholders, but also employees, clients, communities and public authorities - in some interpretations, the term stakeholders may be related to the environment, terrorists, blackmailers and thieves. In this line of thinking, Donaldson and Preston (1995) argue that there is too much scope for identifying stakeholders based on the trend to adopt stakeholder definitions as "anything that influences or is influenced" by the firm (Freeman, 1984, cited in Donaldson & Preston, 1995). This definition openly defines stakeholders as actors that are part of the firm's environment and that may, in fact, have some impact on the firm's activities but have no specific interest in the firm itself (Donaldson & Preston, 1995). Corroborating the authors, Silveira et al. (2005) present some definitions for stakeholders in two distinct poles: at one pole, stakeholder is any actor who has a relationship or interests with or in the firm; and at the opposite pole, primary stakeholders are actors with interests in relation to the firm, without which it would not be feasible.

Stakeholder theory can be, and has been, presented and used in many different ways involving very different methods (Donaldson & Preston, 1995). Thus, Donaldson and Preston (1995) reveal three alternative aspects found in the literature on this approach, which can be characterized as descriptive or empirical, instrumental and normative. In the descriptive aspect, the Stakeholder theory is used to describe and sometimes to explain specific characteristics and behaviors of firms (Donaldson & Preston, 1995). As for the instrumental aspect, the Stakeholder theory, together with the descriptive / empirical data, when available, is used to identify the connections, or lack thereof, between stakeholder management and traditional corporate objectives (Donaldson & Preston, 1995). Finally, in the normative aspect, the Stakeholder theory is used to interpret the firm's function, including the identification of moral and philosophical orientations for the operations and management of firms (Donaldson & Preston, 1995).

In this perspective, Freeman and McVea (2000) also note that Stakeholder theory has been developing in four distinct lines of management research in the last 20 years. These lines are identified by the authors as: business planning; systems theory; corporate social responsibility; and organizational theory. In the line of business planning, the conception emerges that successful strategies are those that involve balancing the interests of all stakeholders rather than maximizing the position of a single group to the detriment of others (Silveira et al., 2005) . On the other hand, in the line of Systems theory and Organizational theory, the emphasis is placed on the proposal of companies as open systems that relate to the different parts of the environment, demanding the elaboration of collective strategies that would benefit the system as a whole (Silveira et al., 2005). Finally, the line of corporate social responsibility cannot be considered a formalized theoretical group, but a collection of business case approaches and empirical tests that emphasize and demonstrate the importance of building strong and reliable relationships, as well as a good reputation with all stakeholders related to the firm (Silveira et al., 2005).

Other authors, such as Hill and Jones (1992), have also contributed to the development of Stakeholder theory by outlining a relationship between the concept of stakeholders and the agency theory. According to this conception, managers are the agents of all stakeholders, and they would distinguish themselves according to their power and level of interest in the firm, which would lead to a constant imbalance between the forces involved (Hill & Jones, 1992) .

The theoretical model created by Hill and Jones (1992) focuses on the causes of conflicts between managers and stakeholders after the emergence of unbalanced conditions. This theoretical approach is in many respects similar to the Agency theory, but it has assumptions about market processes that are substantially different from those underlying the Agency theory; one of these assumptions refers to the market efficiency, present in the Agency theory, which is relaxed in the model by Hill and Jones (1992).

Freeman (1984, as quoted in Freeman & McVea, 2000), stresses the importance of a theoretical approach differentiated from traditional economic theories and consistent with the changes in the business environment of the 1980s. Freeman and McVea (2000) also point out that managers need to make business decisions respecting the wellbeing of stakeholders, rather than treating them as a means to a business purpose.

In contrast to the above arguments, some critics present several arguments related to the incoherence of the Stakeholder theory. One initial argument is that this theory suggests the adoption of multiple goals by the firm, since firms have to balance the interest of all stakeholders. In this sense, Sundaram and Inkpen (2004) argue that having more than one objective function will make governance difficult, if not impossible. Corroborating these authors, Jensen (2001) argues that having multiple goals is not objective. Another criticism of Stakeholder theory refers to the freedom given to executives to make decisions, since no main criterion has been defined (Jensen, 2001). Jensen (2001), Sternberg (1999) and Sundaram and Inkpen (2004) emphasize that firms adopting the Stakeholder theory will find it difficult to compete for their survival, mainly because of the lack of clear and unique objectives, the difficulty to identify the most important stakeholders for the company, the denial of property rights, among other reasons (Silveira et al., 2005).

Both the Shareholder theory and the Stakeholder theory have a strong relationship with Accounting. Accounting is influenced by both theoretical approaches, regarding these theoretical models' different demands for information.

3. Influence on the Formulation of Accounting Theories

The accounting practice, that is, the accounting practice and standards, is strongly influenced by the dominant economic concept of the firm. Accounting theory, on the other hand, is based on the approach of the shareholders and on the approach of the stakeholders. Lopes (2012), for example, states that there is no single accounting capable of meeting all the interests, since they are very different according to the different audiences interested in their information.

From the perspective of Neoclassical theory, there would be no role for accounting in the firm's operation, since there would be no need for information in perfect markets (Sunder, 2014), and as a premise, information is free and complete. In this case, the firm's objective function would not depend on external users' knowledge about the firm's operations. However, this could not be said for information processed internally with an exclusive focus on control, since it is motivated only by management issues.

Nevertheless, one can seek clarification in the shareholder approach - of maximizing firm value - for the configuration of reports and accounting analyses that emphasize the disclosure of profit (through the income statement); for the explanation of the movements in the net equity (Comprehensive Income Statement and Statement of Changes in Net Equity); and to explain the cash flows from the economic perspective of the capacity to preserve the company (cash flow statement); for the accounting indicators, which are extremely interested in evaluating the company's performance using measures focused on higher profitability, greater liquidity and structures that guarantee the survival of companies.

From the perspective of the Contractual theory of the Firm, accounting information plays a decisive role in the operation and evaluation of the firm, acting as one of the parties to the contract execution mechanism (Sunder, 2014), from the point of view of the external user or in the case of strictly managerial information.

In the context of the Shareholder theory, accounting is designed to provide partners and shareholders with information on the compliance of contracts by management agents, especially as regards firm performance, since the managers depend on the firm's contributions and contract rights to determine its own rights (Sunder, 2014).

Still in the perspective of this approach, and in the light of the argument of the firm's economic theories, in which the shareholders are the holders of control rights and responsibility for decision making in the firm, it would be up to accounting to offer reliable and timely information to guide its investment decisions, always aimed at demonstrating the investor's sense of maximizing wealth.

Another issue related to accounting and shareholders concerns the costs required by the accounting system, since the information generated by that system (financial statements) is shared with the public, because published financial reports correspond to public goods (Sunder, 2014). Even so, this expenditure is accepted, given the ability to evaluate performance through these data.

The generation of information for external users, mainly shareholders, would be insufficient to reach the objective function of the firm to maximize the interests of the members. Information given to those who manage the firm, given the premise of separation between ownership and management, already pointed out by Berle and Means (1932), would also be characterized as providing information about agents' performance, mainly controlling agency costs, in order to guarantee shareholder remuneration (Martins, 2012). It can then be argued that remuneration and compensation systems, cost and budget systems and other performance appraisal tools were based on the underlying idea of the objective function with a focus on shareholders.

It should be noted that the current theoretical framework of Management Accounting identifies the focus on value creation for the firm through the effective use of resources, using value creation drivers for the consumer, the shareholder, and organizational innovation (IFAC, 1998, as quoted in Guerreiro, Cornachione, & Soutes, 2011). This statement evidences the influence of both the Shareholder theory (emphasis on value creation for shareholders) and the Stakeholder theory (emphasis on customer value creation) on the motivation of Management Accounting.

Returning to the context of the Stakeholder theory, one can understand that the main impact of this approach in accounting practice and regulation refers to the creation of a set of social and environmental information regarding the firm. Iudícibus et. al. (2005) argue that Accounting cannot privilege certain stakeholders, to the detriment of others, since the information asymmetry between the various users of the accounting information is increasing.

Although the production of accounting reports in this line of information is still elementary, it is worth mentioning the rise of the Value Added Statement (VAS) to the category of mandatory reporting for some companies, which contributes to a corporate culture based on transparency (Dias, 2010).

The VAS is considered an information instrument directed at stakeholders because it presents the wealth generated by the firm (Cunha, Ribeiro, & Santos, 2005), as well as its distribution to the various agents around the company's operation, showing the company's social role in the community it is inserted in (Cunha, Ribeiro, & Santos, 2005).

In addition, firms at the end of the last century intensified their adherence to the idea of Corporate Social Responsibility, and they voluntarily disseminated reports aimed at informing the social balance of their activities. Thus, an active research line was created in the accounting area based on the objective function with a focus on stakeholders, yet without a clear focus on the meaning of information other than the ethical sense.

From this perspective, experiences such as GRI and Integrated Report align with the vision of offering information to multiple stakeholders. Reis, Cintra, Ribeiro and Dibbern (2015) treat the integrated report as a promise in which several relevant pieces of information would be interconnected, which would facilitate the understanding of the connection between the different information groups. It should be noted that these experiences are the subject of active research in the accounting area.

The emergence of information design focused on the interests of stakeholders is aligned with the evolution of accounting information (Iudícibus et al., 2005). In other words, as diverse stakeholders emerge, Accounting becomes a simplified accounting and information system in a complex information and evaluation system (Iudícibus et al., 2005). In this view, Accounting theory itself would not have its own objective function, revolving only around the production of information about the firm.

Thus, two paths are outlined for accounting theory: providing information focused on meeting the objective function of maximizing shareholder wealth; or turning to the disclosure of information to all stakeholders related to the firm, including shareholders.

In the first case, Accounting, despite acknowledged possibilities of bias in accounting reports, by means of accounting choices, already provides a set of reports directed at shareholders. In the second case, although some stakeholders benefit from reporting to shareholders, there are still insufficient reports to serve the firm's other stakeholders, although research efforts in this direction are already happening, both globally and locally.

The basic difference between the theoretical currents discussed refers to the conceptual ontological basis of being these currents consider; the accounting current focused on the production of information to stakeholders, which does not consider the conceptual ontological basis of being related to why produce information to all stakeholders, differently from the accounting current aimed at producing information for shareholders, in which there is an explicit statement to produce useful information for the agents' decision making.

This context contributes to diffuse the accounting current that proposes the production of information directed to all stakeholders, since there is no explicit identification of the user of the information, nor of its usefulness for that user.

Two fundamental questions explain the still diffuse nature of the accounting current directed at stakeholders: (i) do all stakeholders require accounting information; and (ii) is accounting information useful to all stakeholders? The answers to these questions are not explicitly addressed in the theoretical current directed at stakeholders.

4. Conclusions

As explained above, Accounting, with regard to its information function, both from the internal user's perspective and from the external user's interest, receives influence from the two theoretical currents that seek to explain reasons and motivations that guide the firm's management.

In the context of Shareholder theory, Accounting already provides reports directed at those users, which is evidenced by the structuring of the information offered and defined in the main conceptual structures in developed or developing economic environments.

From the point of view of the Stakeholder theory, accounting reports are already discussed and presented to the firm's stakeholders, covering a broad spectrum of interests in social and environmental lines. Its design, however, still lacks clear contours, whether in the direction or in the format. Such specification, still diffuse, would arise from the low identification of demand for such information, either due to the high dispersion of users, which makes it difficult to identify its usefulness, or to the very development of this theory.

In addition, the predominance of the shareholder theory in influencing the accounting premises that direct the information dissemination is highlighted, an argument that is reinforced by the role of that theoretical branch in orienting the conceptual structure of Accounting in the main accounting standards applied around the world.

In addition, although the Shareholder and Stakeholder theories present different arguments regarding the objective function the firm needs to pursue, at bottom, both approaches will result in the same formulation of its final object, which is the well-being of all those involved in the firm.

Sundaram and Inkpen (2004) argue that the shareholder versus non-share owning stakeholder debate is poorly designed, since the objective of maximizing shareholder wealth can be manifestly favorable to other stakeholders, given the firm's social organization.

