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Editor's Word

Dear reader, this is the second issue of 2019. Many things have changed in these past months and new ideas have come up for REPeC. In the previous editorial, Professor Giorgio Gotti discussed the admission process to graduate education in the United States. In this issue, Professor José Elias, our Associated Editor, reports on his journey into graduate education as a student and researcher. His contribution will certainly serve as a source of inspiration and resilience for many researchers, mainly Brazilians, in view of the current research scenario in our country.

In the upcoming issues, we are expecting new editorials from international researchers who will present research results, as well as from national researchers, who will discuss the quality of scientific communication in the form of articles. In other words, we will vary between international faculty and discussions on the "production of a good scientific paper" by associated editors.

On this occasion, I extend a warm welcome to our most recent associate editor, Professor Iracema Neves, who holds a Ph.D. from the University of São Paulo and is a professor at the State University of Feira de Santana and at Faculdade Anísio Teixeira. Her contributions will prove very valuable. Thank you for accepting to work with us.

In this issue, as usual, we are offering highly interesting studies. The article by the researchers José Hilton Aguiar and Antônio Carlos Ribeiro is entitled "Demographic and academic analysis of self-regulated learning in Accounting students from a higher education institution in Salvador". The goal is to analyze whether demographic and academic factors influence self-regulated learning.

The second article was elaborated by Márcia D'Souza, Maria Leny Oliveira, Jocely Almeida and Domingos Natividade. In this Behavioral Accounting study, the relationship between narcissism and power was analyzed in students at a Higher Education Institution in the State of Bahia.

The third article is entitled "Integrating confidence evaluation between leaders and subordinates in the Management Control System: a proposed questionnaire". The authors Patrícia Vaz and Márcia Espejo analyzed how the confidence between leaders and subordinates relates to the Management Control System (MCS) in order to achieve the organizational objectives. The results evidence that the three types of confidence occur in the relationship between leaders and subordinates, mainly through the transparency of the MCS and the achievement of goals. Furthermore, the trust relationships that may emerge in the elaboration and transmission of MCS information were verified.

The fourth article, written by the researchers Geovanne De Moura, Denise Fank, Sady Mazzioni, Rodrigo Angonese and Givanildo Silva, analyzes the influence of managerial ability on the existence and magnitude of goodwill impairment losses in publicly-held companies listed on the São Paulo Stock Exchange (B3).

The fifth article, "The effect of corporate reputation, based on accounting transparency, on earnings management in public companies on B3", was written by Alan Góis and Sandro Soares. The objective was to investigate the relation between corporate reputation, based on transparency, on earnings management in publicly-traded companies listed on the São Paulo Stock Exchange (B3).

The sixth article is entitled "External Contingency Factor and Performance Measuring: A Study in Brazilian NGOs", and was written by Alan de Oliveira and André Callado. This research analyzes the relationships between external contingency factors and the management practices associated with performance measuring in Brazilian Non-Governmental Organizations.

It should be highlighted that, in accordance with the objectives of this journal, REPeC is not solely linked to the field of Education, but to different Accounting areas, including Financial, Management, Public and Tax Accounting and Auditing, among others.

I am grateful to all researchers who have submitted their papers to REPeC. Congratulations to those who received a positive review! We acknowledge that our demands are very high and that the route towards the final publication requires a scientific posture towards criticism, as well as dedication, caution and readiness to deliver the end product.

My sincerest gratitude to our readers! I hope you will enjoy the contents of this new issue.

Academic greetings.

Gerlando Lima, PhD.
Editor-in-chief.

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Career and Research: what to expect from us and from Brazilian Accounting research?

I was honored to be invited by Prof. Gerlando Lima, editor-in-chief of REPeC, to write my first editorial. He gave me the complex mission to compress some years (at least 10) of international experiences and research in three pages. Straight to the point, it all started with a personal challenge: Am I capable? When I did not have (most of the time) the same speed and ease of learning as my colleagues, I had to devote additional hours to learning much content simultaneously. It is a natural process, sometimes stressful and arduous, but it expands our ability to cope with emotions, work under pressure and increase our ability to absorb and work with more projects in parallel. I tried to separate them in phases, but some of them occurred in parallel. I will start by highlighting some challenges, some experiences and conclude with a comparative perspective of what I see in scientific research in Accounting abroad (international) and in Brazil.

At the master's level, in general, we learn the research techniques, but without further practice or application. Time is short; too much content to absorb, and little room for error. In the doctorate, the picture changes. In the doctorate at FEA / USP, my supervisor, Prof. Alexandro Broedel Lopes, said that he would only serve as my advisor if I attended Econometrics in Economics - a fair demand and which helped me a lot, but it was not easy. There I went straight to Econometrics III (panel data) and realized how far I stood from my fellow students who had taken Economics. Many have helped me and are friends to this day, but I had to attend the Basic Econometric classes in the undergraduate program to speed up the process, devour books and notes to understand everything that was new and complex.

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After some experiences of presenting working papers in international congresses, almost at the end of the doctorate, I found a call for doctoral candidates from Europe for the 1st WHU Summer Program in Accounting Research (SPAR) in Germany, organized by Prof. Thorsten Sellhorn. I asked some colleagues to review my documentation; I did the application and it was a mutual surprise that I was accepted. They were curious to have a Brazilian among them, who was interested in going there to attend the event. It was one of the greatest experiences I've had (witnessing the style of German and US professors together, present a paper, review articles, apply techniques, discuss the dissertation, etc.) in three intensive days. I could see that I read the papers (many of them read during the doctorate) but did not absorb how many of the methodological procedures discussed were applied properly due to a lack of practice. They were (and continue being) strongly concerned with how to connect the research problem with the research design.

Then, in 2013, I was invited to go to Germany as a visiting professor to teach a course about earnings quality and to do research with Prof. Niklas Lampenius at the Universität Hohenheim in Stuttgart. It was again a time when I wondered whether I would have the skills to teach a full and intensive course and conduct research, everything in English, but with the challenge outside the walls of the university with the German language. It was a sensational and completely different experience. To sum up, after almost thirty days of teaching and, in parallel, looking at massive data from a database of German companies, statistical package (Stata) and generating results, I gave a preview of the initial evidence to the professor and, to my surprise, the first question was: ok, I see the tables, but where's your "do file"? (text file with Stata codes). I stopped, took a breath, thought, and had never paid attention to the importance of the code, even though I had used it partially until then. He asked to use the 'do file' of the first line, opening the database, going through the data processing, until the last table of the research. Big challenge. I spent ten days to understand the logic of programming and find examples in forums on the internet (much more material and tutorials are available today). Today I am grateful for this opportunity, despite the initial sacrifice, because the entire research process becomes automated and a lot of time is saved, in addition to enhancing the consistency and quality of the results.

Other challenges came in the form of international congresses and many discussions, but mainly seeking to observe the best practices of research, editorial processes, how to organize ideas and paragraphs, in short, much more work to meet a very high level of demand, even higher when we started thinking about international publication.

Two other shocking moments in thinking of research were the events of the International Journal of Accounting (Tija) and the Journal of International Accounting Research (Jiar). The discussions were exceptional and decisive for improving the papers to the point of having a chance for publication. Here, I would like to point out some of the closest names of professors who truly improved the articles: Suresh Radhakrishnan (discussant), Rashad Abdel-kalik (editor Tija), Gerlando Lima, Amaury Rezende, and Patricia Bortolon, Ervin Black (editor Jiar) and several participants of congresses, workshops and anonymous reviewers where these studies were presented. The articles literally had a "face" when submitted and went out in a different shape at the end of the editorial processes. Now, all this has taken time and we still have to deal with Capes deadlines, which do not help when we are seeking international insertion. Some projects with US and European co-authors are already 3 years old and they still understand that the projects are not at the point of submission (we are learning from the process).

In 2015 I received an invitation from Prof. Suresh Radhakrishnan of the University of Texas at Dallas (UTDallas), to visit the institution for four months in 2016. This opportunity opened many doors and networking to develop research with US co-authors. And in 2018, Prof. Rashad accepted me to visit the University of Illinois at Urbana-Champaign (UIUC) for seven months, also enhancing research networking, learning more from them in class, and also contributing to a workshop called "Earnings Quality and Research Design with a brief introduction to coding". I have combined these two recent international experiences to emphasize that these visits were not simple and easy. Two periods of crises hit Brazil, and the dollar hit the roof of R$4.10, without scholarships available from development agencies, but I counted on the good sense of the Department to authorize my leave to take advantage of these opportunities. Otherwise, time and opportunity would go by and I might never get others like these.

In fact, one opportunity opens the door to the other and to other colleagues, as long as they meet the expectations of those who invite and take very seriously what they understand as an experience and opportunity to visit them (attend classes as a listener, attend the research workshops that occur weekly almost every Wednesday and Friday, in which virtually all faculty members participate intensely), be present and keep in touch with other visiting scholars and doctoral students, etc. Now is the time to gradually share the knowledge and experience gained.

After all this, moving to the final part of this Editorial, I briefly return to how I see the Brazilian academic research and compare it with what I have seen in the last six years based on these international experiences. Brazil has made a leap in the dissemination of techniques and methodological approaches (both quantitative and qualitative), but in the same proportion as the methods have arrived, it seems that we are on the extreme side of a pendulum and forgetting (sorry to include all of us) the conceptual-theoretical part to support the operationalization of research. Professors Eliseu Martins, Sergio de Iudícibus, Nelson Carvalho, among others, have already provoked these reflections and questions, which I take profoundly as self-criticism as an author, professor/researcher, and journal reviewer. Do the methods used fit (or are they sufficient for) the problem and objectives proposed in the studies?

It is still common in Brazil to see articles in congresses and journals with a considerable introduction, a small literature review and justification of the study, for example, this "study is justified because there are few studies on the subject", "this study is justified because ..." and so on. But in the end, what is the contribution of the study? How does it expand the literature, the area? How could the evidence help professionals, regulators, and others (if possible)? In my meetings with faculty from UTDallas or UIUC, to some extent, I always received some compliments on the ideas, but the first question was always, "Okay, I liked the idea, but what is the contribution?" or "the contribution is not clear", that is, if the study, despite being promising, does not offer a contribution that impacts the literature and has the potential to be cited, international faculty do not spend time on the research and this is natural, it is not personal.

We also spend much of the study space on literature reviews that could be more succinct to leave more room for actual theoretical motivation to convince the arguments and relevance of the research problem and study contributions. In other words, we need to read and reread our manuscripts calmly and from the perspective of the editor and the reviewer, as they are the filter for the manuscript to be accepted. This is a daily exercise, and if you pay attention to top journal articles, you have a standard language/writing type and structure that needs to be followed if you want to target such a publication.

Almost finishing, I think that, in Brazil, we are still very focused on the association of phenomena, variables or factors and little on causality. We can consider causality as some economic, social shock, some intervention, etc., that can change the behavior of a group of companies or people after the event compared to the previous period and in relation to a control group. Medicine is very effective in this type of study and we find it a lot in the financial literature too. Accounting has already begun to gradually import these techniques and approaches. Behavioral accounting studies (trial) use this type of approach, with tremendous challenges to isolate effects that could interfere in the final result of the experiment. Some areas of Management and Financial Accounting already analyze causality.

I hope this editorial will contribute to profound reflections by professors, researchers, reviewers, and editors. It is not a recommendation for a change though, but for everyone to start reflecting. I believe that researchers of "quali" or "quanti" approaches will benefit from improving the quality of studies as they seek to program (write code) to perform the methodological procedures of the research. Today, it is a trend in many top journals to require submission of the programming code of the manuscripts. This initiative has already begun in Brazil and will become stronger and stronger. This is a quest for excellence in research, through the validation by anyone in the world of what has been done.