As discussed in the firm's value equation, managers, in pursuing the maximization of shareholders' wealth, should also adhere to the objectives of the other stakeholders. Therefore, it is inferred that both approaches do not clash or oppose but complement one another, since the Shareholder theory focuses on the economic dimension, and the Stakeholder theory on social and behavioral dimensions.

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Consistency of Higher Education Institutions' Strategies: A Study Based on the Stakeholders' Perception using the Balanced Scorecard

Abstract

The strategic orientation of the company was conceived as a management tool known as the Balanced Scorecard (BSC), which aims to measure and monitor the strategy in action. The objective of this study was to verify the strategic consistency in the perception of the stakeholders at Private Higher Education Institutions (HEI), through the perspective of the Balanced Scorecard. The method used was a descriptive research, through a quantitative approach. Data were collected through a questionnaire, applied at four HEIs in the State of Minas Gerais, including directors / coordinators, teachers and students called stakeholders, to identify, based on a Balanced Scorecard model with four indicators in each perspective (financial, clients, learning and growth and internal processes), the consistency of the strategies as perceived by these groups. The main results pointed to a perception difference of the managers regarding the perspectives, with a greater degree of importance given to the perspective "Learning and Growth" and "Internal Processes". The group of teachers attributed less importance to the "Customers" perspective. The main inconsistencies were found in the "Internal Processes" perspective. The "Financial" perspective presented less gaps when compared between the groups, which reveals a strategic inconsistency at the HEIs through the stakeholders' perception. It is concluded that strategic consistency can contribute to organizational competitiveness, identifying the existence of alignment in the actions developed that result in greater efficiency for a competitive scenario according to its stakeholders.

Key Words: Strategic Consistency. Balanced Scorecard. Stakeholders.

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1. Introduction

With the expansion of Brazilian Private Higher Education Institutions (HEI), in addition to several factors such as internationalization, mergers, mergers and split-ups, technological process and changes in consumer behavior, institutions seek efficiency standards for their management. In order for HEIs to conduct their actions in a competitive manner, it is necessary to use strategic management. Strategic management is a competitive advantage that seeks to identify best practices and strategies to guide business and constantly assess the consistency of its actions (Chen, Delmas & Lieberman, 2015).

To consistently evaluate the consistency of their actions, companies adopt strategic consistency, which can be defined as a sequence of internally consistent and conditional resource allocation decisions that are designed to meet the goals of an organization, sharing the resources in accordance with the interests of institutional units, leading to business performance (Venkatraman & Camillus, 1984).

The measuring of performance linked to the strategic orientation of the company was conceived as a management tool known as Balanced Scorecard (BSC), which aims to measure and monitor the strategy in action. This instrument is organized in four distinct perspectives: "Finance", "Customer", "Internal Process" and "Learning and Growth", and is used for one of the core objectives of the BSC, which is to communicate the strategy in all areas of the company, seeking to produce a unified view of the company through performance indicators and the chain of cause and effect. The BSC was developed by Prof. Robert S. Kaplan of the Harvard Business School, and consultant David P. Norton, CEO of the Nolan Norton Institute in 1992 (Hoque, 2014). According to Frezatti, Bido, Cruz and Machado (2015), BSC is one of the relevant elements to formalize the implementation of strategies.

Strategic consistency within a higher institution can be considered as a verification measure of the fulfilment of its mission and strategy and can be related with the students' perceptions, whose values, mission, vision and strategies were well defined (Kettunem, 2003). The strategic use of actions in education and the consistency of these strategies, used efficiently along with the motivational aspects, contribute to a good result and success of the students (Meneghetti, De Beni & Cornoldi, 2007).

In this context, this work presents an investigation of the perceived strategic consistency of private Higher Education Institutions (HEIs), using the perspectives of the BSC, among the directors / coordinators, teachers and students, treated as stakeholders. Thus, the present study aims to answer the following question: Is there a strategic consistency in the perception of stakeholders at Private Higher Education Institutions through the perspective of the Balanced Scorecard?

Thus, the general objective in this study is to verify the strategic consistency according to the stakeholders of private higher education institutions, through the perspectives of the Balanced Scorecard.

Managing an HEI is an increasingly complex task as the market demands for greater profitability in institutions multiply, improving the quality of education, and greater flexibility to ensure competitiveness in the face of the needs imposed by the market and by the Ministry of Education. Education and Culture (MEC). In addition, the global and domestic financial crisis needs to be considered in their strategies, which forces HEIs to compete with each other for more students, which, in turn, highlights the need for more strategic and efficient management (Lira, Gonçalves & Marques, 2015).

In this scenario, this work intends to contribute to management research at HEI, investigating the strategic consistency, which is seen as the sharing of resources and actions per business unit, predicting the level of business performance that may interfere in the results for students, teachers and stakeholders, with a view to contributing to the alignment of strategies and reducing the gaps found. The intent is to deepen the study by Rocha and Oliveira Casartelli (2014), which emphasize the importance of common strategic planning, the stakeholders' need for the dissemination of the BSC methodology and the active participation of top management.

Considering the above, this research seeks to contribute to the findings of Rocha and Oliveira Casartelli (2014) and Ferreira (2013), investigating the strategic consistency at private HEIs, and studying the stakeholders' perception, thus filling the existing gap, in order to verify how to gain a competitive advantage and to deepen the strategic management in the long term (Teixeira & Castro, 2015). The authors emphasize that, despite the widespread use of BSC for higher education, none of the studies mentioned illustrates a clear step for the execution of the strategy phase.

The method proposed is descriptive with a quantitative approach and with data collection through a questionnaire applied at four private higher education institutions - Unipac - located in Governador Valadares, Timóteo, Ipatinga and Betim, all of them in the state of Minas Gerais.

2. Theoretical Framework

2.1 Strategic Consistency

Although the general concept of consistency has been used with very different meanings in a range of contexts, Venkatraman and Camillus (1984) understand its use based on two definitions: (a) descriptive or normative and (b) conceptual or empirical. He describes that strategy research involves the general concept of consistency, contingency, congruence, alignment, etc., invoking and testing various theoretical relationships, but these invocations vary significantly in their theoretical basis and in their accuracy.

A high level of strategic consistency may signal the existence of a strong competitive strategy, or simply structural inertia (Porter, 1992). Strategic consistency means a balance in the allocation of resources in companies. Consistency can also be understood as a balance between strategic business choices and the functional levels of these strategies (Harrison, Hall & Nargundakar, 1993).

The study by Lamberg, Tikkamen, Nokelainen and Suur-Inkeroinen (2009) was based on strategic consistency, according to the pattern of competitiveness of the actions, and describes that the strategic consistency refers to the comparability in the repertoire and the amount of actions an organization undertakes to conduct its competitive position. Thus, a high level of strategic consistency may signal the existence of an explicit or implicit competitive strategy.

By relating the strategic consistency, through the management process of the BSC at HEI, the acknowledgement of the importance of strategic planning for the HEI is highlighted as a strong point. Another point would be the existence of a common strategic focus, as well as the definition of comprehensive institutional priorities, the creation of an implementation team capable of disseminating the BSC method and obtaining an IT tool to support the process and actively engage the top management in this process (Rocha & de Oliveira Casartelli, 2014).

2.2 Stakeholders

In a restricted view, the stakeholders in a social space of the organization can be understood as any group or individual that can affect or be affected by the organizational objectives (Freeman, 2010). Starik (1994), years later, considers them in terms of the extent, type of benefit, importance and, above all, the perception of what organizations are and what their objectives are.

Stakeholders are classified as internal and external stakeholders and should act with corporate social responsibility, agility and performance (Clarkson, 1995). They can be divided into two groups: environmental stakeholders (clients, owners and community) and stakeholders (Employees and suppliers). Stakeholders are considered interested parties who contribute to organizational management and evaluation (Atkinson, Waterhouse & Wells, 1997)

Within this range of considerations and propositions, the literature considers stakeholders as employees, shareholders, suppliers, customers and the community (Moore, 1999). In this research, we worked with the following stakeholders: students, teachers, coordinators and directors.

2.3 Strategies and Management of Higher Education Institutions

To establish an efficient management at Higher Education Institutions, it is necessary to consider some values, which can happen through the creation of value for students, teachers, employees and society, based on the balanced management of intangible assets and on the planning and control of financial resources that will translate into excellence in the delivery of educational services and the financial sustainability of the business (Silva, 2009). To manage these values, one can use the forward-looking BSC for internal improvement, employee investment and long-term performance (Kaplan & Norton, 1997).

Rocha and Oliveira Casartelli (2014) assume that, with the BSC's adaptation to Higher Education Institutions, it is possible to create and communicate the strategy and the directions, through a system of indicators, for all hierarchical levels of the organization, leading to strategic consistency. Therefore, it is possible to adopt the BSC in the performance measuring and assessment system linked to the organizational strategy, offering managers of Higher Education Institutions feasible options to decide on their plans and actions.

The BSC is a tool that was developed in the United States in the year 1992. Its main authors / promoters are Robert Kaplan and David Norton. One of the main objectives of the Balanced Scorecard is to enable managers to monitor and adjust the implementation of organizational strategies (Kaplan & Norton, 1997). The authors' proposition in the development of the Balanced Scorecard is that organizations, in addition to measuring financial indicators, do the same with non-financial indicators, such as clients and knowledge of their employees, always in order to create value in the process, product and / or service. According to Melo Santos, Bronzo, Olieira and Resende (2014), the BSC model integrates measures for business strategies, according to Kaplan, in at least four dimensions: "Financial," "Customer," Internal Processes, "and" Knowledge and Growth".

BSC complements financial measures of past performance with vector measures that drive future performance (Kaplan & Norton, 1997). In his study, Lima Júnior (2008) states that BSC evolved from a measurement tool to become what Kaplan and Norton (1997) describe as a strategic management system. Although the original intent of the Scorecard system was to balance the financial historical figures with the future value guidelines for the organization, as more companies tested the concept, they found that the Balanced Scorecard with its strategy is an essential tool for alignment in short-term actions.

The main objectives of the BSC, according to Kaplan and Norton (1997), are: to clarify and translate vision and strategy; communicate and link objectives and strategic measures; Plan, set goals and align strategic initiatives; and improve strategic feedback and learning. They also add that BSC cannot be understood only as a set of critical indicators or key factors of success, but rather as the composition of an articulated chain of mutually reinforcing logical measures and objectives that function as a complex set of cause and effect relationships (they should permeate all four perspectives), and that a combination of outcome measures and performance vectors (quantitative indications of time or percentage) is possible because outcome measures without performance vectors do not communicate how outcomes are achieved (Kaplan & Norton, 1997).

Like any other organization, Higher Education Institutions need to have financial sustainability, customer and student satisfaction, learning and growth of their human capital, and internal processes that lead to efficiency-focused management. This management method can be achieved at HEI through the adaptation of the four perspectives of the BSC, through the creation of strategic maps, strategic objectives and, finally, performance indicators inherent to the sector (Silva, 2009).

Rocha and de Oliveira Casartelli (2014) argue that the use of BSC in private HEIs contributes to the definition, classification and communication of their strategy, translating vision and strategy into a set of performance measures. They synthesized the perspectives of the Balanced Scorecard in Higher Education Institutions into: financial responsibility, clients, education, internal processes, learning and growth.

The BSC was studied by Rüdell Bolignon, Pentiado Godoy and Souto Bolzan Medeiros (2014), who proposed to identify the steps necessary for the implementation of the organizational performance assessment tool. The main objective of the authors' work was to translate the vision and mission of an organization into a set of performance indicators, based on the Balanced Scorecard method, for the strategic management of the organization. And it was identified that the main benefits of the BSC are: greater knowledge of organizational strategy and mission, employee motivation, integration of the different areas of action and an improvement in the follow-up of strategic actions and a comprehensive view of organizational performance.

For the application of the questionnaire, performance indicators were evaluated and the three principles of the BSC were adopted: the cause and effect relationship; results and performance vectors; and the relation with the financial factors, as proposed by Silva (2009), within the perspectives adapted from the author by Ferreira (2013), being: Learning and Growth; Qualification of teachers; Qualification of administrative technicians; Motivation and satisfaction in the work of the teaching staff; and improvement in Information Technology - IT. The three principles are:

a) Internal Processes: pedagogical project / diversity of courses / teaching quality; research and extension program; physical and technological infrastructure (bibliographic collection, laboratories, location, etc.); and social projects and programs;

b) Clients: reputation for quality of teaching; meeting the expectations of the student; creation of value for the student through support service and tradition of the brand acknowledged by the market;

c) Financial: sustainability of the institution; cost / benefit ratio of the monthly fee; rational use of available resources; and incentive programs (grants / funding policies / agreements and partnerships).

The hypotheses to be tested in this study were elaborated based on the literature review, especially based on the research results of Kaplan and Norton (1997), Serdar Asan and Tanyas (2007) - Lima Júnior (2008), Silva (2009), Lamberg et. Al. (2009), Rocha (2000), Ferreira (2013) and Rocha and de Oliveira Casartelli (2014).

Thus, the study intends to test the following hypotheses:

H0 - There are no statistically significant differences between the average scores obtained for the variables, considering the three groups management / coordination, teachers and students.

H1 - There are statistically significant differences between the average scores obtained for the variables, considering the three groups management / coordination, teachers and students.

3. Research Method

The proposed method is descriptive, using a quantitative approach and data collection through a questionnaire, at four private Higher Education Institutions - Unipac - located in Governador Valadares, Timóteo, Ipatinga and Betim.

The research was developed through a data collection survey and was conducted through questionnaires, applied to the director / coordination, teachers and students to evaluate the strategic consistency among these subjects, within the perspectives of the BSC.

In the first phase of the research, data were collected in a pilot sample with two hundred students, 21 (twenty-one) directors / coordinators and 31 (thirty-one) professors to validate the research instrument.

In the second phase of the research, new data were collected and the pilot sample was not reused, with 903 (nine hundred and three) students, 37 (thirty seven) directors / coordinators and 90 (ninety) teachers.

In the evaluation of the performance indicators, the three principles of the Balanced Scorecard were adopted: the cause and effect relation; results and performance vectors; and the relationship with financial factors, as proposed by Silva (2009), according to the questionnaire adapted from Ferreira (2013).

3.1 Data Analysis Institutions and Population

The research population consists of coordination/management staff, teachers and students from undergraduate courses in Accounting, totaling 45 people in the coordination / management group, 322 people in the teachers group and 8,520 students, approximately (data for the year 2011).

A questionnaire was elaborated that covers four perspectives of the BSC: "Learning and Growth", "Internal Processes", "Clients and Financial perspectives", in which the respondent assigns a grade from 1 to 5, ranging from of no importance to total importance. With these perspectives, the BSC considers the degree of importance, according to the respondent, of each indicator in the formation of the quality standard of Unipac, totaling 16 approaches.

A survey was conducted with 1,030 respondents, 31 of whom were eliminated because they presented zero variance, totaling 999 valid questionnaires. As proposed by Lima Júnior (2008), the questionnaires of respondents who presented zero variance, that is, attributed to same score to all indicators, were eliminated from the analyses. Hence, it is believed that the respondent did not ponder when responding, because he presented the same answer to 16 items. In the descriptive analysis, the mean represents the degree of importance the respondents attribute according to the questionnaire, which varies from 0 to 5.

The Radar chart was used to show the results presented in the descriptive analysis. This chart, also known as a Spider chart or Star chart because of its appearance, plots the values of each category along a separate axis that starts in the center of the graph and ends in the outer ring. The Radar chart compares the aggregate values of various data sequences.

In order to verify if significant differences were observed through the descriptive analysis of the data, the Analysis of Variance (Anova) was performed. ANOVA permits evaluating if the observed differences between more than two sample means can be randomly distributed, or if there are indeed differences between the means of the corresponding populations (Werkema & Aguiar, 1996). To compare the means of the Balanced Scorecard indicators between the groups, the Levene test was initially performed, identifying the homogeneity of variance between the groups. This test permits verifying the homogeneity of the variances to be compared. And, in this case, if the p-value is greater than 0.05, this indicates that the variances are significantly homogeneous.

Observing differences between means when trying to find out to for which groups the means are different, the Games-Howell test was performed. The Games-Howell comparison test is indicated for situations in which the variances are not the same between the groups and in which the groups have very different sizes (SPSS INC, 2003).

When the hypothesis of equality of variances was not rejected, the Scheffe test was used. The Scheffe test is robust for cases where the samples have very different sizes (SPSS INC, 2003). The Factorial Analysis aims to analyze the interrelationships among a vast number of variables, identifying a group of common latent dimensions, which are called factors (Hair, Babin, Money & Samouel, 2005).

4. Results

The target audience of the research is divided into three analysis groups, being "Director / Coordinator", "Teachers" and "Students". Figure 1 shows the sample distribution by groups. In total, 999 interviews were carried out, of which 3.7% (37 respondents) are from the Director / Coordinator group; 9.0% (90 respondents) from the "Teachers" group; and 87.3% (872 respondents) from the "Students" group. All analyses were performed for the three research groups.

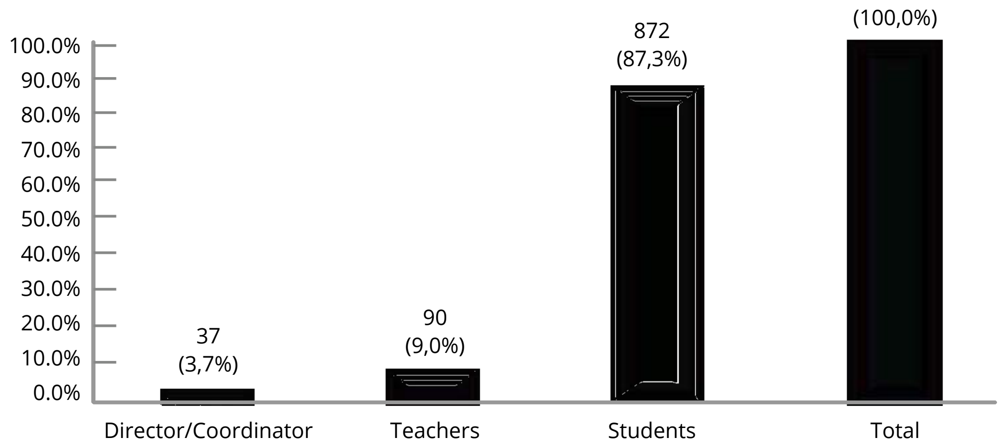

Figure 1. Interviewees per analysis group

Source: research data.

4.1 Descriptive Analyses of Degrees of Importance of the Indicators

For each of the indicators, some descriptive statistics were calculated, such as: the mean, standard deviation and importance, which is the sum of the percentages of grades 4 (four) and 5 (five) of the grade scale used in the questionnaire. The general average of the indicators was calculated, first, obtaining the average grades of each interviewee for the indicators. Then, the average was made between the interviewees and the standard deviation of the overall mean was calculated from each perspective. The significance of the differences between the averages obtained were evaluated by means of statistical tests of Analysis of Variances (Anova), to compare the mean grades.

4.1.1 Learning and growth perspective

The first BSC perspective assessed was related to Learning and Growth. It was observed that the "Students" group tends to strongly influence the significance of the differences between the groups with regard to the indicators of the perspectives. Some descriptive statistics are displayed in Table 1.

Table 1:
Descriptive Statistics of Learning and Growth Perspective

Groups	Indicators	Mean	Standard Deviation	VC(%)	Level of importance
Director/ Coordinator	1-Teachers' qualification	4.84	0.44	9.09%	97.30%
	2-Administrative technicians' qualification	4.57	0.60	13.13%	94.59%
	3-Teaching staff's motivation and satisfaction at work	4.84	0.44	9.09%	97.30%
	4-Qualification in Information Technology (IT)	4.27	0.84	19.67%	83.78%
	GENERAL AVERAGE	**4.62**	**0.36**	**7.79%**	**93.24%**
Teachers	1-Teachers' qualification	4.66	0.72	15.45%	93.33%
	2-Administrative technicians' qualification	4.32	0.83	19.21%	86.67%
	3-Teaching staff's motivation and satisfaction at work	4.67	0.67	14.35%	94.44%
	4-Qualification in Information Technology (IT)	4.14	0.80	19.32%	80.00%
	GENERAL AVERAGE	**4.45**	**0.55**	**12.36%**	**88.61%**
Students	1-Teachers' qualification	4.56	0.72	15.79%	90.25%
	2-Administrative technicians' qualification	4.09	0.92	22.49%	74.66%
	3-Teaching staff's motivation and satisfaction at work	4.34	0.87	20.05%	83.72%
	4-Qualification in Information Technology (IT)	4.02	1.04	25.87%	72.59%
	GENERAL AVERAGE	**4.25**	**0.72**	**16.94%**	**80.30%**

Source: research data.

The "Director / Coordinator" group tends to grade the "Learning and Growth" indicators higher, which can be observed for the mean values and the degrees of importance assigned and presented in Table 1. The students group tends to assign less importance to this perspective in relation to the other groups when the average grades are observed. Another relevant factor is in terms of the homogeneity of the groups, since the Variation Coefficient (VC) is lower for the Director / Coordinator group (7.79%), which indicates that the perceptions tend to be more similar among the interviewees. Some discrepancies in the results can be seen in Figure 2.

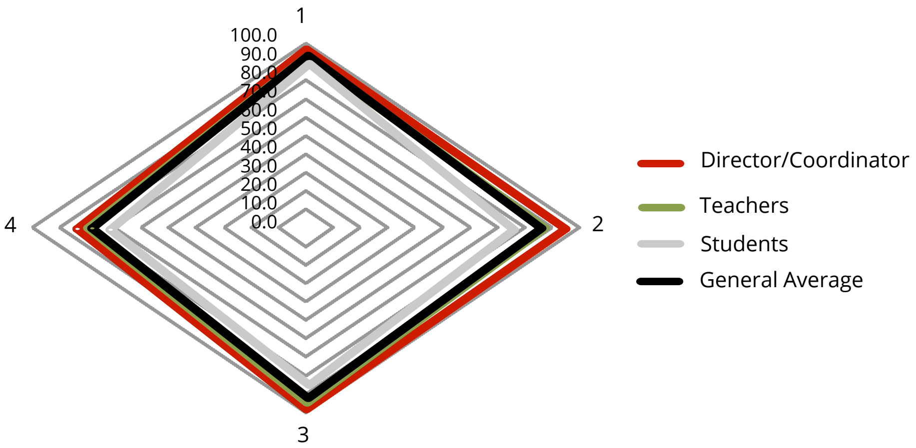

Figure 2. Degree of importance for the indicators of the Learning and Growth perspective

Source: research data.

Legend:
1-Teacher qualification
2-Qualification of administrative technicians
3-Motivation and satisfaction in the work of the teaching staff
4-Qualification in Information Technology (IT)

From Graph 2, it can be noted that the degree of importance the students attribute to this perspective tends to be lower compared to the group of teachers and the group "Director / Coordinator", respectively, for all indicators. The more to the end of the Radar chart, the higher the percentage of the degree of importance assigned to the indicators. The lines of the students' percentage grades are more internal to the Radar chart and lower than the general average, which indicates lower grades of importance.

4.1.2 Internal processes perspective

The second perspective of the Balanced Scorecard evaluated was related to "Internal Processes". The differences between the groups were significant in relation to the indicators in this perspective. These differences are mainly related to the evaluation of the directors / coordinators. Table 2 presents the descriptive statistics.

The "Director / Coordinator" group tends to assign higher grades to the indicators related to the Internal Processes Perspective, which can be observed for the mean values and for the importance grades assigned in Table 2. Students tend to assign less importance to this perspective when compared to the other groups when the average grades are observed, although the differences appear to be smaller for this perspective. Another relevant factor is in terms of group homogeneity. The Variation Coefficient (VC) is lower for the "Director / Coordinator" group (8.30%) and for the "Teachers" group (9.74%), which indicates that perceptions tend to be more similar between interviewees in these two groups. Some discrepancies in the results can be seen in Figure 3.