Finally, our studies circulate very little - one or two congresses (at most) and submission to a journal. When we read an article published in a journal, this article has most likely been presented and changed for about two or three years. So we are reading what has already happened. As a reviewer and former editor of national journals, I have already detected with the editorial staff of some periodicals several cases of articles submitted soon after the end of a congress (if not in parallel), arousing reflection: has the study already reached the "point" of submission or would it merit some adjustments/rereading prior to submission? Look at the footnotes of the articles published in journals; notice how many researchers and events are mentioned in the acknowledgments; observe the time between submission, review and publication rounds. I would like to illustrate that the studies "go back and forth" a lot until they reach the point of submission and nevertheless with a high risk of rejection by the editor, or soon thereafter, by the anonymous reviewers, as the rejection rate out there is much higher than in Brazil. I do not want to say that we should tread this path, but we need to reflect on our studies and their maturation before submitting instead of submitting to get feedback from the editor or reviewers to improve the study. We need to develop our self-criticism and hope to learn from everyone. Thank you for the opportunity to share these ideas and I am at your disposal.

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Demographic and academic analysis of self-regulated learning in Accounting students from HEI in Salvador

Abstract

Objective: Analyze whether demographic and academic factors influence self-regulated learning. Method: The research sample included 713 Accounting students from three Higher Education Institutions (HEI). The study data were collected through a questionnaire and, for the statistical analysis, descriptive statistical methods, inferential analyses through the application of Factor Analysis and Multiple Regression were used.
Results: The results found were significant for gender, years of education, education level of father, age and training in Accounting course. Thus, young female students who spent more hours on studying, in the initial phase of the course and whose father had a low education level tend towards higher levels of self-regulated learning behavior.
Contributions: Social and demographic factors can influence self-regulated learning. Thus, it is promoted to the extent that it receives influence from external social factors.
Key words: Self-regulated learning. Academic factors. Demographic factors. Learning.

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1. Introduction

With the advent of Information and Communication Technologies (ICTs) and the significant increase in the amount of information that is easily accessible, it is imperative to rethink a learning model that fits the new needs of the current social context, especially the need to learn or learn to learn. Attributes such as "greater student independence" are fundamental to have access to a wide range of information sources, understanding that, in higher education for example, each curricular component has a limited number of hours and the teachers lack time to exhaust all content.

In this context, in the area of Sociocognitive Psychology, characteristics of self-regulation have been discussed, in which the learner becomes a construct of his learning and is able to initiate, monitor and control his own way of learning. Zimmerman and Martinez-Pons (1986) observed that students who were considered independent or self-regulated had different attributes from those who presented inferior performance because they were more active in the process of learning and regulated behavioral and motivational variables as well as metacognitive variables.

According to Zimmerman & Martinez-Pons (1986), the individual gradually develops self-regulation until the need for social assistance occurs. This involves the levels of observation, emulation, self-control and self-regulation. This preface reveals that Social Cognitive Theory does not understand self-regulation in an isolated way, considering the developmental (parents' help, for example) and environmental (related to factors external to the individual: help from the teacher, group, etc.) characteristics associated with the determination of a personal judgment of the use of cognitive, metacognitive and self-reinforcement strategies (Zimmerman, 2000; 2002).

For Veiga Simão and Frison (2013), from the perspective of the Sociocognitive theory, which integrates self-regulated learning, internal and external factors influence the learning process, as it considers that the surrounding physical and social environment influence motivation, cognition and behavior. Thus, self-regulation is an interaction of behavioral, personal, and environmental processes (Bandura, 1986). Therefore, self-regulated learning can be influenced by multiple variables, whether endogenous (motivations, goals, etc.) or exogenous (peer help, teachers, parents, etc.) to the individual. The relationships of factors exogenous to the individual are associated with the cyclical phase of self-regulation and self-efficacy (belief in the ability to handle and accomplish a task) (Zimmerman & Schunk, 1989).

With this understanding, the Brazilian literature has studied the influence of a few demographic (gender, age) and academic (current semester) factors on Self-Regulated Learning (SRL) in accounting students (Silva et al., 2017; Aguiar & Silva, 2017; Lima Filho, Lima & Bruni, 2015). In order to understand other factors that may be related to self-regulated learning, this study seeks to explain the process of self-regulation based on Bandura's Sociocognitive Model (1986), and Zimmerman and Martinez-Pons' (1986) Self-Regulated Learning theory, through the following problem: **What demographic and academic factors influence the self-regulated learning of Accounting students in HEI in Salvador (BA)?**

The general objective of this study is to verify the demographic and academic factors that influence the self-regulated learning of Accounting students in HEI in Salvador. In order to achieve the general objective, the following specific objectives were defined: a) to identify the self-regulated strategies undergraduate Accounting students use at Higher Education Institutions in Salvador (BA); b) to examine the dimensions of self-regulated strategies used by undergraduate Accounting students; c) analyze whether demographic and academic factors can influence the self-regulated learning of Accounting students in HEIs in Salvador.

This study sought to fill knowledge gaps in the relation of factors that may be relevant to explain a higher degree of self-regulated learning when analyzing other academic factors (type of public or private HEI) and demographic factors (father and mother education; of work or stage, and time of study) not analyzed by the Brazilian literature. A better theoretical understanding of such factors can be enhanced to the point of making them more self-regulating in the learning process, as it allows behaviors to be modified in order to promote better academic performance, considering that the self-regulated student is success-oriented; and practical and social when they are professional, because they will be better qualified and prepared to adapt, take a position and give feedback on specific information for the proper functioning of the sector and the economy (Aecc, 1990; Aicpa, 2000).

To reach the objectives, a questionnaire was applied to a sample of 713 undergraduate Accounting students from three Higher Education Institutions, located in the city of Salvador, Bahia. The data obtained underwent three different types of treatments: descriptive statistics, to reach the first specific objective; factor analysis, corresponding to the second specific objective; and multiple regression, to achieve specific goal three.The results showed that Accounting students use self-regulated learning strategies with a frequency of over 68%; the grouping of the fourteen self-regulation strategies into two groups by the students analyzed; and the finding of a significant influence on self-regulated learning for the variables "gender", "study time", "age" and "father's education", in which the latter factor was negatively related with the degree of self-regulated learning, a finding that was not pointed out by the previous finding about the self-regulation of the learning.

2. Theoretical Framework

2.1 Self-regulated learning theory

Studies on the academic environment by Fischer, Davel and Vergara (2006) have pointed out that the practices experienced and the concrete and imagined experiences, as well as the cognition and the emotion, are factors that contribute to the learning process. Shuell (1986) agrees that what the learner does in determining learning is more important than what the teacher can provide. Therefore, these authors considered that the process of teaching and learning is influenced by a wide range of characteristics, that is, it is not restricted to the environments of educational institutions or to the relations between teachers and students.

In this context, the idea of studying students' independence strategies emerged around 1980, when investigators analyzed how the students organized the learning, and later culminated in the systematization of the Self-Regulated Learning (SRL) theory. According to this theory, a self-regulated student is able to initiate, monitor and control his/her learning (Boekaerts & Cascallar, 2006; Efklides, 2011; Zimmerman, 2000). In this way, the students are active in the learning process, control their behaviors, motivations and metacognition in order to guarantee learning until success is achieved.

In the perspective of the sociocognitive conception, Self-Regulated Learning (SRL) is understood as a voluntary and conscious process that permits managing the behavior, feeling and thinking in order to reach the individual's personal goals, guided by a pattern of behavior in which the subject becomes self-observing, self-judging and self-reacting (Bandura, 1991; Polydoro & Azzi, 2008 and Zimmerman, 2000b). That is, the process of self-regulation of learning is characterized as ranging from the mobilization of mental operations to the planning, verification of the conduction and evaluation surrounding an objective established by an individual.

The student's self-regulation skills, initially developed by social influences, are later controlled by the individual and indicate four levels of this process (Schunk & Zimmerman, 1997). At the first level, the learner has knowledge about learning skills, which is learned through verbal description or repeated observation. The student learns the most significant characteristics of the strategies with the aid of social modeling. As an example, teachers who present an accounting entry and verbally include how to implement a strategy, skill or process.

At level two, emulative, the student repeats the styles of the model, which is considered as standard, to a greater extent than merely copying his actions. In this guided phase, the teacher chooses an activity or strategy and considers that the students already know the strategies and have to put them into practice; and finally receives feedback from the process execution to develop his/her skills.

At level three, self-controlled, the student performs another activity that is identical to the previous ones that served as a framework for the development of the learning strategy, called "transfer". The internal representation that the student already has permits the internalization of the strategy, although the strong dependence on the standard model used in the previous stages is taken into account. After completion, the student defines his/her self-reinforcement as a result of successful performance and assesses him-/herself. At the moment of self-evaluation, the presence of the teacher is essential (Rosário, 2004).

The fourth and last stage is self-regulation. Students at this level are able to maintain motivation around their goals to be achieved, as well as their belief in their own ability to learn or perform better (self-efficacy) (Bandura, 1986; Schunk & Zimmerman, 1997). This stage also considers that students already have the autonomy to decide when to use strategies, with or without modeling, as they are already able to regulate their thoughts, behaviors and motivations, that is, to be self-regulated.

With this understanding, the aspects that permeate the discussion of self-regulation in learning involve the interference of characteristics that are not exclusively unique to the individuals, but which can influence their behavior in the sense of enhancing or not the self-regulation in learning.

Studies of Corrêa-Vieira, Bragagnolo-Frison, and Veiga-Simão (2015) verified whether the students of an 8th grade class in a Brazilian public school improved reading comprehension and reading self-regulation skills when participating in a metacognitive modeling intervention. The results also indicated that 70.37% of the students presented progress in the reading comprehension and that the self-regulation strategies of reading comprehension helped both in the evaluation of the reading process and in the actual understanding, that is, in the understanding that the student had when reading a text.

Studies by Herndon and Bembenutty (2017) in the United States have verified how social and academic factors may be related to academic performance and found that study hours, self-regulation, intrinsic motivation, self-efficacy beliefs, academic delay of gratification and education level were related to academic performance. These findings suggest that there are individual differences in the ways in which students respond to these alternative academic settings.The work of Rosário, Morão and Chaleta (2005) analyzed the relations between the behavioral profile of the student and the homework. He found that the parents' education level is positive and significantly associated with the homework attitude and behavior profiles. According to the study, the homework attitude and behavior profiles are positive and significantly associated with the self-regulatory profiles. Students who perceive themselves as more self-efficacious have better homework attitude and behavior profiles.

2.2 Bandura's sociocognitive model

The sociocognitive model of individual behavior Bandura proposed was a reaction against the psychoanalytic and behaviorist models. In this sense, this model emphasized the interactions of behavioral, personal and environmental factors that influence behavior and motivation through the Triadic Reciprocal Causation model in the interaction between behavior, person and environment (Bandura, 1986).

Based on Sociocognitive theory, human development occurs through adaptations and changes in the individual, who becomes proactive, self-reflexive, self-organized and self-regulated (Bandura, 2008). In this perspective, Bandura (2001, 2006, 2008) pointed out four characteristics of individual behavior: the intention in the accomplishment of a future action, the elaboration of plans and strategies; the anticipation of future actions by setting goals and anticipating possible outcomes (behavioral guidance); self-reaction by self-regulating behaviors through personal goals and standards that reflect the completion or not of a task (relation to perceived self-efficacy); and self-reflection, in which there is a judgment about oneself (thoughts and actions).

For Bandura (1986, 2001, 2006, 2008), personal development suffers social and structural influences while influencing its social context. In the development of the social model, Bandura (1986) indicates that the phases relate the influences on the behavior of the observer; by providing rapid responses to social issues; by providing learning by observation to acquire cognitive skills and new behavioral habits.

In this context, Bandura's Triadic model relates to the self-regulated learning construct due to the personal interactions (cognitive, affective and biological events), environmental (range of everyday social influences), contextual and behavioral patterns (activity patterns) in which new learning is acquired. It is conceived that, in this model, there are reciprocal influences between the various factors, but without patterns of interaction, as each factor can be variable to the context it is inserted in.

According to Castro (2007), based on the Sociocognitive theory, self-regulation of learning goes beyond the understanding of personal factors, considering the physical and social environment of the learner, considering that it is in the social environment that instruction and modeling occur, which serve as a guide to transmit self-regulation skills, such as persistence, self-praise, and self-reaction, through parents, teachers, peers, and the community (Zimmerman, 2000a).

2.3 Zimmerman's Theory of Self-Regulated Learning

The theory of Self-regulation elaborated by Zimmerman is influenced by Bandura's Sociocognitive theory. For Zimmerman (2002), the self-regulation of learning is a self-directed process in which learners use mental skills for academic competences. According to Zimmerman (2000; 2002), self-regulation occurs in a gradual and continuous way, in which the dependence on social support is gradually reduced. For this purpose, the individual mobilizes observation, emulation, self-control and self-regulation.

Zimmerman's model of self-regulated learning occurs cyclically in three stages: the first stage is the cyclical one, considered the preliminary stage of performance (planning); the second stage is performance or volitional control (achievement); and, finally, the stage of self-reflection (evaluation); in which each of these stages mobilizes distinct thoughts in the student and works in a dynamic, cyclical and open way (Rosário, 2002; Schunk & Zimmerman, 2003; Silva, 2004; Zimmerman, 1998, 2002; Zimmerman & Schunk, 2004; Schunk, Pintrich & Meece, 2008).

In this context, Zimmerman and Martinez-Ponz (1986) identified fourteen possible strategies most used by self-regulated students. According to the authors, the use of these strategies gives the student a valuable learning tool and its use is directly related to academic success indices. The strategies present in self-regulated students, with their respective definitions and examples, are presented in Chart 1.

	Strategies	Definition	Examples: (Rosário, 1999)
1	Self-assessment	Declarations indicate the students' assessment about the quality or progress of their work.	"...I checked my work to make sure that it was good".
2	Organization and transformation	Declarations indicating the students' initiatives to get reorganized, improving the learning materials.	"...I always make a schedule before writing the reports of the chemistry experiments".
3	Goal setting and planning	Declarations indicating educational goal setting: planning, time phase and conclusion of activities related to these goals.	"... I start studying two weeks before the test and I am calm".
4	Information seeking	Declarations indicating the students' efforts to gain extra information from non-social sources when they face a school task.	"...before I start an activity, I go to the school library to collect as much information on the theme as possible".
5	Note taking	Declarations indicating efforts to register events or results	"...during the classes, I make as much notes as possible on what the teachers offers".
6	Environmental structure	Declarations indicating efforts to select or alert the physical or psychological environment in order to promote learning.	"...I isolate myself in the bedroom to avoid getting distracted" or "...to concentrate on what I am doing, I turn off the sound".
7	Self-consequence	Declarations indicating the imagination or achievement of rewards or punishments for success or failure in school.	"...if I do well on the test, I buy some chocolates".
8	Repetition and memorization	Declarations indicating the students' initiatives and efforts to memorize the material.	"...in the preparation for a physics test, I write the formula many times until I know it by heart".
9-11	Search for social help	Declarations indicating the students' initiatives and efforts to seek help from peers (9); teachers (10); and adults (11)	"... if I face difficulties to study I ask my father for help, he's a physician".
12-14	Data review	Declarations indicating the students' efforts-initiatives to reread the notes (12); test (13); and textbooks (14) to prepare for a class or written exercises.	"...before the tests, I always review the summaries of the subject I made" or "To prepare for a test, I solve the formulations of what I have already done".

Source: Zimmerman and Martinez-Pons (1986, p. 5-16); Rosário (2001, p.52), adapted.

Chart 1. Self-regulated learning strategies

In the study by Silva and Simão (2016), the possibility of interview effectiveness was analyzed as a task that can help and enhance the identification of self-regulating processes in learning, such as enhancing them in the students. The authors concluded that evolution occurred in the learning profiles, as the students began to adapt the objectives of the strategies, to internalize action norms and to review. This study reveals the importance of the "data review" strategy E10. According to Zimmerman and Martinez-Pons (1986), it is through this strategy that students' efforts and initiatives to re-read the notes, tests, textbooks, notes to prepare for some class or written exercises take place.

Frison (2016) found that monitoring enhanced the use of different strategies to enhance learning, and that the small study group provided actual learning, as students helped one another, which favored commitment and dedication to the tasks. In the study, the presence of the "social aid" learning strategy (E9) was clearly perceived, in which more advanced students in the course offer support for the clarification of students' doubts.

3. Method

The research is exploratory as it aims for a greater understanding of the factors that can affect the self-regulated learning; and descriptive, as it aimed to describe the phenomena of self-regulated learning. For Gil (2007), exploratory research aims to enhance the familiarity with the problem, with a view to making it more explicit or constructing hypotheses. With regard to procedures, it can be classified as bibliographical due to the necessary literature scanning in any scientific construction; a field study, because questionnaires were applied to the Accounting students in order to gather information for the development of the study; and survey, because information was sought on demographic and academic characteristics and on the use of self-regulation strategies. The problem approach was classified as quantitative because several statistical methods were used to respond to the objectives of the study, such as multiple analysis and factor analysis.

In the selection of the sample, criteria were applied through which the research objectives could be met. Two public institutions and one non-profit private institution, which traditionally offer the Accounting course in the city of Salvador-Bahia, were chosen and facilitated access to the HEI.

The proposal of the model rests on the idea that demographic and academic variables can influence the students' self-regulated learning. The demographic variables are gender, age, semester, study time, whether the student is in training or working (in hours), education level of the father and mother; and the academic variables are the current semester and the type of HEI (whether public or private).

The data were collected in two ways: through in-class application at the Visconde de Cairu Foundation (FVC) and at the State University of Bahia (UNEB). At the Federal University of Bahia, the data were collected with the help of Survey Monkey's online platform. The coordinator of the Accounting course at UFBA forwarded the online questionnaire as only the administrative staff of the institution has access to all student emails. The sample consisted of 713 Accounting students, corresponding to a population of 1,929 students enrolled in the second semester of 2017.

The data collection instrument was the questionnaire, segmented into two blocks. Eight demographic and academic aspects were used, with ten questions that addressed the self-regulated learning strategies identified by Zimmerman (1986). In block I, the questions related to the socioeconomic and academic characteristics of the student are listed: (a) gender, (b) age, (c) name of the college where they study, (d) semester in progress, (f) the father's education level, (g) the mother's education level and (h) the hour load of the internship/work. In order to identify them, eight aspects were used considered in previous studies (Zimmerman & Martinez-Pons, 1986; Rosário, 1999; Filcher & Miller, 2000; Zimmermann, 2002; Rosário & Almeida, 2005; Schunk, 2005; Bell & Akroyd, 2006).

Block II sought to verify the use of self-regulated learning strategies identified by Zimmerman and Martinez-Pons (1986). In this sense, the block is composed of 10 questions that present the variables of Self-assessment; Organization and transformation; Goal setting and planning; Information seeking; Note taking; Environmental structure; Self-consequence; Repetition and memorization; Search for social help and Data review. Block II of the questionnaire corresponded to the characteristics identified by Zimmerman (1986) and a seven-point Likert scale was used, ranging from 1 (never performs the activity) to 7 (always performs the activity). The use of the Likert scale is intended to highlight the relevance the students attribute to the proposed questions and the related variables (Silva Júnior & Costa, 2014, p.5).

Two hypotheses were tested in this study to help clarify the relationships between self-regulated learning and social and academic factors in the Accounting course: H1: Social variables may explain the self-regulation of learning and H2: Academic variables may explain learning self-regulation.

In order to investigate how students' self-regulated learning can relate to demographic and academic factors (objective c) and to test the study hypotheses H1 and H2, multiple regression was used. According to Hoffmann (2006), there is a multiple regression when it is assumed that the dependent variable is a linear function of two or more explanatory variables and that can be expressed as shown in the equation: $Y = \boldsymbol{\beta 0} + \boldsymbol{\beta 1}X_1 + \boldsymbol{\beta 2}X_2 + \boldsymbol{\beta 3}X_3 + ... \boldsymbol{\beta n}\, \mathbf{X_n} + \varepsilon$

The models through which these relations could be verified are described in Chart 2.

Demographic SRL model	SRLi = β0 + β1Gen + β2Efat + β3Emot + β4Tra + β5Age + β6Tis + ε
Academic SRL model	SRLi = β0 + β1Sem + β2HEI+ ε
Demographic and academic SRL models	SRLi = β0 + β1Gen + β2Efat + β3Emot + β4Tra + β5Age +β1Sem + β2IESβ6Tis + ε

Legend: SRLi = Self-regulated Learning index (mean scores, 1 to 7, on self-regulated learning scale) β0 = Constant β1Gen = Gender β2Epai = Father's education β3Emot = Mother's Education β4Tra = Work or training β5Age = Age β6Tis = Time of study β1Sem = Semester β2HEI = Type of HEI ε = Error or regression residual.

Source: elaborated by the author (2018)

Chart 2. Multiple regression models

The demographic and academic SRL model was aimed at analyzing the "simultaneous relationship between self-regulated learning and demographic and academic factors", and yet another scenario was constructed. The underlying idea is that the two factors can simultaneously explain the student's self-regulated learning.

4. Results

The general aim of this study was to verify that demographic and academic factors influence self-regulated learning at the investigated HEI om Salvador (BA). Therefore, data were collected from a sample of 713 students from HEI located in Salvador, Bahia. Table 1 evidences that 67.6% of the sample were students from public and 32.4% from private HEI. Within the students from public HEI, 37.2% come from the Federal University of Bahia (UFBA) and 30.4% from the State University of Bahia (Uneb).

Table 1
Sample composition per HEI

	Type of HEI	HEI	Fi	Fi%
	Public	UFBA	265	37.2
		UNEB	217	30.4
Sub-total			**482**	**67.6**
	Private	FVC	231	32.4
Total			**713**	**100.00**

Source: Research data, 2018.

Regarding these students' gender, 44.74% are male and 55.26% female. Of these, 16.41% are aged up to twenty years, 42.36% between 21-25, 17.95% between 26-30, 13.88% between 31-35 and 9.4% are older than 36 years. As for the semesters they are taking in the Accounting course, 44.6% are in the fourth semester and 55.4% in the fifth to the eighth semester.

To achieve the first specific objective of this study, the self-regulated learning strategies identified by Zimmerman and Martinez-Pons (1986) were used, as presented and exemplified in Table 1. Table 2, which segments between up to three and more than three, reveals that the the strategies the Accounting students used most were self-assessment (E1), the search for social help (E9), environmental structure (E6) and data review (E10). These findings converge with Zimmerman (1986, 1989), indicating that students tend to preferentially use the self-assessment strategy, while the less-used strategies were self-consequence (E7) and goal setting and planning (E3).

Table 2
Use of self-regulated learning strategies by accounting students using a segment point

		E1	E2	E3	E4	E5	E6	E7	E8	E9	E10
< 4	Fi	52	136	413	158	114	82	524	223	65	91
	Fi%	7.29	19.07	**57.92**	22.16	15.99	11.50	**73.49**	31.28	9.12	12.76
≥ 4	Fi	661	577	300	555	599	631	189	490	648	622
	Fi%	**92.71**	80.93	42.08	77.84	84.01	**88.50**	26.51	68.72	**90.88**	**87.24**

Source: research data (2018).

With the exception of self-consequence (E7) and goal setting and planning (E3) , all other self-regulation strategies were pointed out with usage rates superior to 68%. Silva et al. (2017) found similar results for students from private HEI in Private Distance Education in Accounting and Lima Filho et al. (2015) at two public HEIs in the State of Bahia for the use of strategies E1, E6 and E10.

Table 2 shows the strong use of the self-assessment strategy (92.71%), which is the strategy the accounting students use most. Using the self-assessment strategy allows the student to correct any mistakes made in tasks and to improve on the next task. Regarding the use of self-assessment in the educational process, Ribeiro (2003) emphasizes that this is an important strategy in the students' practice, as it permits evaluating what has been learned.The second most usual strategy was the "demand for social help" (E9) with 90.88%. This is a fundamental strategy towards success in the accomplishment of a task and the Accounting students' frequent use of this strategy entails better academic performance. In the research conducted by Frison (2016), in the light of self-regulated learning, monitoring favored the use of different strategies to enhance learning.

The "environmental structure" (E6) strategy was pointed out by 88.50%. For Corno (2001), self-regulated learning can be enhanced through changes made to a particular task which the individual himself can perform, or by reactions from the surrounding environment, as the individual is considered to be influenced by expectations and intentions that impact motivation and emotion. Rosário and Polydoro (2012) believe that students are able to make use of a series of volitional strategies geared toward avoiding external and internal distractions to maintain concentration, effort and motivation during the performance of tasks. Therefore, it is understood that the students analyzed use essential structures to promote good learning and thus to be more self-regulated.