Table 2:
Descriptive Statistics of the Internal Processes Perspective

Groups	Indicators	Mean	Standard Deviation	VC(%)	Degree of Importance
Director/ Coordinator	1-Pedagogical project/range of courses/ teaching quality	4.76	0.50	10.50%	97.30%
	2-Research and community service program	4.24	0.55	12.97%	94.59%
	3-Physical and technological infrastructure	4.73	0.45	9.51%	100.00%
	4-Social projects and programs	4.11	0.70	17.03%	81.08%
	GENERAL AVERAGE	**4.46**	**0.37**	**8.30%**	**93.24%**
Teachers	1-Pedagogical project/range of courses/ teaching quality	4.66	0.56	12.02%	95.56%
	2-Research and community service program	4.31	0.71	16.47%	87.78%
	3-Physical and technological infrastructure	4.50	0.66	14.67%	91.11%
	4-Social projects and programs	3.84	0.91	23.70%	58.89%
	GENERAL AVERAGE	**4.33**	**0.41**	**9.47%**	**83.33%**
Students	1-Pedagogical project/range of courses/ teaching quality	4.34	0.89	20.51%	83.94%
	2-Research and community service program	3.97	1.08	27.20%	72.71%
	3-Physical and technological infrastructure	4.01	1.17	29.18%	70.64%
	4-Social projects and programs	3.96	1.04	26.26%	70.64%
	GENERAL AVERAGE	**4.07**	**0.87**	**21.38%**	**74.48%**

Source: research data.

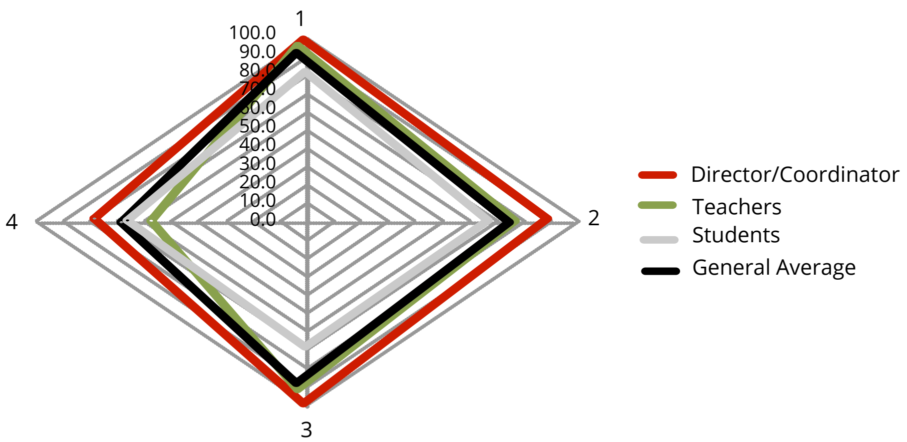

Figure 3. Degree of importance for the indicators of the Internal Processes perspective

Source: research data.

Legend:
1-Pedagogical project/range of courses/teaching quality
2-Research and community service project
3-Physical and technological infrastructure
4-Social projects and programs

Figure 3 reveals that the students tend to consider this perspective less important than the teachers and the director/coordinators, respectively, except for the attribute "Social Projects and Programs". The lines of the students' percentage grades are located more to the interior of the Radar graph and are lower than the general average, indicating lower grades of importance.

4.1.3 Clients perspective

Third, the "Clients' perspective was assessed. Significant intergroup differences were observed with regard to the indicators in this perspective. These differences are mainly related to the teachers' assessment. The descriptive statistics are displayed in Table 5.

Table 3:
Descriptive Statistics of Clients Perspective

Groups	Indicators	Mean	Standard Deviation	VC(%)	Degree of Importance
Director/ Coordinator	1-Reputation for quality of teaching	4.95	0.33	6.67%	100.00%
	2-Responding to students' expectations	4.08	0.86	21.08%	81.08%
	3-Attribute value to the student through support services	3.86	0.92	23.83%	78.38%
	4-Brand tradition acknowledged in the market	4.30	1.13	26.28%	78.38%
	GENERAL AVERAGE	**4.30**	**0.55**	**12.79%**	**84.46%**
Teachers	1-Reputation for quality of teaching	4.62	0.59	12.77%	94.44%
	2-Responding to students' expectations	4.04	0.83	20.54%	72.22%
	3-Attribute value to the student through support services	4.01	0.89	22.19%	65.56%
	4-Brand tradition acknowledged in the market	3.64	1.15	31.59%	56.67%
	GENERAL AVERAGE	**4.08**	**0.63**	**15.44%**	**72.22%**
Students	1-Reputation for quality of teaching	4.31	0.92	21.35%	81.88%
	2-Responding to students' expectations	4.23	1.02	24.11%	80.96%
	3-Attribute value to the student through support services	4.10	1.04	25.37%	75.23%
	4-Brand tradition acknowledged in the market	4.10	0.99	24.15%	75.80%
	GENERAL AVERAGE	**4.19**	**0.82**	**19.57%**	**78.47%**

Source: research data.

For the "Clients" perspective, the "Teachers" group shows a slightly lower importance in relation to the other groups. Table 3 presents apparently significant mean differences between the "Teachers" group and the other groups. The Variation Coefficient (VC) is lower for the "Director / Coordinator" group (12.79%), which indicates that the perceptions tend to be more similar among the interviewees. Some discrepancies in the results can be seen in Figure 4.

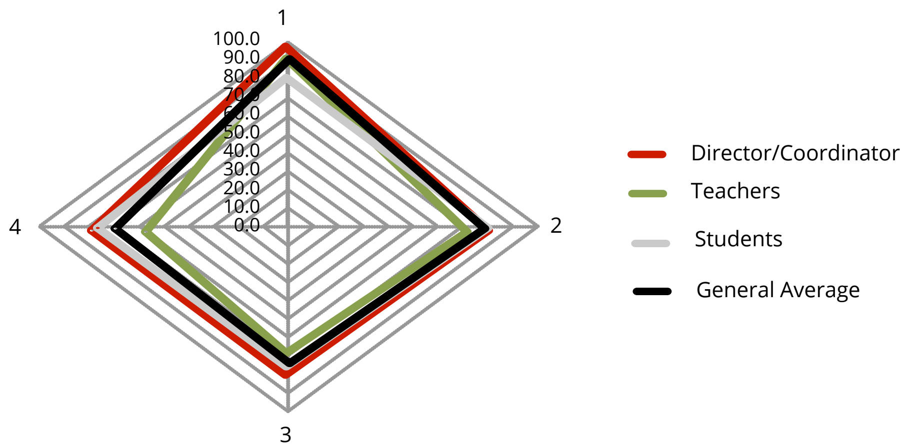

Figure 4. Degree of importance for indicators of the Clients perspective

Source: research data.

Legend:
1-Reputation for quality of teaching
2-Responding to student's expectations
3-Attribute value to the student through support services.
4-Brand tradition acknowledged in the market.

Figure 4 illustrates the teachers' low degree of perceived importance for the "Clients" perspective. For three out of four indicators, the lines for the percentage degree of importance are lower than for the other groups, indicating a very negative assessment.

4.1.4 Financial perspective

The final Balanced Scorecard perspective assessed was the "Financial". The intergroup differences were significant for the indicators in this perspective. Table 4 presents the descriptive statistics.

Table 4:
Descriptive Statistics of Financial Perspective

Groups	Indicators	Mean	Standard Deviation	VC(%)	Degree of Importance
Director/ Coordinator	1- Financial sustainability of the institution	4.84	0.44	9.09%	97.30%
	2- Cost/benefit replacement of monthly fee	4.35	0.68	15.63%	89.19%
	3- Rational use of available resources	4.27	0.73	17.10%	83.78%
	4- Incentive programs	3.65	0.86	23.56%	62.16%
	GENERAL AVERAGE	**4.28**	**0.49**	**11.45%**	**83.11%**
Teachers	1 Financial sustainability of the institution	4.58	0.70	15.28%	90.00%
	2- Cost/benefit replacement of monthly fee	4.06	0.83	20.44%	74.44%
	3- Rational use of available resources	4.09	0.76	18.58%	75.56%
	4- Incentive programs	3.91	1.02	26.09%	65.56%
	GENERAL AVERAGE	**4.16**	**0.55**	**13.22%**	**76.39%**
Students	1- Financial sustainability of the institution	4.10	1.01	24.63%	75.46%
	2- Cost/benefit replacement of monthly fee	4.11	2.04	49.64%	72.94%
	3- Rational use of available resources	4.02	1.03	25.62%	72.25%
	4- Incentive programs	3.99	1.26	31.58%	69.84%
	GENERAL AVERAGE	**4.06**	**1.03**	**25.37%**	**72.62%**

Source: research data.

Table 4 presents apparently significant mean differences between students and teachers on the one hand and the "Director/Coordinator" group on the other. The latter attributes greater importance to the financial sustainability indicator with a slightly higher average, apparently. The "Students" group seems to consider incentive programs less important than the other indicators. Some discrepancies in the results are shown in Figure 5.

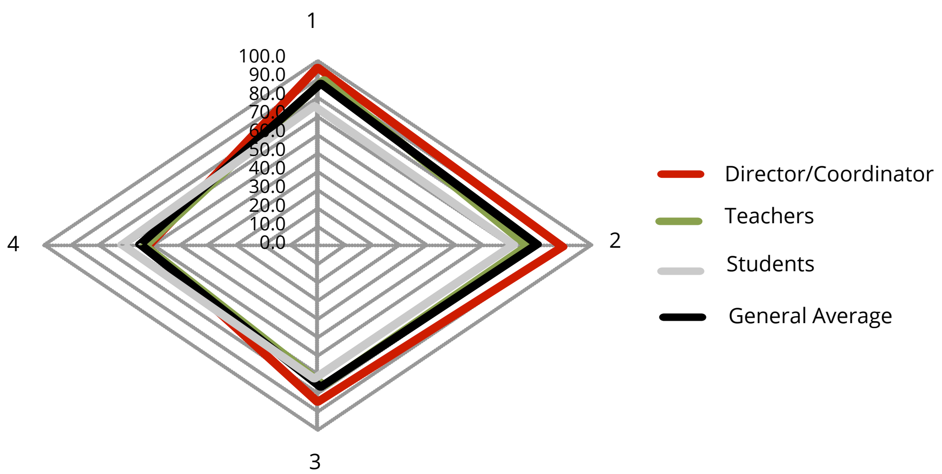

Figure 5. Degree of importance for indicators of the Financial perspective

Source: research data.

Legend:
1-Financial sustainability of the institution
2-Cost/benefit replacement of monthly fee
3-Rational use of available resources
4-Incentive programs

Figure 5 indicatese that the "Director/Coordinator" group considers the "Financial" perspective more important, which seems to have been affected by the financial sustainability indicator of the institution. Overall, the Director/Coordinator group considers most indicators more important.

4.2 Factor analysis for determination of factors for the Balanced Scorecard perspectives

What we intend to show through the Factor Analysis is whether the four indicators within each perspective can be represented by the respective factors, which in turn represent the perspectives of the BSC. Thus, a comparative analysis can be developed for the perspective as a whole, instead of indicator by indicator. The Principal Components method was used. Table 5 presents the results of the Factor Analysis of the BSC perspectives.

Table 5:
Factor Analysis of BSC Perspectives (Logarithmic Scale)

Perspective	KMO	Bartlett's	Extracted Factors	Explained Variance
Learning and growth	0.786	< 0.001	1	65.26%
Internal processes	0.809	< 0.001	1	68.03%
Clients	0.775	< 0.001	1	66.90%
Financial	0.813	< 0.001	1	68.70%

Source: research data.

Based on the results of Table 5, it was concluded that indicators can be reduced by a single factor for all perspectives. The Kaiser Meyer Olkin statistical results are all well above 0.600, which indicates a good fit of the data to the factorial analysis model. The explained variance can also be considered very reasonable, that is, the factors extracted for each perspective can explain the variability of the data through the established Balanced Scorecard indicators. Bartlett's Sphericity Test proves that the correlation matrix between the indicators for each of the factors is not an identity matrix. Thus, there are significant correlations between the indicators that make up each factor determined. According to the statistical criteria presented in Table 5, the Factorial Analyses performed were appropriate. The eigenvalues relative to the factor inputs generated by the factorial analysis were able to explain more than 65% of the variability of the data for all perspectives.

4.2.1 Result of mean comparison between factor analysis scores for BSC perspectives

According to Table 6, for scores inferior to 0.05, the equality of variance hypothesis between the groups is rejected. Therefore, Scheffe's test was applied to verify for which groups differences exist.

Table 6:
Levene Test for Equality of Variance (Logarithmic Scale)

Factors	Levene Statistic	P value	Homogeneity of variance
Factor Learning and Growth Perspective	13.799	0.000	Not assumed
Factor Internal Processes Perspective	27.592	0.000	Not assumed
Factor Clients Perspective	3.930	0.020	Not assumed
Factor Financial Perspective	18.161	0.000	Not assumed

Source: research data.

The analysis that compared the mean factor scores between the analysis groups proved to be important for a more general analysis of the Balanced Scorecard. A perception of less importance was confirmed for the interviewees from the Students group and greater importance attributed to the interviewees from the director/coordinator group, in some cases comparable to the group of teachers.

However, for a more careful analysis, a view of the indicators themselves seems to be more relevant, since it allows one to punctually assess which gaps or differences are most relevant. The factor analysis tends not to permit significant differences between the groups to be observed, since the index produced is more influenced by some variables than others. The same can occur with the analysis of the general mean grade of the perspective. In some cases, no difference is observed in the overall mean, but there are some gaps when the indicators are analyzed in isolation.

The comparative result of the mean Factor Analysis score was similar to the simple average score of the indicators for the "Learning and Growth", "Internal Processes" and "Clients" perspectives. For the first two, the students' assessment was lower in terms of importance. In the "Customers" perspective, both analyses did not indicate differences between the groups. However, it is more strategic to check the indicators individually with a view to a more detailed and timely conclusion.

5. Discussion

When analyzing the research results obtained through the application of questionnaires to the director/coordination, teachers and students, to evaluate the strategic consistency between these subjects within the perspectives of the BSC, it is observed that the perceptions among the stakerolders are different and do not always converge to the same opinion.

In analyzing the perception of "Learning and Growth" and "Internal Processes", it can be inferred that the directors / coordinators tend to score these indicators higher, while students tend to attribute less importance to these perspectives in relation to the other groups. Therefore, considering that the objective of the research is to verify the strategic consistency in the perception of stakeholders in private higher education institutions, through the perspective of the Balanced Scorecard, this analysis reveals that the perceptions diverge in some attributes. Therefore, the analysis is in line with Rocha and Oliveira Casartelli (2014), which assumes that, as the BSC is suitable for Higher Education Institutions, it is possible to create and communicate the strategy and directions, offering HEI managers feasible options to decide on their plans and actions, as shown in the perception of the "Director / Coordinator" group.

When analyzing the degree of importance assessed with regard to the client, the group of teachers indicates slightly less importance in relation to the other groups. The variation coefficient (VC) for three of the four indicators referring to the degrees of importance, is lower than the other groups, which indicates a very negative evaluation. When evaluating the "Financial" perception, there are apparently significant mean differences between the groups of students and teachers in relation to the "directors / coordinators" group. Since the "Director / Coordinator" group attributed greater importance to the indicator of financial sustainability, with a somewhat higher average, it seems that students seem to assign less importance to incentive programs than to other indicators.

Regarding the factorial analyses, it was observed that they were adequate. The eigenvalues relative to the factor inputs generated by the factorial analysis were able to explain more than 65% of the data variation for all perspectives.

Overall, a perception of minor importance was confirmed for the interviewees from the "Students" group and greater importance attributed to the interviewees from the "Coordinator / Director" group, in some cases comparable to the "Teachers" group. The same can occur for the analysis of the general mean score of the perspective. In some cases, no difference is observed in the overall mean, but there are some gaps when the indicators are analyzed in isolation. Therefore, it is more strategic to check the indicators individually with a view to a more detailed and timely conclusion. Thus, the results converge to the literature because they verify the importance of the stakeholders through the adaptation of the four perspectives of the BSC, leading them to management focused on efficiency and strategic consistency (Silva, 2009).

6. Conclusion

The general objective in this study was to verify the strategic consistency in the perception of the stakeholders in Private Higher Education Institutions through the perspectives of the Balanced Scorecard.

In this sense, it can be inferred that stakeholders' perceptions are generally different, but important for the strategic consistency of HEIs and their future strategic planning. It is inferred, then, that the "Coordinator / Director" group evaluates with a higher perception than the other groups analyzed. But each grou is able to present its perception through the results and, based on these, the companies can check their strategic consistency to be developed within the HEI, which makes the perceptions through the BSC efficient for HEIs, as they help to align the interests of individuals, or the individual himself with the strategies of the institution.

When verifying the management in HEI regarding the strategic consistency, which is seen as the sharing of resources and actions per business unit, predicting the level of business performance that can interfere in the results of students, teachers and stakeholders, with a view to contributing to the alignment of the strategies and reduction of the gaps found, it is perceived that the interests are different. Therefore, this has implications for the strategic environment, as it requires greater dissemination of the BSC method, active participation of top management and recognition of the importance of strategic planning common to stakeholders.

The BSC is a tool to help managers to manage efficiently and effectively, which should support HEIs at times of increased competition, changes in the industry and government requirements, as HEIs should apply appropriate performance measures to the system, which reflect and grant them the opportunity to improve their teaching and research and the quality of their facilities and employees. Such performance measures should also incorporate the perspectives of stakeholders in the HEI, which have to be communicated to all and constantly evaluated through an appropriate management method, such as the BSC, thus improving the competitiveness of HEIs, both local and nationally; it is also due to the limitation of the few institutions used, which can be extended to more institutions and locations. Although many management techniques used by HEIs are based on MEC requests, it is worth investigating the benefits that the Balanced Scorecard as a management tool can achieve.

Therefore, considering the presented results, the H1 hypothesis was confirmed, responding to the research problem that there is no internal strategic consistency from the perspective of the Balanced Scorecard. These results are intended to contribute information to the management process and to the consistency of strategies in the view of the main stakeholders of the HEI.

The work was limited by the non-segregation of results per institution, presenting instead a generalization of the results for all the HEIs surveyed, making it impossible to understand the data more closely per HEI. As a suggestion for future research, the involvement of the administrative part of HEIs is suggested, since employees are part of the process that involves institutional management, in addition to dealing directly with existing demands. As new research, one can also compare the strategies of public and private educational institutions, evaluating best practices per region, presenting the results per institution, thus avoiding their generalization, which may make it easier to verify the alignment of the perceived perspectives and indicators, considering the reality of each institution involved.

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Implementation Processo of IFRS: a theoretical essay on the justifications related to resistance to organizational change under Lewin's theory

Abstract

The implementation process of the International Financial Reporting Standards (IFRS) in Brazilian companies brought about different organizational changes that in some of them caused the phenomenon of resistance to change, with different levels of intensity. The occurrence of this phenomenon negatively affected the adaptation to the new standards. The objective in this article is to justify the different forms of resistance Boscov (2013) found in three Brazilian companies that were going through the international financial standard convergence process, from the perspective of the three stages of change proposed by Lewin (1947). Using Lewin's theory, we expect to survey and better understand potential justifications for the incidence of the phenomenon resistance to change in the financial reporting standards. Therefore, a theoretical essay was developed on the theme resistance to change due to the implementation of the IFRS. After the study, it was concluded that, among the three companies Boscov (2013) monitored, only one company managed to achieve the full implementation of the new standards without resistance. At the other two companies, the phenomenon resistance to change occurs, in which there is no consensus on the use of the figures the IFRS produce in the decision process. As the cause of this phenomenon, the company agents' initial perception is appointed that the change would not offer great benefits to the company's decision process. For further studies, analyzing the current status of the resistance phenomenon at these two companies and the expansion of the study sample are recommended.

Key words: implementation of IFRS, organizational changes, Lewin's stages of change (1947), resistance to change.

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1. Introduction

The globalization process that has been taking place in recent decades has created challenges for accounting, due to new accounting principles for disclosure and measuring in the preparation of financial statements by companies. Due to the globalization of markets, international accounting standards known as IFRS were created. With the implementation of the new standards, "lower financing costs; easier access to the capital market; greater transparency and comparability; and greater credibility of the financial market " were expected (Macedo, Machado and Machado, 2013, p.67).

Gonçalves, Batista, Macedo and Marques (2014, p. 38) concluded that the implementation of IFRS led to a significant gain in relevance of accounting information compared to information according to the former standards. In this same line of thought, Araújo, Cornacchione, Reginato and Suzart (2014) pointed out that the implementation of IFRS entailed a greater approximation between Financial and Management Accounting.

Also in order to identify the organizational changes caused by the implementation of the new accounting rules, Boscov (2013) conducted a multiple case study with three Brazilian companies that underwent the accounting convergence process. Through a qualitative investigation, ten organizational changes were observed, separated according to the criteria of change proposed by Mintzberg and Westley (1992, pp. 40-41): culture, structure, systems and people, as displayed in Figure 1.

Structure	Integration of areas and better knowledge of the organization Engagement of board of directors Greater proximity in relationship with investors Conduct of financial consultancies Attrition in relationship with clients
Systems	Change in information systems (SAP). Use of management information Change in covenants
People	Change in professional profile Accomplishment of training

Figure 1. Categories of Organizational Changes resulting from IFRS

Source: Boscov (2013).

Thus, it could not be verified directly that the organizational changes of the accounting convergence movement changed the corporate culture (Boscov, 2013, p. 188).

For a better understanding of these organizational changes proposed by Boscov (2013), the work of Lewin (1947) will be analyzed in this article. The author is considered a very influential social scientist in the development of theories about the process of change (Burnes and Cooke, 2013, p. 408).

Lewin argued that the status quo is a system subject to a set of opposing forces, which keeps it in balance. When one of the forces changes, the process of change begins, divided into three stages: thawing, consisting of the rupture of the status quo; movement, creates new behaviors; and freezing, in which a new balance between the forces arises (Lewin, 1947).

One of the consequences usually found in change processes are the different forms of resistance. There is currently an approximation in the academics' perception on the resistance to change. For Bareil (2013, p. 62), resistance to change can be seen from the perspective of two paradigms: the traditional, classifying resistance as a problem to be eliminated; and the modern, which classifies resistance as a kind of feedback for those intending to implement change. Giangreco and Peccei (2005, pp. 1816-1817) view resistance as an attitude diverging from the changes that are being implemented. Delassus, Vandelannoite and Lorraine (2014, p. 47) argue, however, that resistance originates from individuals' threatening and unhelpful perception of the change.

In the multiple case study by Boscov (2013), two of the three companies analyzed faced this resistance phenomenon, mainly due to the fact that they partially disagreed from some IFRS procedures. Another fact that caused resistance was the lack of examples and parameters for the companies to mirror themselves in, which tend to be the main precursors of the phenomenon resistance to change according to Umble, E. and Umble, M. (2014, p.18).

The objective in this article is to justify the different forms of resistance Boscov (2013) found in three Brazilian companies, which were undergoing the process of international convergence of accounting standards, considering the three stages of change proposed by Lewin (1947).

We hope that, through this investigation, we will find justifications to understand the existence of the phenomenon of resistance to change in relation to changes in the accounting rules. Understanding the reasons that lead to resistance against the implementation of standards can provide possible guidelines for regulators in the process of developing new accounting standards and allow managers to understand which variables impact an accounting change process.

The impacts of the changes may vary for each type of company, sector and accounting model but, when analyzing three companies that undergo these changes, the results may be useful in helping to reduce the process of resistance.

In the first section, the main findings of Boscov (2013) related to the changes generated by IFRS will be described. The next section focuses on the theme of resistance to change, containing a literature review on the subject. Boscov's (2013) findings on resistance to change in accounting standards are described in section three. The next section describes Lewin's (1947) work on the different phases of change; section five relates Lewin's theory to Boscov's findings; and, in the final section, the conclusions of the paper are presented.