The non-use of the "self-consequence" strategy (E7) (26.51%) has been recurrent in research on self-regulated learning in Accounting students, both for the "presence" and "distance" modality (Silva et al., 2017; Lima Filho, Lima & Bruni, 2015; Aguiar & Silva, 2015; 2017). The literature on self-regulated learning pointed out by Zimmerman and Martinez-Pons (1986) indicates that the fourteen strategies are part of the larger cyclic process segmented in the three stages (planning, execution and self-reflection), these being complementary and continuous phases. Students may be using other forms of incentives to accomplish the task, which further shapes the Brazilian cultural reality. Based on previous studies and the results of this study, it is argued that self-consequence is not a self-regulated learning strategy present in accounting students in HEI in the Brazilian context (Silva et al., 2017, Aguiar & Silva, 2017, Kraus, Silva & Zonatto, 2017, Lima Filho et al., 2015), among those identified by Zimmerman and Martinez-Pons (1986).

The "goal setting and planning" strategy (E3) (42.08%) is the second least used by the students. The little use of this strategy could be related to the accumulation of weekly activities, including the various works, tests, seminars, allied to the little time available to dedicate to the academic activities. On the other hand, it is considered highly detrimental to the completion of the established task, as preparation and strategy setting for success do not occur. This result converges with the findings of Polydoro and Rosário (2012), which identified little use of the E3 strategy and found that academic procrastination in the preparation of studies is positively related to self-regulation, that is, the more students postpone the studies to accomplish an activity or evaluation, the lower their perceived self-regulated learning will be.

The second specific objective identified the dimensions associated with Accounting students' self-regulated learning strategies. Hair, Black, Babin, Anderson and Tatham (2006) suggest that the sample should be greater than 50 observations, with at least 100 cases being advised to ensure more robust results. The ratio between the number of cases and the number of variables should exceed five to one or more (Hair et al., 2006). This study analyzed 713 cases and considered 10 variables, fulfilling both prerequisites for the application of the test. Table 3 shows the main components of factor analysis for self-regulated learning strategies.

Table 3
Principal component analysis for self-regulated learning strategies

	Total	% variance	% Cumulative	Total	% variance	% Cumulative	Total	% variance	% Cumulative
1	2.935	29.345	29.345	2.935	29.345	29.345	2.212	22.118	22.118
2	1.164	11.639	40.984	1.164	11.639	40.984	1.887	18.866	40.984
3	.967	9.674	50.659						
4	.896	8.957	59.615						
5	.833	8.334	67.949						
6	.762	7.621	75.570						
7	.731	7.313	82.883						
8	.630	6.298	89.181						
9	.557	5.566	94.747						
10	.525	5.253	100.000						

Source: research data, 2018.

The analysis of Table 3 indicates the presence of two factors for the self-regulated learning strategies that explain 40.98% of the total variability. For Hair et al. (2006) and Shimada, Chiusoli, and Messetti (2010), a criterion for factor retention is the Kaiser test, which considers values greater than 1.0 (eigenvalue> 1). As observed in the data, the first factor (eigenvalue = 2.93) can explain 29.34% of the total variance and the second (eigenvalue = 1,16) 11.64%.

According to Catell (1996) and Menezes (2006), verifying the affinities between the items is necessary to conclude the determination of the factor. The latter authors assert the need to exclude the factors that present a factor loading inferior to 0.32, those that present similar factor loadings in two or more factors with differences inferior to 0.10 and the factor that presents only one item. The oblique rotation results are shown in Table 4.

Table 4
Analysis of correlation coefficients using Pattern Matrix method

Dimensions	E1	E2	E3	E4	E5	E6	E7	E8	E9	E10
1	.328	.440	-.055	.079	.377	**.424**	-.629	**.716**	**.500**	**.652**
2	**.611**	.535	**.391**	**.702**	-.428	.219	.362	-.001	.355	.306

Source: research data, 2018.

The Promax oblique rotation method was used to analyze the correlation coefficients. By means of the Promax rotation, a standard matrix and a structure matrix (including the factorial matrix) are provided, which presents clusters of intercorrelations between the oblique variables that are grouped according to the factor loading, that is, according to the degree of involvement with the standards (Catell, 1966). By means of the Pattern Matrix, those factors can be indicated that are strongly involved when the factor loadings are observed in each cluster (Shimada et al., 2010).

According to Menezes (2006), the conclusion of the factor analysis finishes when the affinities of the items with the model factors are examined. The variables of a factorial model are excluded according to the following criteria: (a) when the absolute value of the main factor loading of the item is lower than 0.32; (b) when there are similar factor loadings in two or more factors in the same item (the difference between the absolute values of the factor loadings of the items is inferior to 0.10); and (c) a factor is formed by two or more items (Menezes, 2006).

With this context, the item "organization and transformation" strategy (E2) was excluded from the analysis because it presents similar factor loadings in the first and second dimensions inferior to 0.10. The strategies (E5) and (E7) were also excluded because the absolute value of the main loading of the item is less than 0.32, criterion (a). After this analysis and exclusion, two factors that aggregate those self-regulated learning strategies remained: Factor one, which added the items "environmental structure" strategy (E6), "repetition and memorization" strategy (E8), "Search for help" strategy (E9) and "data review" strategy (E10). And the second factor was the "self-assessment" strategy (E1), "goal-setting" strategy (E3) and "information seeking" strategy (E4). The dimensions found were titled: Factor 1 "Execution Dimension" and Factor 2 "Planning and reaction dimension".

The dimensions were validated according to the Netemeyer et al (2003) criteria, using the Kaiser-Meyer-Olkin (KMO) index, the Sphericity test, Bartlett, and Cronbach's Alfa. The results indicated acceptable KMO (0.698 and Chi-square = 292.276); significant Bartlett's sphericity (.000); reliable Cronbach's Alpha (0.671); and positive and significant Pearson coefficients.

In Table 5, the average coefficient of the usage dimensions of the self-regulated learning strategies are shown, calculated through descriptive statistics. The students use the organization and preparation dimensions more than the fixation and self-reaction dimensions and, overall, they make moderate use of self-regulated strategies. The low standard deviation (0.041101 and 0.03862) ensures that it is a homogeneous sample.

Table 5
Descriptive statistics for self-regulated learning dimensions

Dimensions	N	Minimum	Maximum	Mean	Standard deviation
Execution	713	1.00	7.00	5.2847	0.04110
Planning and reaction	713	1.00	6.33	4.6639	0.03862

Source: research data (2018).

This section sought to verify the dimensions associated to the use of self-regulation strategies through Factor Analysis. Two dimensions were found, called "execution" and "planning and reaction".

The final objective of this study analyzed the relationship between self-regulated learning and the demographic and academic variables of Accounting students at Higher Education Institutions in Salvador (BA). Before carrying out multiple regression and verifying the relationships between the variables and to achieve robust and consistent results, some preliminary tests are needed to analyze if the variables present the basic assumptions to perform a multiple regression. The assumptions tested were: Normality - verifies whether the dependent variable or response has a normal distribution; Autocorrelation - analyzes the correlation between variables; Multicollinearity - verifies possible multicollinearity problems.

The analysis of the first assumption presented normal distribution in "bell format" for the response or dependent variable, satisfying the first assumption. The Kolmogorov-Smirnov test revealed 0.88 sig. and, thus, being superior to 0.05, the hypothesis of data normality is accepted. The second assumption analyzed the correlation between the research variables using Pearson's Correlation coefficient. Dancey and Reidy (2006) present the following classification for the Pearson analysis: r = 0.10 to 0.30 (weak); r = 0.40 to 0.6 (moderate); r = 0.70 to 1 (strong). The data revealed moderate values. In general, correlation values were significant and did not present high values. According to Bruni (2012, p.240), the VIF test indicates that "coefficients and tests can lead to erroneous conclusions if the exogenous, independent variables present high cross-correlations" and, according to Miloca (2002), the VIF value cannot exceed four, although some authors tolerate five. The results were in accordance with the literature, thus presenting no multicollinearity problems, based on which the regression results could be analyzed.

Table 6 presents the results of the scenarios when analyzing the influence of demographic factors, considering the factors generated by the factor analysis (execution and planning and reaction factors) and the mean self-regulated learning index as a dependent variable.

Table 6

Multiple analysis of Demographic Factors

	"Execution" factor			"Planning and reaction" factor			SRL index		
Variables	Coefficient	T-statistics	sig.	Coefficient	t-statistics	sig.	Coefficient	t-statistics	sig.
(Constant)	4.772	18.803	0	4.19	17.526	0	-0.282	-1.744	0.082
Gender	0.154	1.887	0.06	**0.3**	3.915	0	**0.143**	2.755	0.006
Age	-0.067	-1.819	0.069	-0.057	-1.65	0.099	**-0.057**	-2.448	0.015
Time of study	**0.226**	6.041	0	**0.169**	4.807	0	**0.156**	6.545	0
Father's education	**-0.063**	-2.402	0.017	-0.032	-1.29	0.197	**-0.049**	-2.952	0.003
Mother's education	0.046	1.719	0.086	-0.009	-0.338	0.735	0.016	0.916	0.36
Work or training	-0.029	-1.038	0.3	-0.035	-1.339	0.181	-0.019	-1.107	0.269
N	713			713			713		
R^2	0.08			0.079			0.105		
F (sig.)	10.246			10.142			13.788		

Source: Research data, 2018.

Based on the results, the demographic variable that positively influences the self-regulated learning was the time of study, while the father's education level exerted negative influence. The variables mother's education level, gender, work and age were not significant in the model. This finding converges with studies by Freitas (2005), who pointed out that students who study on the eve of tests tend to be less self-regulated than those who study daily. Self-regulation theorists indicate that learning is a personal experience that requires the students' active, dedicated and informed participation (Zimmerman, Bonner & Kovach, 1996) - and that daily time planning promotes skill-fixing to be successful (Bandura, 1986). Like any other activity, repetition tends to provide greater possibility for perfection, for example, an Accounting student who invests more time solving lists of exercises in Accounting Theory tends to be more knowledgeable of different applications than the student who only solved only one list or part of the lists. In conclusion, a direct relationship exists between longer study time and self-regulated learning.

The negative relation between the father's education level and self-regulated learning was another finding of this research. The non-standard beta was -0.063 and sig. was 0.017. In the exploratory study by Castro (2007), in Portugal, a significant and positive association was found between parental education and students' self-regulatory behavior and perceived self-efficacy. The literature by Zimmerman & Martinez-Pons (1986) and Rosário (1999) indicates that more educated parents tend to positively influence individual self-regulation. A possible explanation for the divergent finding of this study may be related to the economic profile of the Accounting students being low to medium income (Iudicíbus, 2012), that is, students would be more motivated towards a possibility of change in their economic structure and thus more self-regulated in their studies. That is, hypothesis one (H1) of this study may be partially accepted, as not all demographic variables were statistically significant for self-regulated learning.

Table 7
Multiple analysis of Academic Factors

Variables	Coefficient	t-statistics	sig.	Coefficient	t-statistics	sig.	Coefficient	t-statistics	sig.
(Constant)	5.418	36.225	0.000	4.928	35.092	0.000	4.928	35.092	0.000
Semester	-0.019	-1.098	0.273	**-0.036**	-2.175	0.03	**-0.036**	-2.175	0.03
Type of HEI	-0.034	-0.383	0.701	-0.075	-0.912	0.362	-0.075	-0.912	0.362
N	713			713			713		
R^2	0.103			0.008			0.008		
F (sig.)	11.688			2.712			2.712		

Source: Research data (2018).

The analysis of Table 7 reveals that the semester variable presented a beta coefficient of -0.036 and sig. of 0.30, suggesting a negative relation between the advancement in the Accounting course and self-regulation in learning. That is, advancement in the course does not allow students to appropriate and develop more self-regulated learning strategies. The international literature has indicated that formal teaching and learning spaces promote the use and development of students' self-regulated learning skills (Ames, 1992; Abreu, 1991; Almeida, 1993; Castro, 2007). Paradoxically, the Brazilian literature has pointed out that accounting students at the beginning of the course are more self-regulated than when they advance (Silva, et al., 2017; Aguiar & Silva, 2017; Lima Filho, Lima & Bruni, 2013). This scenario allows us to emphasize at least three notes and reflections: first, international studies, mainly in Portugal, use intervention programs in learning to develop students' cognitive and metacognitive skills, circumstances that promote increased self-regulation skills as, for Zimmerman & Martinez-Pons (1986) and Rosário (1999), the learning of the strategies permits their application in multiple scenarios; secondly, that it is necessary to study why there is less use of self-regulated strategies as the student progresses in the course, whether due to demotivation, dissatisfaction, work, among others; third, it is assumed that Accounting teachers may not be using didactic actions that promote the use of these self-regulation strategies, being a strongly technical structure.

A third scenario was analyzed, which aimed to verify the relationship between self-regulated learning and Social and Academic factors, expecting that both factors can simultaneously explain the student's Self-Regulated Learning. No further inferences were possible in the analysis though.

5. Conclusion

This study aimed to analyze whether demographic and academic factors can influence the use of Self-Regulated Learning strategies, elucidating these aspects based on a survey conducted with Accounting students through the participation of 713 students, located in the city of Salvador, Bahia.

The students use the self-regulated learning strategies with a frequency of over 68%. Among self-regulation strategies, the strategies the Accounting students used most were self-evaluation (E1), search for social help (E9), environmental structure (E6) and data review (E10). Zimmerman and Martinez-Pons (1986) argue that the greater the students' use of the strategies, the greater the self-regulation, which will consequently influence their performance.

The second specific objective examined the dimensions of the self-regulated strategies and found that the 14 characteristics Zimmerman identified as frequently used by self-regulated students were evidenced in this study by two factors. The first factor, implementation, grouped the "environmental structure (E6), "repetition and memorization" (E8), "search for help" (E9) and "data review" (E10) strategies. The second factor, called planning and reaction, grouped the "self-assessment" (E1), "goal setting and planning" (E3) and "information seeking" (E4) strategies.The third objective was to verify if demographic and academic factors of Accounting students could influence the self-regulation of learning, which corresponded to the two hypotheses tested. The results were analyzed according to the "execution" and "planning and reaction" factors (grouped by means of factor analysis) and the self-regulated learning index and concluded that the variables gender, study time, age and father's education level were significant. Thus, young women, who spend more time in school and have parents with lower education levels, indicated a more self-regulated behavior in their learning.

By means of the "execution" and "planning and reaction" factors and the self-regulated learning index, a significant and negative relation was indicated only for the semester variable, which permitted the partial acceptance of the hypothesis established. In the meantime, undergraduate accounting students are more self-regulated at the beginning of the course than when they graduate. This finding is alarming, as the university environment should provide mechanisms for developing self-regulated skills instead of reducing them.

Although the statistical findings have mostly presented similar results for the academic factors analyzed in SRL in Brazil, this study used different data analysis techniques. Based on the statistical test results, other evidence could be verified and presented of a characteristic that influences the self-regulation of the learning: the negative relation for the father's education level only. A possible explanation for the finding may be associated with the economic profile of the Accounting students being low to medium income, that is, students would feel more motivated towards a possibility of change in their economic structure and thus more self-regulated in their studies. As for the female gender being more self-regulated, it converged with the Brazilian literature and was contrary to the international literature, a fact that deserves attention in the sense of possible explanations. The variables "study time" and "work or training" presented logical relations of "greater investment, greater return", so that the more time allocated to studies, the greater the students' self-regulation. There is a lack of explanations, however, for the observation that accounting students advance in the course and become less self-regulating.

It is emphasized that research was not identified that addressed how the Brazilian educational context articulates to promote the dissemination and promotion of self-regulated learning in university settings. There are also few studies that report cases of pedagogical interference in order to promote metacognitive and self-regulated aspects in students. Therefore, future discussions about these aspects are indicated as gaps.

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I can, you can, I can more: narcissism and power

Abstract

Objective: The relation between narcissism and power is analyzed in a sample of Business Administration students from a state university in Bahia, Brazil.
Method: The theoretical-empirical approach was adopted, in the light of the Upper Echelon Theory. A self-reported questionnaire was applied to 161 students from the 7th and 8th semesters. Descriptive statistics, the Mann-Whitney and Kruskal-Wallis tests, Correlation and Logistic Regression were used.
Results: The evidences appointed that students with narcissistic traits agreed less, despite demonstrating high agreement levels for self-sufficiency, authority, exploitativeness and vanity. As to the search for power, the students also presented lower motivation, despite evidencing attitudes of persistence, self-confidence and independence. The higher the levels of narcissism, the greater the search for power, even though the means used for this search do not cover the common benefit for the company and for co-workers. The male sex presented high motivation for power.
Contribution: In the academic context, these findings arouse the discussion between power and narcissism, permitting further understanding about the implications of the themes in business education. This permits interfering in the education of future managers, as their decisions will influence the financial statements and will affect the users of this information.
Key words: Narcissism; Power; Business; Upper Echelon Theory.

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1. Introduction

Power, its relationships and effects in the organizational environment gain academic relevance to the extent that they address stimulating themes, involving, among other elements, subjectivity, such as the personality intrinsic in managers and future managers' attitudes in the work environment. In that sense, the aim of this study is to analyze the relationship between narcissistic personality traits and the search for power in Business Administration students from a state university located in the state of Bahia, Brazil.

Studies on the non-pathological branch of narcissism inform that the managers who exhibit these traits tend towards attitudes of grandeur, need for domination, feeling of superiority and high self-esteem (Chatterjee & Hambrick, 2007). Authority, self-sufficiency, superiority, exhibitionism, exploration, vanity and sense of entitlement are the distinct factors identified in managers who exhibit narcissistic traits (Raskin & Terry, 1988).

Power ambition, excessive self-confidence, insensitivity and devaluation of other people's work to impede that someone else stands out more distance talented employees, sometimes entailing low organizational performance levels. Managers with narcissistic traits reach power and take up important functions in the organization but make decisions to their own advantage, without concern with the long-term consequences of their actions (Lubit, 2002; D'Souza & Lima, 2015; D'Souza & Jones, 2017).

Nevertheless, the need for power, according to McClelland and Burnham (2003), is a natural leadership trait in the organizational context. Making things happen requires power. This need expresses the desire to influence or control, to be responsible and have authority over others in order to reach leadership positions, accompanied by prestige and reputation (Matias, 2010).

Power derives from the manager's need to influence people, without dictatorial and impulsive characteristics, in an impacting and strong manner, driving the group towards the desired results. A disciplined power that targets the organizational benefit is welcome, mainly when used to achieve corporate goals. On the other hand, some leaders also use the power for their own benefit, to the detriment of the organizational benefit (Maner & Mead, 2010). In that sense, the motive for this study is established by relating the narcissistic traits and the motivation for power. Verifying the extent of the relationship between these two themes and its implications in possible future managers' professional practice is stimulating.

As the theoretical framework, this study rests on Hambrick and Mason (1984) and Hambrick's (2007) Upper Echelon Theory, which reveals that characteristics such as personality, values, age, job in the company, experience, education, socioeconomic background and financial position are considered important and complex and permit a psychological perspective on human attitudes and behaviors. Hambrick (2007) highlights that the idea of this theory is expressed in two interconnected parts: a) business executives act based on their customized interpretations of strategic situations; and b) these customized interpretations occur in function of the executives' experience, values and personalities.

This theory has been the focus of studies and has served as the background in research on personality and the strategic decision process (Papadakis & Barwise, 2002; Abatecola, Mandarelli, & Poggesi, 2013), personality, strategic flexibility and performance (Nadkarni & Herrmann, 2010), personality traits and earnings management decisions (D'Souza, 2016), personality traits and opportunistic decision taking (D'Souza & Lima, 2015), personality traits and the maximization of corporate earnings (D'Souza, Lima, Jones & Carré, 2019), narcissistic traits and strategy and performance (Chatterjee & Hambrick, 2007).

In that context, this study will discuss the non-pathological branch of narcissism in the light of the Upper Echelon theory and its relation with power, searching for evidence for the following inquiry: **What is the relationship between the narcissistic personality trait and the search for power?** This research is theoretically justified because it expands reflections on the theme and promotes interdisciplinarity between the knowledge areas of Business Administration and Psychology. As Malvezzi (2007) argues, these areas are complementary and defined by certain foci of interest – whereas the former focuses on the individual's impact on the company, the latter has the company's impact on the individual as its focus.

Lecturers can enhance interdisciplinarity in their teaching practice based on subjects in the curriculum matrix of the Business Administration course, such as: Organizational Behavior, Organizational Behavior Management or Organizational Psychology, focusing on the student's education for analytic skills of the psychosocial dimensions and the relationships established inside organizations among individuals, groups and in the organizational dynamics, emphasizing the intervention and understanding of the professional world. Another subject that should be highlighted is Organizational Decision or Decision Taking Analysis, which studies the behavioral, cognitive and ethical aspects in the decision process and this issue in the business context.

What the practical and methodological contributions are concerned, the empirical application of this study considers the subjects involved – Business Administration students in the final semesters of their undergraduate course, and therefore probable organizational managers – as little research on the theme has been done in business education, particularly the Brazilian studies by Avelino and Lima (2017), who discuss the relation with academic dishonesty, and Lima, Avelino and Cunha (2018), who discuss academic performance.

Therefore, it is relevant to reflect on the impact of the narcissistic personality trait on the group work processes, on interpersonal relationships, on the relationship between leadership and subordinates, on productivity and on individual performance. In addition, its importance for the academic context is confirmed in view of the discussion about power and narcissism to understand its implications and nuances in business teaching. This permits interference in the education of future managers, mainly when observing that students use deliberate strategies to influence or persuade others with a view to reaching their goals In addition, it should be highlighted that the decisions these future managers make will influence the financial statements and can consequently cause losses to the accounting information users.

2. Theoretical Framework

The goal in this part is to systematize a discussion based on earlier studies in order to provide, by means of a short literature review, the conceptual bases of the search for power interwoven in narcissistic traits, aiming to verify what can affect the subjects of this research.

2.1 Power: conceptual aspects

Departing from the analysis of classical thinkers like Veroff (1955), the motivation for power derives from an interpersonal relationship, in which the execution is culturally defined by one individual who is superior among the others and who has control over the means to influence his/her subordinates. According to McClelland (1961, 1987), the need for power is an intense concern of the individual to control means to influence other people. Winter (1992) revisits the definition and argues that the motivation for power is the desire to impact on other people, to affect their behaviors or emotions, which refers to the overlapping of concepts, such as: influence, inspiration, authority, control, dominance, coercion, aggression and leadership. It is a person's ability to affect the behavior or feelings of other people.

These concepts come with a range of connotations of legitimacy, morality and imply other people's reactions. It should be highlighted that there is a difference between the definitions of power motivation and those deriving from psychological and sociological concepts, mainly concerning the role played and the status granted by power, skills to use power, feelings of power and values and beliefs in the practice of power.

What the power motivation in the organizational context is concerned, the individual seeks to exert influence, be a leader and control subordinates. Nevertheless, this power motivation originates in categories. According to French Jr. and Raven (1959), the sources of power are grouped in two categories: Organizational Power (legitimate, rewarding, coercive) and Personal Power (expertise and admiration).

Legitimate power is a person's capacity to influence the behavior of others because of his/her position within the organization. The rewarding power provides for financial gratifications, such as wage increases or bonuses, or non-financial rewards, such as promotions, favorable work assignments, greater responsibility, new equipment, compliments and acknowledgement. The coercive power imposes punishments or threats to perform the tasks. The power of expertise influences through the recognition of the manager's knowledge and skills. Finally, power can be exerted through the subordinates' admiration and respect for their leaders. Nevertheless, Lunenburg (2012) signals that the different sources of power cannot be considered totally separated from one another. Sometimes, leaders use them in various combinations, depending on the situation.