2. Organizational changes found in the implementation process of IFRS

The objective of Boscov's study (2013) was to analyze the main organizational changes resulting from the IFRS, categorizing the impacts found in relation to the elements of changes described by Mintzberg and Westley (1992, pp. 40-41): culture, structure, systems and people. Another goal was to ascertain the resistance to change.

The authors of this article obtained indistinct access to the data collected by Boscov (2013). The following paragraphs summarize this work and its main findings. This article is therefore characterized as a theoretical essay using secondary data.

The research strategy, guided by a multiple case study, analyzed three large Brazilian companies that went through the accounting convergence process in detail, between August and December 2011: National Development Bank (BNDES), CCR SA and an energy company fictitiously named ABC.

This study made it possible to understand the implementation of the new accounting standards. All companies analyzed reported that they had several difficulties in adopting the international standards. All of them underwent a hard work process, with plenty of overtime. In these companies, employees were allocated full time to the project. Although the work has increased, it is noticed that they hired few new employees. The consulting firms have aided to different extents at these companies.

The process of convergence brought an increase in the quantity and complexity of work in the accounting area. Another challenge was linked to the impact of changes in other areas of the company, such as: financial, planning, new business, engineering, information technology and senior management.

The companies report that there were intense conversations with auditors to define the new procedures, but that all auditors and trainers were learning for the first time. There was nothing pre-established, and Europe often did not serve as an example because of specific issues in Brazil.

The companies also commented that, because they are international standards based on principles, there were no established ready-made models and it was necessary to reformulate all company policies. In many cases, they were pioneers and served as benchmarks for other corporations.

The great challenge was the operationalization of the adoption of complex standards in the economic reality of each company. Much information was gathered in other areas of the organizations and a number of integration activities were required. It was also necessary to know more about the company's processes in order to formulate the new accounting policies.

The paper identified and analyzed several organizational changes found in the multiple case study. With different levels of intensity, the main organizational changes reported were:

1. Integration of areas and better knowledge of the organization.
2. Engagement of board of directors.
3. Greater proximity in relationship with investors.
4. Conduct of financial consultancies.
5. Attrition in relationship with clients.
6. Changes in information system (SAP).
7. Use of management information.
8. Change in covenants.
9. Change in professional profile.
10. Accomplishment of training.

The study categorized the changes found in relation to the elements of organizational changes listed in Mintzberg and Westley (1992, pp. 40-41). Thus, it was possible to understand what changes occurred in the culture, structure, systems and people. In addition, it was also possible to identify which of these elements the IFRS influenced most, in terms of quantity and intensity.

It could not be verified directly that the organizational changes of the accounting convergence movement changed the culture of the companies. It cannot be concluded, based on the findings of the studies and the research protocol used, that the basic assumptions that organizations have developed to deal with their problems, their way of perceiving, thinking and feeling have changed with the process of accounting convergence.

After conducting the interviews, it was concluded that, under IFRS, the accounting area needed to expand its relationship with other areas to obtain information for their accounting treatment. Accounting needed to understand much more of the business of the company, and the business areas began to understand the accounting impacts of their actions.

New governance structures have been created to facilitate communication with other areas and to promote enforcement mechanisms. Having a solid governance structure helped the companies during this process of accounting convergence. The new accounting policies were approved in several internal committees at BNDES. This governance structure permitted the effective application of policies in the various areas of the company and stimulated the participation of several areas. The commitment to the international accounting changes started with the highest positions of the institution.

At CCR, the situation is the same. The new accounting procedures are discussed with directors and advisors of the group. Then, they come into force in the various areas. At ABC, the importance of the weight of its governance policies facilitated the renegotiation of covenants with financial institutions.

Changes in the power structure can be felt because, with the movement of accounting convergence, the prestige of the professional is altered, gaining closer proximity to the board of directors. Thus, the accountant starts to carry out financial consulting within the company, demonstrating the accounting impact of strategic decisions.

Often, IFRS premises had to be approved by the board of directors. Accounting issues were more exposed and the board needed to understand more about Accounting.

Today, the area that was responsible for conducting the IFRS project provides advice to other areas of the organization about the accounting impacts of a particular transaction. To carry out a new acquisition, the accounting area is called upon to give an opinion, for example, on the question of goodwill.

The difficulty in convincing partner companies, clients and stakeholders about the need for more refined accounting and the importance of auditing was also reported. Several meetings were needed to convince them that the benefits would outweigh the costs.

The investor relations area received a number of inquiries from shareholders, mainly due to changes in the dividend calculation base. Investors came to understand more about accounting procedures and the impact of such international accounting on the outcome of the organization. One negative point reported is that this area should discuss more aggregate issues with the market, and not accounting treatments.

With the implementation of IFRS, companies had to make several changes in their accounting systems. SAP was the system chosen for this purpose. In addition, much information that were formerly used only for managerial purposes began to be used by accounting systems in the preparation of new statements. A consequence of this new confection was the rupture of some covenants. Brazilian institutions anticipated the implementation of many accounting issues that did not even happen in European companies.

The financial area needed to better understand the impacts of IFRS on the consolidated financial statements to verify the need to renegotiate some covenants. Negotiation with banks was complicated, as many did not understand the new accounting procedures.

It was also reported that much information that was previously used only for management purposes is disclosed or serves as a source of information for corporate accounting.

The implementation of the accounting convergence process changed the professional profile and caused a greater need for training. Several changes could be verified in the companies analyzed in relation to the new professional profile, changes in procedures and planning.

With IFRS, accountants needed to understand more of the other areas, and professionals from other areas came to know more about Accounting. CCR's engineering department needed to understand more about the new accounting procedures. Thirty-five percent of the trainees hired by the company were newly-graduated civil engineers responsible for designing a project about the change in the engineer profile in the new accounting scenario.

All the companies analyzed carried out training for the external and internal employees with a view to knowledge dissemination. The participation of top management was essential for this to occur.

Generally, the full-time staff dedicated to the implementation of the IFRS project promoted internal training to level the staff, disseminate knowledge and discuss practical issues about what and how to implement the new standards. One complaint was that the level of training of the accounting professional did not keep pace with the complexity of the changes and that internal training was necessary to overcome the qualification problem.

3. Resistance to organizational changes

Each organization's ability to comply with changes is finite according to Palmer (2015, p.8). When approaching this limit, the agents responsible for the change tend to increasingly face resistance. This reveals why the implementation of the international accounting standards has presented the resistance phenomenon, as technological changes are needed, as well as training, communication and people's commitment.

Concerning the challenges of the change process, Kisil (1998, p.57) considers the following:

1. most participants seek personal growth;
2. all are critical of the change process;
3. the majority wants to and is capable of participating in the change positively;
4. people are not afraid of change, they are afraid of loss.

According to Cunha and Rego (2002, p.8):

> Anyone who feels potentially impaired by the change will tend to resist. Overcoming the resistance to change is a complex process whose outcome clearly depends on the contenders' interests, on their relative power and on the tactics of the political game they play. The political struggles can lead to tactical delays, to negotiations over the mastery of the "territories", to the reformatting of the networks and alliances, to impasses, to conflicts that are acute but limited to a part of the organization, or to swift struggles that spread out.

The expression "resistance to change" is generally credited to Lewin (1947). For him, organizations could be considered processes in quasi-stationary equilibrium, that is, the organization would be a system subject to a set of opposing forces, but of the same intensity, which keep the system in balance over time.

The changes would occur when one of the forces overcomes the other in intensity, shifting the equilibrium to a new level. Thus, resistance to change would be the result of an individual or group's tendency to oppose social forces that aim to move the system to a new level of equilibrium (Lewin, 1947, as quoted in Hernandez & Caldas, 2001).

When revising the academic literature on organizational change, it turns out that the classic propositions - loosely modeled and practically untested - that were drafted in the late 1940's and diffused as managerial good sense in the decades that followed are recorded as universal truth. This traditional view assumes resistance to change as always negative, which negates the potential benefits of this phenomenon to the process of change (Ford, Ford, & D'amelio, 2008, p.363).

The authors, Hernandez and Caldas (2001) analyzed the basic assumptions found in the literature on resistance to change, and established counter-assumptions, as shown in Figure 2.

Premise	Counter-premise
Resistance to change is a fact of life and should happen in any organizational intervention	Resistance is scarce and will only happen in exceptional circumstances. By trying to prevent them, the agents of change end up contributing to their occurrence or worsening. Resistance is a behavior vaunted by those in power and by the agents of change when their privileges or actions are challenged.
Resistance to change is harmful to organizational change efforts.	Resistance is a healthy and contributing phenomenon. Resistance is used as an excuse for failed or inappropriately designed processes of change.
Human beings are naturally resistant to changes.	Human beings resist loss but want change: this need typically overrides the fear of the unknown.
Employees are the organizational actors with the greatest probability to resist change.	When resistance happens, it can take place among the managers, agents of change and employees (deriving from Lewin's original proposal)
Resistance to change is a collective group phenomenon.	Resistance is both individual and collective, it varies from one person to the other, in function of many situational and perception factors.

Figure 2. Basic premises of resistance to change

Source: Hernandez and Caldas (2001).

Daft (2006, p.344) considers that one of the challenges of the change process is linked to the human factor. According to the author, organizations are composed of people and their mutual relationships. Changes in strategy, structure, technologies and products do not happen by themselves, and changes in each of these areas also involve changes in people.

The study by Silva and Vergara (2003) was carried out in five organizations that in the years 2000 and 2001 had been going through or had recently undergone great change processes. Data collection was done through individual interviews, carried out with about 15 employees at the base and middle management level in each of the organizations. The objective of the interviews was to capture the feelings of the individuals and the meanings they attributed to the changes that occurred.

Situations in which individuals declare themselves to be fully active in the changing situations underway in the organizations studied are rare. The predominant feeling is that they often see themselves as objects of the definitions or, still, as a kind of guided actors (Silva & Vergara, 2003)

The supposed manifestations of resistance encountered are, above all, manifestations of emotions, such as: anxiety, fear, anguish, anger and nostalgia. Organizational change is essentially something that mobilizes the emotions of individuals (Silva & Vergara, 2003). For Smollan (2011, p.13), in the organizational environment, these emotions may be due to the need for more information and more time to think about the changes, or even generated by the employees' concern with the misalignment between the new ideas and the traditional values and principles of the organization.

The authors Sales and Silva (2007) mapped the resistance factors to change found in the literature and cited in Figure 3.

Author	Characteristic
Toole	Hypotheses to explain why people resist change: homeostasis, inertia, dissatisfaction, lack of maturing, fear, personal interest, lack of self-confidence, future shock, futility, lack of knowledge, human nature, skepticism, rebellion, individual geniality vs. group mediocrity, ego, short-term thinking, myopia, sleepwalking, temporary blindness, collective phantasy, conditioning and fallacy of exception.
Kotter and Schlesinger	Studied countless corporate changes and found four common causes of resistance: provincial selfishness, misunderstanding and lack of trust, different assessments and low tolerance to change.
Motta	Appoints some factors that can lead to resistance to change: fear of the future, refusal of burden of transition, accommodation to functional status, accommodate to their rights and conveniences and fear of the past.
Robbins	The main sources of organizational resistance were identified: structural inertia, limited change focus; group inertia; threat to specialization, threat to the established power relationships; and threat to established resource allocations.

Figure 3. Factors of resistance to change

Source: Sales and Silva (2007).

According to the research conducted by Sales and Silva (2007), in a field study in a shoe company in the Northeast, about 96% of the leaders and 85% of the operational employees agree with the statement that, when people are well-informed, the process becomes easier and more reliable, proving the statement that communication is of fundamental importance to the transformation process.

In the same direction, the conclusion of Georgalis, Samaratunge, Kimberley and Lu (2015, p.108) from the study of a financial services institution, converges with the conclusion of Sales and Silva (2007). The authors highlight the importance of the relationship between leaders and members for the dissemination of information needed to implement the changes.