McClelland and Burnham (2003) argue that power is a great motivator towards efficient and effective management, mainly when the subordinates are influenced in a controlled manner, making them feel stronger to develop their functions. The authors developed a study among North American managers and found that the so-called institutional managers, being focused on the organization, are strongly motivated towards power and use this motivation to stimulate their subordinates to be more productive and also seek company success in general.

On the other hand, managers who are motivated by personal power seek social prestige, despite being capable of generating a greater sense of responsibility in their divisions and, above all, of creating greater team spirit. Nevertheless, they are insufficiently disciplined to consolidate the management processes in the company. If they leave the organization, the structure gets disorganized, as the subordinates are loyal to him as individuals and not to the institution.

Maner and Mead (2010) developed an experimental study among leaders to verify if they exert power for their own or for the institution's sake. The authors perceived that most leaders behaved consistently with the group's targets. When their power was weak though, due to instability within the hierarchy, the leaders with high levels of dominant motivation prioritized their own power over group objectives: they withheld valuable information from the group, excluded a highly qualified member from the group, and prevented an experienced group member from exerting any influence on a group task.

McClelland (1961, 1987), in turn, adds that the need for power is related to the political means used to achieve economic or other ends in the control of means that can be used to control individuals, particularly when the emotional reactions towards a situation of dominance are tested. The need for power reveals the persuasion, independence, self-confidence and ability to interact through contact networks, as can be observed in Table 1:

Table 1
Need for Power

Need for POWER
Persuasion and contact networks
• Uses deliberate strategies to influence or persuade other people. • Uses key persons as agents to achieve their own objectives. • Acts to develop and maintain commercial relationships.
Independence and self-confidence
• Seeks autonomy from standards and other people's controls. • Maintains his/her viewpoint towards the opposition or initially discouraging results. • Expresses confidence in his/her own capacity to complete a difficult task or to cope with a challenge.

Source: Adapted: Winter (1992); McClelland (1961, 1987).

Matias (2010) developed a study among accountants in the state of Minas Gerais, using, among others, the characteristics of the need for power listed above, and perceived that they were hardly willing to influence or persuade people when defending their viewpoints and when defining business relationships, despite acknowledging the confidence in their abilities to complete difficult tasks and cope with challenges.

In the same perspective, Lima Filho (2013) developed a study of 851 professionals registered in the Regional Council of Business Administration and 207 Business Administration students from public and private higher education institutions (HEI) in Salvador, Bahia, and perceived that men are more prone to the need for power when compared to women, who evidenced greater proneness towards accomplishment in the professional sphere.

Based on the literature review, in the next part, the narcissistic characteristics and their relations with power in the organizational context will be discussed.

2.2 Narcissism: characteristics and relationships with power

Imprecision exists in the scientific midst about the origin of the term "narcissism", particularly due to the fact that there is no clear division between studies as to the first mention of the Narcissus myth and the creation of the term. Nevertheless, there is almost a consensus that Narcissism was initially highlighted by Ellis (1927) when the author mentioned the legend, formulating the expression *Narcissus-like* with connotations of autoeroticism, love of oneself and one-s physical traits, based on the Greek legend of Narcissus – the character that fell in love with his own reflection in the water and died because of the impossibility to consummate that love (Chatterjee & Hambrick, 2007; Guimarães, 2012). Hence, Paul Näcke received the merit for the creation of the term in 1899. That author considered individuals who fall in love with themselves to be narcissistic, linking notions of perversion to the term (Guimarães, 2012).

At the time, narcissism designated "[...] the conduct in which the individual treats his own body in the same way as the body of a sexual object is commonly treated, that is, he looks at it, touches it and caresses it with sexual pleasure until reaching full satisfaction through these acts" (Freud, 1914/2010, p. 10). Freud (1914/2010, p. 10-11) analyzed narcissism as a dimension psychological condition, dissociated from something perverted, not as a clinical or subclinical personality trait, but as the "[...] is the libidinal complement to the egoism of the instinct of self-preservation, a portion of which we justifiable attribute to each living being". The author considered self-love, selfishness and the ability to maintain any information or feeling that could reduce one's sense of self at the unconscious level as a narcissistic process or condition.

For a long time, narcissism was considered a mere personality disorder and a focus of clinical diagnoses. The trait was discussed in the clinical sphere until, after the publication of Raskin and Hall's (1979) *Narcissistic Personality Inventory* (NPI), the social and subclinical analysis of this personality trait became possible (Furnham; Richards & Paulhus, 2014; Jones & Paulhus, 2014; Paulhus & Williams, 2002), which is the current adopted in this study.

After several empirical applications of the NPI, Raskin and Terry (1988) identified seven factors correlated with the narcissistic personality construct, which are: authority, self-sufficiency, superiority, exhibitionism, exploitativeness, vanity and entitlement. Narcissistic individuals exhibit feelings and attitudes of omnipotence, aiming to exploit the others and to feel entitled to rights and privileges in relation to those individuals. They are vain, intolerant to criticism, because they consider to be self-sufficient and extremely vain (Raskin & Terry, 1988).

Arjoon (2010) found that narcissistic individuals are selfish, exaggerated in displaying their own talents and skills; they lack empathy, despite being enchanting and extroverted, but need power and attention. They demonstrate an invasive pattern of grandeur, suggesting that this is the most noteworthy characteristic of narcissists.

In an investigation of narcissistic traits in the organizational midst, Maccoby (2004) perceived that leaders with this trait attempt to exert control over others. Being sensitive to criticism, they experience some difficulty to exert leadership and acknowledge errors, mainly due to a strong need to compete and come out as the winner in decision processes.

In this particular aspect, Campbell, Goodie, and Foster (2004) guarantee that narcissistic leaders exhibit excessive confidence in the decisions they make, due to their keen self-improvement and confidence in their own skills to perform and judge tasks. They face difficulties to acknowledge low performance and negative results in the company they manage. They act for their own benefit and are exceptionally encouraged by social compliments (Chatterjee & Hambrick, 2007), but also exhibit cognitive elements such as intelligence, creativity, competence and leadership skills (Farwell & Wohlwend-Lloyd, 1998; John & Robins, 1994).

When making decisions, Chief Executive Officers (CEOs) who score high on narcissism perform better on management decision tasks in environments with a low reward threshold when compared to individuals with lower narcissism scores. On the other hand, managers with high scores of this personality traits perform worse on management decision tasks in environments with a high reward threshold (Dworkis, 2013).

Narcissistic leaders conduct the business to achieve glory, applause and power (Maccoby, 2004). They hold grand beliefs, characteristic leadership styles and are generally driven by their needs for power and admiration, instead of being empathetically concerned with the institutions and the members they lead. Narcissists also have charisma and great vision though, which are vital for effective leadership (Rosenthal & Pittinsky, 2006). They worship self-esteem and exhibit a desire to obtain social status and power, without concerns with the wellbeing of others (Brunell, Gentry, Campbell, Hoffman, Kuhnert & DeMarree, 2008). They are driven by the intense need for power and prestige and, in many contexts, gain leadership positions (Stein, 2013).

When they can take risks with other people's money, narcissists bet without minding losses (Jones, 2013). Lubit (2002) adds that narcissistic leaders are interested in increasing their power, adopting an authoritarian and hardly participatory leadership style; therefore, they do not delegate tasks to those subordinates with some level of independence and knowledge, so as to maintain themselves at a threshold that reveals them as the best within their activity areas in the company.

When comparing the behavior of individuals with traits of narcissism, psychopathy and machiavellianism with risky business conducts, Crysel, Crosier, Webster and Gregory (2013) proved that narcissism was the most consistent personality trait related to behavioral risk tasks, being considered the "common thread" for risk behaviors. The study also demonstrated that, when they feel threatened, narcissists choose to make more money in the future. In the same perspective, Jones and Paulhus (2011) investigated 142 undergraduate students and perceived that narcissism was associated with functional impulsiveness, suggesting that narcissistic impulsiveness involves risk, although with a low level of social commitment.

Brunell, Staats, Barden and Hupp (2011) proved a positive relationship between narcissism and academic dishonesty, motivated by the need for exhibitionism by reflecting the narcissists' desire for admiration and their need to demonstrate superiority over others. To be successful and impress other people academically, they are willing to cheat in order to facilitate their way to the top, heading towards power.

Therefore, this result also demonstrates that the narcissists' ambitions lead to fraud in the academic environment, motivated by the lack of guilt and by their immoral behavior. In the same perspective, Avelino and Lima (2017) investigated 201 Brazilian students and the results appointed their proneness to narcissistic characteristics, such as the need to impress others positively, the unbridled search for pleasure and the unrelenting search for success and power. In the same sense, D'Souza and Lima (2018) studied narcissism among other traits and perceived that the 1404 Brazilian Accounting students were more prone to insist on getting the respect they deserve and liked to meet important people.

Power, prestige and status are aspects narcissistic individuals desire and attract attention to research in the organizational and educational context, aiming to verify students' attitudes and behaviors when in professional practice.

In an analysis of a sample of 63 Business Administration students for example, Carroll (1987) observed a positive and significant relationship between narcissism and power motivation. In that segment, Macenczak, Campbell, Henley and Campbell (2016) investigated 267 undergraduate and graduate business students at a university in the Southeast of the USA and perceived that, the higher the narcissism score, the greater the desire for power.

Based on the literature review on power motivation and narcissistic traits and their interrelations with other variables that can influence the research model presented, we intend to empirically test the following research hypotheses:

- **H1**: A significant and positive correlation exists between the narcissistic personality trait and the search for power.
- **H2**: The higher the narcissistic personality trait scores, the greater the students' proneness to seek power.
- **H3**: Male students are more prone to seek power than female students.

H3 was formulated based on the research by Watson, Jones and Morris (2004) involving 418 foreign higher education students. Among other findings, the authors perceived that male students exhibited higher scores on narcissistic traits and power-prestige to seek money.

It is important in this topic to make a difference between attitude and behavior, elements that are influenced by individual personality. According to Kanaane (2010), behavior is the individual's reaction and response to a given stimulus, being determined by the set of environmental (acquired) and hereditary (genetic) characteristics, absorbing the pressure exerted by the midst. Attitude, then, is seen as an evaluative reaction and can be positive or negative in the course of the individual's life experience. Thus, attitudes are not always reflected as behaviors, mainly because the individual does not always act on actual impulses.

Hence, this study is more attitudinal than behavioral, as the essence of the data collection instrument is to reveal the agreement by means of the Likert scale. Agreement indicates a predisposition but not an action. As Pasquali (1996) argues, the goal of the Likert scale is to verify the subject's agreement level with a range of assertions that express something favorable or unfavorable in relation to a psychological object, as will be detailed in the methods section, which presents the research design and the relation between the research variables.

3. Method

3.1 Approach, data collection technique and research sample

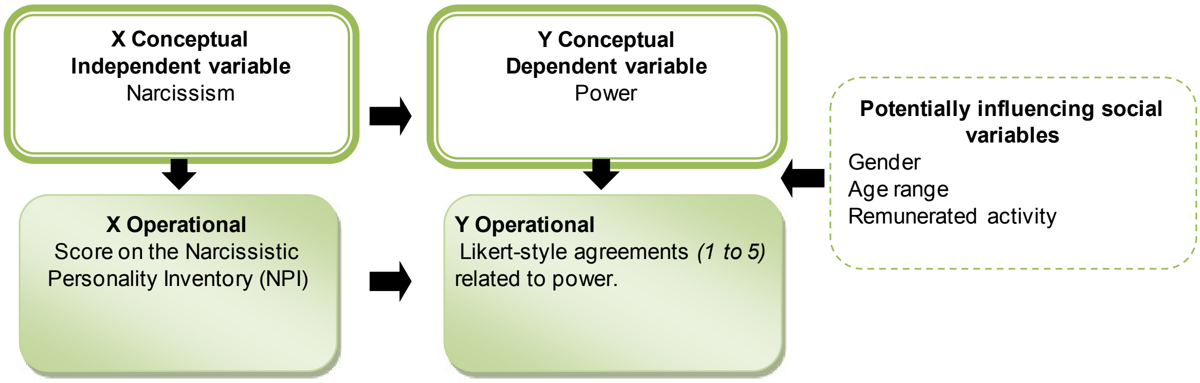
The theoretical-empirical approach was chosen. The survey was used as a data collection strategy by means of a self-reported questionnaire, which was applied face-to-face and on-line in a group of 161 seventh and eighth-semester Business Administration students from a state university in the state of Bahia in 2018. The sample was selected in a population of 246 daytime and nighttime students at the institution. The advanced semesters were chosen, considering that students in that stage are already more knowledgeable on business management as most of them already possess some professional experience and have a profile that makes them more suitable to take part in business simulations, that is, to act as professional managers.

The questionnaire was elaborated based on questions related to the demographic profile, 40 assertions from the narcissistic personality inventory NPI (Raskin & Terry, 1988), previously validated in Brazil by Magalhães and Koller (1994), which refer to characteristics of: Authority, Self-sufficiency, Superiority, Exhibitionism, Exploitativeness, Vanity and Entitlement; and 13 Likert-style agreements (1 to 5 points) indicating the search for power (Independence and Self-Confidence; Persuasion and Contact Networks), which were adapted from the study by Matias (2010). Its translation to Portuguese followed the back-translation method of the seminal study by McClelland (1961, 1987). After earlier use in different Brazilian studies, the two scales were used and adapted to answer the research problem.

In addition, it should be highlighted that the narcissistic personality measure is neither a psychological test nor is it intended to serve as a clinical diagnosis, but as an instrument to observe a psychosocial phenomenon.

3.2 Research variables, parameter setting and statistical approach

The independent variable is "narcissism", because it explains the search for power, which is considered the dependent variable in this study. The research design can be illustrated in accordance with Figure 1:



Source: Elaborated by the authors.

Figure 1. Narcissism and Power

What the parameter setting of the NPI is concerned (Raskin & Terry, 1988), the assertions of the instruments were maintained, referring to narcissistic (1 point) and non-narcissistic traits (0 points). To give an example: Assertion 1: A- "I have a natural talent for influencing people" (1 point – narcissistic trait) and B- "I am not good at influencing people" (0 points – non-narcissistic trait). As the instrument consists of 40 assertions and the maximum score is 40 points, the added score derives from a quantitative variable.

To establish the high and low levels of the narcissistic trait, the cut-off point of the group in two ranges was adopted, with the low level corresponding to scores below the median and the high level to above-median scores. A qualitative variable was found here (1 for low and 2 for high). A similar procedure was adopted in the studies by Dworkis (2013) and Johnson, Kuhn, Jr., Apostolou and Hassell (2012).

About the parameter setting of the Power variable, the Likert-style attitudinal scale (1-5 points) was used. Initially, the mean was measured (quantitative variable). Then, the two ranges were cut, adopting: 1 for low disposition to seek power and 2 for high disposition to seek power, turning it into a qualitative variable. D'Souza *et al.* (2018), D'Souza (2016), D'Souza and Lima (2015) adopted this procedure for the division by levels of the Dark Triad non-pathological traits, consisting of "narcissism", Machiavellianism and Psychopathy.

It should be mentioned here that the variables gender, age range and remunerated activity were included as variables in the research model because, in the Upper Echelon theory, their potential influence on individual interpretations and choices is considered.

In the statistical approach, the following were adopted: Descriptive statistics (frequencies, means and standard deviation, maximum and minimum), aiming to summarize, describe and understand the data of the research sample; the Mann-Whitney and Kruskal-Wallis test of means, to check for differences between the variables and to test hypothesis H3, Correlation and Logistic regression to verify the relation between the variables and the event probability, also being an appropriate technique to test hypotheses H1 and H2.

4. Analysis of Results

4.1 Profile of participants

Among the 161 students, 51.6% are male, 69.6% in the age range from 18 to 25 years, 43% mulatto, 53% went to a public school in secondary education and 62.7% have current or past professional experience in management.

The sample revealed 31 as the maximum and 3 as the minimum score for narcissism, 40 points being the highest possible score. As shown in Table 1, the mean was μ=13.68. This result is slightly higher than the findings by Avelino (2017) in a sample of 153 Accounting students from the University of São Paulo. The author found a mean NPI score of μ=12.46 and a maximum score of 30 points. Although generalization is not due, the comparison of the results suggests that the Business Administration students are more prone to narcissistic traits than the Accounting students.

The analysis of international studies showed higher NPI scores than in our study. The studies by Raskin and Terry (1988), Foster, Campbell and Twenge (2003), Miller and Campbell (2008) found scores of 15.5; 15.2; 16.4 in an investigation of Psychology students. What power is concerned, the students presented a mean agreement score of 3.557 and a maximum score of 4.692 on a scale from 1 to 5, in accordance with Table 2.

Table 2
Descriptive Statistics

	Observation	Mean	Standard deviation	Maximum	Minimum
Narcissism score	161	13.68322981	5.802394291	31	3
Mean Power	161	3.557095079	0.381019381	4.692307692	2.307692308

Source: research data.

With regard to narcissism, the students revealed lower scores for narcissistic traits – 56.5%. Nevertheless, it is noteworthy that the students showed to be highly prone to narcissistic traits in the analysis of the following assertions: N17 - "When I feel competent I take responsibility for making decisions" (73.3%); N10 - "I see myself as a good leader" (72%); N8 -"I will be a success" (68.3%), N35 - "I am capable of convincing people" (67.1%); N1 -"I have a natural talent for influencing people" (66.5%); and N29 - "I like to look at myself in the mirror" (58.4%). Assertion N17 refers to Self-sufficiency; N1, N8 and N10 to Authority; and N35 and N29 to Exploitativeness and Vanity, respectively. Avelino (2017) also found higher frequencies for N8, N10 and N29 in Accounting students.

Table 3
Frequencies

	Narcissism		Power	
	N	%	N	%
Low	91	56.5	87	54
High	70	43.5	74	46
Total	161	100	161	100

Source: research data.

What power is concerned, the research sample presented lesser motivation. In this aspect, it may be inferred that the Business Administration students under analysis have low disposition to: enhance the use of strategies intended to influence and persuade others; seek key persons in the academic midst as agents to achieve their own objectives. In a study of these characteristics in accountants from the state of Minas Gerais, Matias (2010) did not find any relevant disposition either.

The assertions with the highest mean score for power seeking were: P7 (μ=4.02): "When something stands in the way of what I am trying to do, I persist in my task"; P10 (μ=4.03) "The more specific my expectations are as to what I want to achieve in life, the greater my possibilities of success will be"; and P13 (μ=4.14): "I prefer to do tasks that I master perfectly and about which I feel secure".

In addition, in the analysis of the interposition between the variables "narcissism" and "power", it was observed that 26.08% of the students who scored higher for narcissism also scored higher for power seeking. Brunell *et al.* (2008) proved that power is the main factor justifying the relation between narcissism and leadership.

According to Table 4, a significant difference in narcissism is observed when power is present. Based on this finding, it can be inferred that, the higher the levels of Narcissism, the higher the levels of power seeking, supporting the study hypothesis H2. In this respect, Macenczak *et al.* (2016) observed that, when individuals with high narcissism scores rank high on the power scale, excessive confidence is significantly higher than for individuals who rank low, suggesting that there is a difference when the levels of narcissism and power seeking are high. The variables "sex", "age range" and "remunerated activity" did not show differences when Narcissism is present, which partially differs from the studies by D'Souza and Lima (2018), who found that male accounting students over 45 years of age are more prone to narcissistic traits.

The analysis of "power" with the variables "sex", "age range" and "remunerated activity" revealed the influence of the sex in power seeking. Among the 81 male students, 54.21% presented high disposition for power seeking, against 37.18% for the female sex. The studies by Watson, Jones and Morris (2004) support this finding, proving that male individuals exhibit higher Narcissism and Power scores. Based on this finding, H3 can be validated.

Table 4
Hypothesis Test

Dependent Variable	Test	Narcissism	Decision	Power	Decision
		Sig		Sig	
Sex	Mann-Whiney	.0194	No Rejection	.034(**)	Rejection
Age Range	Kruskal-Wallis	.532	No Rejection	.499	No Rejection
Remunerated Activity	Mann-Whiney	.232	No Rejection	126	No Rejection
Narcissism	Mann-Whiney	–	–	.000(**)	Rejection
Power	Mann-Whiney	.000(*)	Rejection	–	–

Obs.: (**) p < .05;(**) P<0.01

Source: research data.

The analysis of the correlation between the variables shows a significant and positive correlation between Narcissism and Power (r = 0.401, p <0.01). The findings by Carroll (1987) support this result, also evidencing a positive and significant correlation between narcissism and power, in accordance with Table 5. Based on this finding, H1 can be validated. "Power and sex" (r = 0.161, p <0.05) and "sex and remunerated activity" (r = 0.744, p <0.01) also evidenced significant and positive correlation. Therefore, these variables exert no potential influence to denote narcissistic traits and power seeking in the research sample.

Table 5
Correlation

	Sex	Remunerated Activity	Age Range	Power	Narcissism
Sex	1				
Remunerated Activity	.744(**)	1			
Age Range	.121	.028	1		
Power	.161(*)	.129	.015	1	
Narcissism	.102	.091	-.039	.401(**)	1

Obs.: (**) p< 0.01; (*) p< 0.05.

Source: research data.

Logistic regression was applied to achieve more robust results and to evidence the probability of event occurrence and identify characteristics of each group. The division of the "power" variable by level (1-high Power; 0-low Power) provided for a dichotomous dependent variable and permitted the inclusion of the quantitative independent variable (Narcissism score) and of the variables ("sex", "age range" and "length of experience"). The latter were inserted in the model because they are considered potential influences of individual interpretations and mainly because Hambrick and Mason (1984) and Hambrick (2007) consider these characteristics to be strong predictors for the purpose of personality analysis.

The Enter method was adopted in the logistic regression as all predictive variables were simultaneously included to estimate the probability of Power seeking in function of the explanatory variables – "narcissism", "sex", "age range" and "experience".

The chi-square test in Table 6 reveals that the set of variables is statistically significant for the research model. In view of this finding, it can be inferred that at least one coefficient different from zero exists at the 5% significance level, which implies that the model can accurately predict the investigation.

Table 6
Significance test of model coefficients

		Power		
		Chi-square	Sig.	Decision
Step 1	Step	24.883	.000	Rejects H0
	Block	24.883	.000	Rejects H0
	Model	24.883	.000	Rejects H0

Obs.: where p < .05 is bolded.

Source: research data.

According to the Cox and Snell test, the set of independent variables explains 14.3% of the variations in the log likelihood ratio. In the analysis of the Nagelkerke R2 test, the statistical model is able to explain 19.1% of the power seeking. The -2LL likelihood was inferior to one, suggesting that the model is fit. According to Fávero, Belfiore, Silva, and Chan (2009), the lower the likelihood, the better is the fitness of the model.

Table 7

Adjustment in the logistic regression model

	Test	Power
Step 1	Cox & Snell R square	14.3%
	Nagelkerke R square	19.1%
	Likelihood (-2*LL*)	197.260[a]

Obs.: estimation terminated in iteration number 4, because the parameter estimates changed by less than .001.

Source: research data.

To identify if the independent variables can be used as probability estimators, the evaluation of the individual significance of the parameters and the coefficient signals was analyzed, based on Gujarati and Porter's (2011) orientations as to the importance of analyzing the expected signals of the regression coefficients and their statistical or practical significance.

The variable "narcissism" is significant and shows a positive signal, evidencing that the positive variation of this variable contributes to increasing the probability of students expressing proneness to seek power when the remaining variables remain constant. Thus, if the variable narcissism increases by one unit, the estimated logit increases by an average of 1.143, suggesting a positive relationship between power and narcissistic personality traits.