It was therefore concluded that resistance to change is not only a natural reaction of the human being. According to the research, it was possible to identify that, among others, poor planning, failures in the process of change, lack of communication, lack of a participatory and active leader are factors that generate resistance, so it can be seen as a way to avoid a bad result at the end of the implementation of the changes. Employees believe that resistance is manifested in case of failures in the change process. Therefore, when there is resistance, it will be possible to identify these faults, minimizing the probability of errors at the end (Sales & Silva, 2007).

Research has shown that, despite the traditionalist view on resistance, people, especially leaders, already glimpse their positive aspects, since 63% of the leaders agree on the idea that resistance can somehow contribute to the process of change; and about 45% of the leaders and operatives claim that resistance is somewhat positive, a relatively significant number, taking into account the lack of knowledge about the subject's approach (Sales & Silva, 2007).

The success of a change plan is related to a keen sense of perception of the environment and of the conjuncture and understanding of the mechanisms of change (Wood Jr., 1992).

Changes happen in people's perception of the environment. The perceived environment would be a subjective interpretation of the real environment. Although these perceptions are also real events from the point of view of their consequences, they occur within the organization. This is important because people act according to what they perceive and not according to the actual facts. In this way, there is a gap between what is real and what is effectively taken into account by the organization (Rossetto, Cunha, Orssatto, & Matignago, 1996).

In a study of 452 Chinese employees from different companies, Hon, Bloom, and Crant (2014, p. 936) concluded that environments in which employees have co-workers, the perceptions about the importance of risk-taking and creativity change positively, reducing the harmful effects of resistance to change.

The work by Salvador, Trés, Costalonga, Pelissari and Silva (2010) was aimed at understanding how the resistance to change is contextualized in the cultures, in the relations of power and in the organizational climate of the companies. Therefore, a case study was conducted in a Brazilian company producing bleached eucalyptus pulp, in which a qualitative research design was adopted. In the first stage, concepts and relations of power, climate and culture were discussed before the resistances of the individuals in a process of organizational change. Subsequently, semi-structured interviews were held with 63 company employees, being managers and operators.

As a data analysis technique, the content analysis method was adopted through the interpretation of the 10 categories extracted from the text fragments the interviewees had answered. The results show that, although the interviewees, both at the managerial and operational levels, admit that the company manages changes wellthrough training, meetings, integration of people, benefit policies, among others, there is some kind of resistance when it comes to change, especially at the structural level (outsourcing and reengineering), and this alters the perception and feelings of the employees in relation to the company (Salvador et al., 2010).

According to Sacomano Neto & Escrivão Filho (2000, p. 144), management is an important reference point for the dissemination of new ideas. Without its commitment, strategies for the implementation of innovations are not consolidated. A participatory management team, with communication and negotiation skills, tends to minimize resistance to change, reducing internal forces that move away from the implementation (Mariana, Daniela and Nadina, 2013, p.1609).

Overall, management plays three fundamental roles (Bonn & Pettigrew, 2009):

1. monitor and control middle managers;
2. engage in the strategic decision process; and
3. promote access to resources.

For a change in the work process to be effective, the participants need to be committed. The work process should be adapted to the local characteristics of these participants (Vilkas and Stancikas (2006, p.84).

Feedback is critical if the change process is to succeed and the manager plays an important role in the smooth execution of the transformation. According to Gibson, Ivancevich, Donnelly, James and Konopaske (2006, pp.481-482), the manager can create a good program of organizational change, but may fail to achieve any of the anticipated results by neglecting the importance of motivation, reinforcement and feedback for employees. Early on, each step of the implementation of change must be guided by a responsible person or group leading the process (Palmer, 2015, p.1)

These principles serve to unfreeze the old learning, inculcating and consolidating new learning; the thawing deals directly with resistance to change; the movement to new learning requires training, demonstration and empowerment; the consolidation of learned behavior occurs with the application of reinforcement and feedback according to Gibson et al. (2006, pp.481-482).

The article by Vilka and Stancikas (2006) analyzes the planned changes in organizational work processes. It was possible to understand the changes between the organization and the individuals in the light of the theory of Feldman and Pentland (2003), according to which changes in the work processes occur through the conceptualization, communication and adaptation of the change. Thus, in a case study with qualitative approach, the stages prior to the change (planning) and subsequent to the implementation of the change were investigated. The study reveals that top management is the agent that initiates change, but has moderate influence. It must communicate changes, interpret them, discover new performances, and integrate new ways of acting, and changes must be seen as a new way of acting and thinking that never ends.

Szabla's work (2007) examined how union employees in an American state perceived the implementation of a new electronic performance appraisal system and how they reacted to the planned change in terms of cognition, emotion and intention. The study concluded that there is a significant relationship between the perception of strategic leadership in planned change and the response to change in terms of cognition, emotion and intention.

The study by Razali and Vrontis (2010) examined the key factors that contributed to employee acceptance for the implementation of a new system in a company in Malaysia. The emphasis of the study was on workers' perceptions. A questionnaire was delivered to 250 employees, and the results indicate that top management involvement and organizational commitment are the two major variables that impact employee acceptance for planned change to occur.

4. Resistance to the changes originating in the implementation process of IFRS

One of the main challenges regarding the process of change found in the literature is the resistance to change. In Boscov's multiple case study (2013), it was noted that resistance to change occurred with different intensities in the three organizations analyzed. The following paragraphs summarize the findings on resistance to change found in the Boscov study (2013).

ABC and BNDES are still resistant to the changes arising from the process of international accounting convergence. Some accounting procedures were very laborious for the company ABC, but the information generated was not useful for the institution, according to the testimonies. The interviewees cite situations related to the calculation of the indemnity value after the concession period over the replacement cost for more than 600,000 items of property, plant and equipment, reverse acquisition accounting, pension plan registration, asset write-off and regulatory liabilities. These were unnecessary and often cumbersome procedures that, in the opinion of the executives, were not used by the market.

For ABC, one of the problems of IFRS is that the rules created are often not well defined, distorting the concepts, creating comprehension difficulties, different forms of interpretation, and problems of comparability. According to Nickel and Coser (2007), this resistance may hamper the process of adaptation to the new standards.

ABC cites the exaggeration of fair value information as an IFRS problem. In line with to the company, the IFRS greatly exaggerates regarding Fair Value and the market has many imperfections. The volatility of the income for the shareholder has gone bad, and many mathematical models and assumptions have been considered as deficiencies in international accounting. Sales and Silva (2007) consider that, in order to accept the changes, people need to know their reasons exactly, so that they do not feel threatened and harmed by change.

ABC's main complaint refers to the fact that the IFRS does not permit the recognition of regulatory assets and liabilities, while for the company, "the financial sector's financial statements did not improve with IFRS," said Eliseu Martins. They got much worse."

In this case, it is observed that resistance is a behavior vaunted by those in power holders and by the agents of change when their privileged or actions are challenged (Hernandez & Caldas, 2001).

ABC preferred to follow the audit recommendations for regulatory assets and liabilities and write off in order not to have a qualification in the balance sheet. The distortion of information was preferred to a qualified balance.

Many meetings were held at ABC to convince the auditors of certain procedures. It took the institution two years to convince them of the need to capitalize on the replenishment of intangible assets.

The write-off of regulatory assets and liabilities means that IFRS financial statements, in the opinion of the interviewees, do not reflect the economic reality of the institution. These regulatory asset and liability figures are still used in the management.

For the interviewees of this company, the IFRS does not affect the daily reality of the regulatory area at all. All management decisions are based on the value of the regulatory tariffs. Consequently, management accounting is used for decision making and, in addition, there is the regulatory accounting, regulated by the National Electric Energy Agency (ANEEL).

Therefore, ABC, for not agreeing with various procedures deriving from the international standards, resists the changes, obeying them only not to obtain a qualified financial statement. It does not see improvements resulting from this information for decision making.

BNDES does not yet have the culture that the IFRS figure represents the economic reality of the institution. According to interviewees, it takes a lot of hard work for cultural changes to incorporate these changes into the management model of the organization.

Often, figures are generated with the sole purpose of being sent to accounting. BRGAAP figures are still used, in many cases, for management purposes. Changes occur in people's perception of the environment (Rossetto et al., 1996). The figures in IFRS have not yet been perceived in the institution as those that best mirror the company's reality.

The figure of the Allowance for Doubtful Accounts (ADA), via IFRS procedures, is not used in the institution's daily operations and only serves to be sent to the accounting area. The BNDES believes that the Basel model better reflects the economic reality, is more conservative and better protects the institution from both idiosyncratic and systemic risk. In management terms, the organization uses a more flexible model, with less simplified assumptions.

BNDES needed to bring the market adjustment of its embedded derivatives into the result, but the institution believes that this procedure does not make sense, as profit or loss will not be realized immediately. Thus, according to the organization, the adjustment should be made in shareholders' equity.

BNDES considers, on the other hand, that some information in IFRS reflects the economic reality of the institution better. Fair value information helps to better track the assets of the organization. There is, in the area of capital markets, a perception that the figure produced is better.

The impairment test for equity investments may be useful for the organization to make divestiture decisions. It is important to evaluate the budgeted and the realized and see if the agreed valuation is being fulfilled.

It should be noted, therefore, that BNDES partially resists accounting changes. On the one hand, there is no consensus that the IFRS best reflects the economic reality of the institution and the old figures are still used for decision making. On the other hand, in some areas, there is already a perception of improvements in the new procedures.

At CCR, the vision is completely different. Respondents believe IFRS was very positive. After a year of implementation, they saw that the changes were for the better.

The interviewees report that, today, analyzing some changes, they are thinking "how did I not think of that before! Why do a linear amortization for example if my benefit is not linear? "

The CCR Group started to amortize its intangible assets by the economic benefit curve. This new form of amortization mirrors the economic reality of the company in a much more appropriate way, according to respondents. The change brought a better representation of the business to accounting.

The long-term trend information used to calculate the impairment serves as a reference to decide whether or not to buy a business, or even to dispose of one.

Today, the CCR Group is convinced of the contribution that IFRS has made to the company. The project made it possible, for example, to see investments better, and the company believes that there have been improvements in information quality.

In the CCR Group, each concessionaire has a planning and control area and is responsible for the preparation of the five-year budget, as well as estimates up to the end of each concession contract. Currently, all management decisions of the CCR Group are taken with figures in IFRS. However, the success of the IFRS implementation at the institution may be due to the role of management, which believed in the improvement of the figures generated.

However, the group is forecasting a third financial statement to meet the grantor, with the former accounting practices, since there were no concrete definitions of the fact until the conclusion of the multiple case study. Thus, the company may have three accounting statements: corporate, fiscal and grantor.

5. Lewin's theory

In order to understand the different forms of resistance Boscov (2013) found in her study, Lewin 's three-stage theory of change was defined as the main parameter for the analysis of resistance encountered during the implementation of the IFRS. Despite being criticized by authors such as Kanter, Stein, and Jick (1992, p.10) because of the simplification of often complex structures, the comprehensiveness and applicability of Lewin's theory, decades after its development, confirm its effectiveness and importance for the organizational environment, justifying its choice for the investigation of the subjects discussed in this article.

The social scientist Lewin (1947) devoted himself to the study of the socio-psychological field, developing theories about the behavior of individuals within certain groups and the forces that influence their decisions and perceptions. The understanding of his theories about the process of change and the phenomenon of resistance to change is essential to understand why some ineffective processes aim at the modification of production, consumption, habits, etc. (Lewin, 1947).

The term "group" indicates a set of individuals characterized by a certain mutual interdependence. The author illustrates this with an example: "In a population, blond women do not constitute a group simply because they are blondes, but if in a shop blondes are discriminated against, they become a group with specific properties" (Lewin, 1947). Therefore, the focus of social science is, as a matter of priority, on the relations existing among individuals rather than on the individuals themselves.

In order to facilitate his analysis of the social dynamics of groups, the author makes use of a diagram called "social field", in which a numerical value is attributed to social events and the forces that influence them are explained. Thus, the stability of a group is maintained by a set of opposing forces. In the almost stationary equilibrium, these forces have the same intensity, although their modulus can assume any value.

By changing one of the forces, the balance is changed. Modifying or adding a force, taking into account only the new desired level, is not enough to reach it though, because the balance of the respective population has defined values and processes that constitute what the author calls social habits or customs. These characteristics are seen as barriers to the implementation of changes, so an additional force is needed to overcome them and reach the new desired level. This process consists of the first phase of the change, the thaw phase.

The more socially valued the standards of a group, the greater will be the resistance of each individual to change the level at which the group finds itself. Consequently, the most effective way to initiate change is to approach the group as a whole instead of each member in isolation. Thus, by changing the ideals of the population, the will to continue to belong and identify with the group leads each individual to change.

The author points out the importance that the initial goal is not only to change the level at which the group is but, once changed, to stabilize it at the new level. This process corresponds to the third phase of change, called freezing. The changes that occur between these two processes - the changes of the values of the group and their level - correspond to the second phase, movement. Again, the importance of the group approach over the individual approach should be emphasized, since it tends to generate a more permanent effect on the desired change.

As previously stated, to change the level at which the group is, one of the forces must be changed. When this happens, and the level of almost stationary equilibrium is maintained, the phenomenon of resistance to change is identified. Although equilibrium maintenance is possible even after the increase of some force, this equilibrium is not equal to the previous equilibrium for, regardless of whether in each case the sum of the forces in opposite directions results in zero, the forces in the second case present a module superior to the forces of the former.

This difference in the modulus of forces is reflected in the increase in social tension existing in the second equilibrium but, despite apparent stability, this new situation is more sensitive and delicate. According to the author, the increase in social tension is accompanied by greater fatigue, greater aggressiveness, greater emotional influence and less constructive attitudes in the group.

In order to avoid this result and to allow an effective change, a strategy must be adopted that minimizes the forces opposing the desired changes, since the social level will be modified without the increase of tension and its consequent damages.

6. Relation between different forms of resistance and Lewin's three stages of change

Once Lewin's theory is analyzed, the IFRS implementation process can be observed from another perspective. The former accounting system should be considered a near-stationary equilibrium, and the perfect and complete implementation of IFRS should be seen as the desired new equilibrium.

Of the three companies monitored by Boscov (2013), only CCR managed to achieve this new balance, as the old accounting practices were abandoned and IFRS is now seen positively by employees, who believe that it has brought several improvements to transparency and the significance of the company's financial statements. Currently, in this company, the figure generated by international standards is the figure used in the management decision-making process.

In the other two companies, there is the phenomenon of resistance to change. Although they performed their statements according to the new criteria, both in ABC and BNDES, the IFRS implementation process was performed, at least in some areas and in some standards, in a compulsory manner.

Because it does not agree with several procedures derived from the international standards, ABC resists the changes, obeying them only not to obtain a qualified financial statement. It does not see improvements resulting from this information for decision making.

BNDES, in turn, partially resists accounting changes. On the one hand, there is no consensus that the IFRS best reflects the economic reality of the institution, and the old figures are still used for decision making. On the other hand, in some areas, the improvements of the new procedures are already perceived. Due to these factors, the adoption could not be considered full and complete.

When comparing the successful process in the CCR company with the unsuccessful processes in the other two companies, it is observed that a fundamental factor for the incorporation of the new procedures in the company's process of management decision making was the convincing and acceptance, by the employees, that the new accounting practices would bring benefits and better reflect the company's situation.

This factor should be considered as a decrease of the opposing forces of change to the new social level. Using Lewin's theory, it was observed that, in order to reach the new equilibrium, it was not necessary to increase social tension, but rather the opposite effect. From the moment when the mandatory implementation of the IFRS arose and CCR's employees understood its importance and the benefits derived from its incorporation, the former accounting practices were thawed, social customs were broken, and the movement phase was initiated, leading to effective freezing due to voluntary acceptance by employees and top management.

At ABC, the employees in general did not accept the new accounting standards, mainly due to the non-disclosure of regulatory assets and liabilities. The defrosting was done in a compulsory manner, the forces acting against the change were maintained and forces in favor were increased, shifting the equilibrium in the movement phase and generating a below-expected result in the freeze phase. The phenomenon of resistance is found because, even with the application of forces, the change at the social level was lower than expected. The final balance, in turn, was generated with the increase in social tension, that is, it is more unstable and delicate.

BNDES employees did not reach a consensus on the possibilities for improvements resulting from compliance with IFRS. According to Lewin's theory, changes tend to be more effective when group values are altered. In this case, the lack of consensus evidences the failure in this aspect, resulting in the partial implementation of the new rules. Again, the faulty unfreezing phase is observed, since, like in ABC, a large part of the employees adhered compulsorily to the new methods.

The importance of planning before the changes is evidente, being this a composition of the three phases: thawing, movement and freezing. At all stages, the approach should be done with the whole group and not with individuals, generating consensus and making each member change according to the group instead of the other way around. Boscov's (2013) study, in line with Lewin's conclusion, shows the effectiveness of diminishing opposing forces rather than increasing forces towards change.

7. Conclusions and recommendations for future studies

This article was intended to justify the different forms of resistance to the organizational changes found by Boscov (2013) under the three stages of changes of Lewin (1947).

Three companies that underwent the IFRS implementation, were analyzed in Boscov's (2013) case study. Subsequently, Lewin's theory (1947) and the three stages of change were used as a parameter to identify the origin of the resistance in the companies in relation to the new accounting procedures.

Based on the three companies studied, it could be affirmed that the initial phase called thawing is possibly the most related to the phenomenon of resistance since, at that moment, the group should take distance from old habits, beliefs and values.

The implementation of the new set of IFRS was, of course, more difficult in companies where there was resistance. This study, like Lewin (1947), concluded that when implementing changes, the efficiency and final stability of the process are greater by decreasing forces acting opposite to the desired changes than by attempting to increase forces towards the goal to be achieved.

Relating the implementation of IFRS to Lewin's theory, it was concluded that the former accounting system should be considered a quasi-stationary equilibrium, and that the perfect and complete implementation of the IFRS should be seen as the desired new equilibrium.

Of the three companies monitored by Boscov (2013), only CCR was able to achieve this new balance. In the other two companies, ABC and BNDES, there is the phenomenon of resistance to change. When comparing the successful process in CCR with the unsuccessful processes in the other two companies, it is observed that a fundamental factor for the incorporation of the new procedures in the process of managerial decision making was the conviction and acceptance, by the employees, that the new accounting practices would benefit and better reflect the company's situation.

This factor should be considered as a reduction of the forces that were opposed to the change to the new social level. Using Lewin's theory, it was observed that, in order to reach this new equilibrium, there was no need to increase social tension, but the opposite effect occurred. When the mandatory implementation of the IFRS arose and CCR's employees understood its importance and the benefits arising from its incorporation, the former accounting practices were thawed, social customs were broken, and the movement phase was initiated, leading to effective freezing due to the voluntary acceptance by employees and top management.

At ABC, the thawing occurred in a compulsory manner, that is, the forces that were acting against the change were maintained and forces in favor were increased, shifting the equilibrium in the movement phase and generating a result below the expectations in the freezing phase. BNDES employees, however, did not reach a consensus on the possibilities for improvements resulting from compliance with IFRS. The lack of consensus evidences the failure in this aspect, resulting in the partial implementation of the new rules, that is, even with the application of forces, the change in social level was lower than expected.

It is possible to conclude, based on the results found, that the involved agents' acceptance and understanding of the improvements deriving from the change is extremely important for the full implementation of IFRS in an organization. For a new standard to be fully implemented, users of accounting information need to realize the informational improvement the change brings about.

Regulators, in drafting a new accounting standard, should reinforce the benefits related to the improvement of accounting information and the positive impacts on the decision-making process that would be made possible by replacing the standard.

It is suggested that future studies analyze the current situation of these three companies, knowing that Boscov's multiple case study (2013) followed the three companies from August to December 2011. It is possible that the forces that work towards achieving the changes are now prevailing in the institutions of greatest resistance. Another suggestion is to analyze the process of resistance to change in relation to the implementation of IFRS in other companies and sectors. Finally, a third suggestion for further studies would be to analyze the phenomenon of resistance to change based on other authors, such as Appelbaum, Degbe, MacDonald and Nguyen-Quang (2015); Bareil (2013); Ford et al. (2008); Hernandes and Caldas (2001) and Smollan (2011).

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Guidelines for Authors

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To submit articles to the *Revista de Educação e Pesquisa em Contabilidade* - REPEc, authors should follow the standards and criteria set by REPEc. From January 2013 the guidelines of the American Psychological Association (APA) with regard to citations and references should be followed. Submissions not complying with the standards will be rejected.

Articles submitted to the journal must be original, i.e., cannot have been published or submitted to another journal.

Articles may be written in Portuguese, English or Spanish, with at least 5,000 and maximum 10,000 words, including tables, figures, notes and references. A maximum of 5 (five) authors are allowed per article. All papers accepted will be translated and published in three languages: Portuguese, English and Spanish.

Articles containing tables or figures, they [the tables and figures] should be in a format that allows them to be edited. In case some of these Figures or Tables have been imported from other programs such as Excel, Power Point etc.., the source file must also be sent as Supplementary File.

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At the moment of submission, the articles should contain:

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- The article itself, written in Portuguese, English or Spanish, with at least 5,000 and at most 10,000 words, including tables, figures, notes and references.
- The pages of the articles should be properly numbered in the upper right corner, typed with Word for Windows, under the following conditions:

- A4 paper (210 x 297 mm);
- Times New Roman, size 12;
- Spacing: single;
- Paragraph input: 1.25;
- Margins: 3cm top, 2cm bottom, 3cm left, 2cm right;
- Tables and figures in Times New Roman, size 10;
- Citations and references must comply with current standards of the APA (American Psychological Association).

3. Tables and Figures[1]

Tables and figures should be used in articles whenever their information make text comprehension more efficient, without repeating information already described in the text.

3.1 Tables

The table should usually show numeric or textual information organized in an orderly exposition of columns and rows. Any other statement should be characterized as textual figure.

The table should be displayed with its information visible and sufficient for their understanding and should be formatted as follows:

Table editor	Word for Windows 97 or superior. In case authors have drawn their tables in Microsoft Excel or in a similar program, please remake the tables using the feature in Word.
Font	Times New Roman, size 10.
Line spacing	Simple.
Spacing before and after paragraphs	3 pt.
Table colors	Use only black and white (grayscale).
Title	The table title must be brief, clear and explanatory. It should be placed above the table, in the top left corner, and on the next line, just below the word Table (with a capital initial), followed by the number that designates it. The tables are presented with Arabic numerals in sequence and within the text as a whole. Eg: Table 1, Table 2, Table 3, and so on.
Citation of tables	When citing tables in the text, type only the number referring to the table, for example Table 1, Table 2, Table 3 and so on. (the word 'Table' should be presented with the first letter capitalized). Never write 'table below', 'table above' or 'table on page XX' because the page numbers of the article may change while formatting.
Table notes	The font used in the notes of the table should be Times New Roman, size 10, single spaced. The notes should be described in the footnote of the table, and they serve to indicate the Source of the information of the table, and other information important to understanding the table.

1 Most of these guidelines were adapted from the Manual for Submissions of the *Revista de Administração Contemporânea* – RAC, available at www.anpad.org.br.

3.2 Figures

The figure should show a flow chart, a chart, a photograph, a drawing or any other illustration or textual representation.

The figure should be displayed with its information visible and adequate for its understanding, and should be formatted as follows:

Font	Times New Roman, size 10.
Figure colors	Use only black and white (grayscale).
Format	Figures should be submitted in an editable format.
Title	It explains the figure concisely, but discursively. The title should be placed under the figure and numbered with Arabic numerals in sequence, preceded by the word Figure (with initial capital). Eg: Figure 1, Figure 2, Figure 3, etc.. After the title, any other information necessary for clarification of the figure or source must be added as a note.
Captions	The caption is the explanation of the symbols used in the figure and must be placed within the limits of the figure.
Size and proportion	Figures must fit the dimensions of the journal. Therefore a figure should be drawn or inserted into the article so that it can be reproduced in the width of a column or page of the journal to which it will be submitted.
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