Table 8

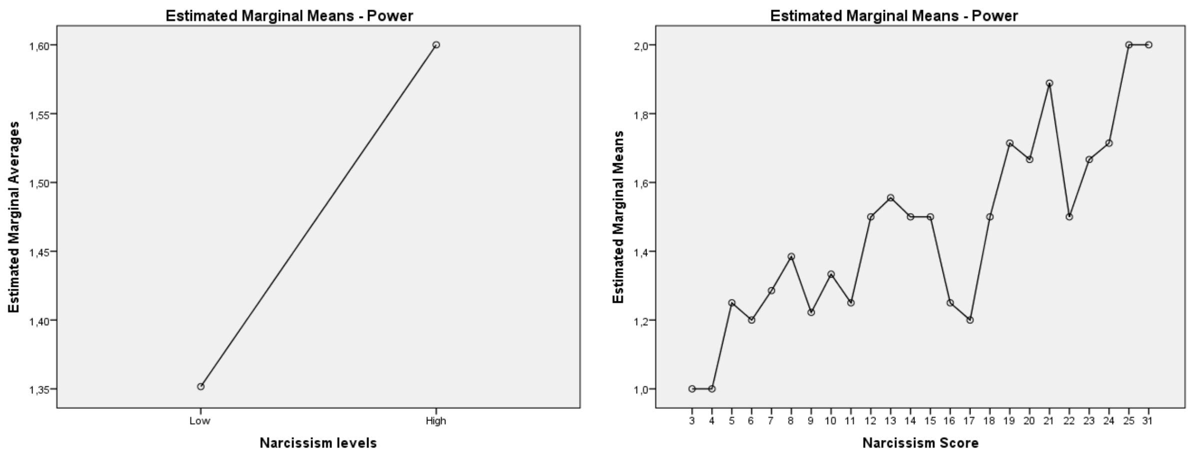
Logistic regression: Power and Narcissism

	Variable	Expected signal	Found signal	B coefficient	Exp(β) coefficient	Wald test p-value
Power	Narcissism	+	+	.133	1.143	.000
	Sex	+/-	+	.453	1.573	.380
	Remunerated Activity	+/-	+	.191	1.211	.720
	Age Range	+/-	+	.198	1.218	.444
	Constant	+/-	-	2.267	.072	.000

Observation 1: (***) p< 0.01

Source: research data

Figures 2 and 3 illustrate the estimated marginal means of the variables "narcissism" and "power", showing that the higher the levels of narcissism, the higher the levels of power seeking. Figure 2 also reveals that higher scores of narcissism also reveal higher average power scores.



Source: research data.

Figure 2 and 3. Marginal means Narcissism and Power

Based on the presented results, the statistical techniques permitted the validation of hypotheses H1, H2 and H3, in the framework of the Upper Echelon theory, considering that subjective factors such as personality influence individual attitudes and interpretations.

5. Conclusion

Leaders who exhibit narcissistic traits seek to retain power over subordinates to feel comfortable making decisions, even if they are destructive to the company in the long run. In order to verify narcissistic traits and their relationship with power, this study applied a survey to 161 students of the 7th and 8th semesters of the Business Administration course at a state university located in the state of Bahia. Students in that course stage already have greater knowledge about business management and are closer to assuming leadership positions in the labor market.

The results show a lower prevalence of narcissistic traits, although the high agreement on Self-sufficiency, Authority, Exploitativeness, and Vanity stand out. When analyzing the power seeking, the findings indicated lesser proneness, although the students presented high concordance frequencies for persistence, self-confidence, and independence.

Of the 161 students analyzed, 26.08% presented high means of narcissism and power seeking. In this sense, it was perceived that the higher the narcissistic traits, the greater the search for power. When it comes to sex, a greater interest in power has been demonstrated in males when compared to females. A significant and positive correlation was also observed between narcissism and power, power and sex, and sex and remunerated activity. The narcissistic traits showed to be significant and positive, showing that this positive variation contributes to the increase in the probability of students expressing proneness to seek power.

These data entail the reflection that narcissism is often the driving force fueling the desire for leadership. Individuals endowed with the characteristics of a strong narcissistic personality are perhaps more willing to undertake the arduous process leading to a position of power. A central point in our argument is that the kind of behavior found in a leader will truly reflect the nature and degree of his narcissistic tendencies.

As power in organizations is reflected through authority, leadership, and obedience, leaders feel superior to their subordinates, and use that condition to emanate their power, rely only on themselves and feel self-sufficient. Nevertheless, the cult around these leaders, mainly because of their training, experience, decision-making skills, and ability to resolve organizational conflicts produces subjects with high self-esteem, who believe that they should be served, that their desires take precedence over those of others; who believe that they deserve special attention.

Thus, these results imply a closer look at the academic and professional area on the attitudes of future managers who showed a high disposition for the narcissistic traits and power seeking. Overconfidence, vanity, and excessive independence can cause a conflicting and highly competitive organizational climate, as the use of strategies to influence or persuade others can be dishonest and jeopardize business performance. The quest for power and leadership should be something natural and not corrupted by selfish attitudes and self-interest. Another point worth mentioning is the male gender, which, in addition to showing greater power seeking, also showed greater participation in the paid work environment.

In that sense, these findings permitted answering the research question and the scope of the study objective based on the Upper Echelon theory, as the individual personality influences the choices and the values. The hypotheses were not rejected, allowing the discussion and expansion of the studies on the themes. We hope that the findings contribute to the teachers, students, and coordinators' reflections in the Business Administration course, in order to perceive and try to interfere with the unwanted attitudes while still in the academic environment.

The proposal of this scientific debate can be fruitful, starting from the idea that the organizations become reflexes of their main executives, in view of Hambrick and Mason's proposal (1984), who argued that the behavioral traits deeply influence the complex choices. In addition, the interdisciplinary elaboration on this theme, in the light of the Upper Echelon theory, at the interface with the vocational education, knowledge, and competencies of students, future managers, can constitute a promising tool to improve the understanding of the dynamics of decision-making organizations.

Therefore, it is important to consider that this study is limited by the application of a self-reported questionnaire, which may result in bias in the self-description of the respondents' characteristics and thus present some bias, such as the participants' difficulty in truly revealing their proneness to the phenomenon under study.

For future research, broadening the scope of this research is suggested with a view to comparing the results among Business Administration, Accounting and Economics students. Another suggestion is to apply the research to the course coordinators and faculty members, aiming to triangulate the answers and to survey the narcissistic and power-seeking traits of all the actors involved in the academic environment.

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Integrating confidence evaluation between leaders and subordinates in the Management Control System: a proposed questionnaire

Abstract

Objective: Analyze how the confidence between leaders and subordinates relates to the Management Control System (MCS) with a view to the attainment of the organizational objectives. The specific objectives are: to identify how confidence is established in the relation between leaders and subordinates inside organizations: to examine the relation between confidence and the execution of the MCS; and to elaborate a questionnaire for the leaders and subordinates for the future quantitative analysis of the relation between confidence and MCS components, facilitating the attainment of the organizational objectives.

Method: Case study including semistructured interviews at two companies in Curitiba (PR) and discourse analysis of the collected data.

Results: The three types of confidence occurred in the relation between leaders and subordinates, mainly due to the transparency of the MCS and of the goal attainment. The relationships of confidence that can appear in the elaboration and transmission of MCS information were also verified.

Contributions: This study innovates by proposing the items for the construction of a questionnaire that permits the joint analysis of the MCS package components and of the confidence types, in relation with the organizational objectives. The relevant role of confidence for the efficacy of the MCS is highlighted.

Keywords: Confidence. Leaders and subordinates. Organizational objectives. Management Control Systems.

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1. Introduction

In the accounting environment, trust has been defined as the adoption of a belief by one party in a relationship in which the other party is not going to act against its interests, where that belief takes place beyond doubt or improper suspicion and without detailed information about the actions of the other party (Tomkins, 2001). Trust is hard to gain and easy to break though because, once it is significantly affected, it will be difficult for the same people to regain it under the same conditions, eventually making employees choose to leave the organization (Smith, 2005).

Therefore, within organizations, trust between leaders and subordinates is "a very important issue because most relationships within an organization need to be built and nurtured over time" (Smith, 2005: 521). In this study, the label leader-subordinate is used to analyze the existing trust relationships within the organization, in line with the studies by Ferrante (2006), Hartman and Slapnicar (2009), Bruno (2013) and Vaz and Espejo (2017)), which assess links between superiors, that is, the leaders, and people who act in positions under their subordination, i.e. the subordinates.

Considering how trust manifests itself within the information environment generated by Accounting, the study of control systems, and the way its configuration is presented to the users becomes a key part in understanding relationships among members of the organization. Control systems encompass formalized procedures and systems that use the information to maintain or change organizational activity standards (Simons, 1987), and that information is disclosed in a socially responsible manner, fulfilling an obligation to the stakeholders (Durden, 2008). Malmi and Brown (2008) indicate that systems, standards, practices, and values that aim to drive employee behavior are denominated management controls; if they are complete systems, as opposed to a simple rule, then they should be classified as a Management Control System (SCG). If they are only designed to support decision making at any organizational level, leaving systems unmonitored, they should be termed "management accounting systems."

This study seeks to answer the following question: **How does trust between leaders and subordinates relate to the Management Control System in order to promote the achievement of organizational goals?** To answer this question, it aims to: identify ways of establishing trust in the relationship between leaders and subordinates within organizations; examine the relationship of trust for the execution of the Management Control System; and to prepare a questionnaire to be applied to leaders and subordinates, aiming for a future quantitative analysis of the relationship between trust and components of the MCS and facilitating the achievement of organizational objectives.

This study is justified when analyzing that the aspects related to the trust of the accounting professional extend to the actual configuration of the system, trust being an essential characteristic of the practice, to the extent that the role of the information and its communication can either construct or destroy the trust among the people involved in the organization (Baldvinsdottir, Hagberg, Johansson, Jonäll & Martons, 2011). Therefore, the justification for choosing the analysis of the trust construct in organizations is supported by this characteristic of the profession and the information the accounting system generates, which is intrinsically linked to its effectiveness.

In this sense, the General Principles of Management Accounting, entitled "stewardship", builds trust and indicates that entities' relationships and resources need to be actively managed so that the financial and non-financial assets, reputation and value of the organization are protected (AICPA, 2016). This is provided by the trust between the parties, as it is the "basis of good relations, either between colleagues or between organizations and clients, investors, suppliers and society in general" (AICPA, 2016, p.11). Therefore, Management Accounting professionals need to act with integrity, objectivity and constructively challenge decisions that do not align with company values, also encouraging their colleagues to act in a similar way (AICPA, 2016).

As a theoretical contribution, this study seeks to elaborate a questionnaire that permits a joint analysis of the components of the MCS package, according to the concept of Malmi and Brown (2008) and the trust aspects, establishing links with the organizational objectives, according to the theoretical model proposed by Vaz and Espejo (2017). It differs from previous studies as it provides, in the same model, the examination of the leader's trust in the subordinate and the opposite, the subordinate's trust in the leader, also including all the components of the MCS package in this same analysis. As a practical contribution, it seeks to provide a discussion within the organizations, highlighting the role of trust as relevant in achieving the effectiveness of the components of the MCS.

This study is organized as follows: in item 2, the theoretical background is presented, with concepts and earlier studies regarding MCS, trust, and organizational objectives. Item 3 presents the method adopted in this study. In Item 4, the data from the case studies are analyzed and discussed. Item 5 contains the Final Considerations, followed by the References used and the Appendix elaborated.

2. Confidence and the achievement of the Organizational Objectives set by the Management Control System

According to Malmi and Brown (2008), the main focus of the Management Control System theory is to design the system to produce the desired ends. For Alves (2010, p. 07), the MCS minimizes the uncertainties arising from the difficulties and opportunities companies face, such as "changes in the demand for products and services, lower productivity, misalignment of the workforce in relation to strategic guidelines, lack of integration". Thus, the MCS assures the accomplishment of the organizational objectives, reducing the impacts that could not be foreseen in the company planning.

In terms of organizational goals, Kilmann and Herden (1976) indicate that organizations generally seek four organizational goals: internal efficiency (maximizing business efficiency with the highest possible sales volume at the lowest cost); external efficiency (maximize the firm's ability to acquire resources from other organizations and distribute products and services to customers); internal effectiveness (maximizing employee motivation and task engagement); and external effectiveness (maximizing the level of satisfaction of society - community, suppliers and consumers - with the company).

For Malmi and Brown (2008), seeing MCS as a package can facilitate the development of a more robust theory of control projection, supporting organizational goals and boosting organizational performance. In the view of Malmi and Brown (2008), the five elements of the MCS package are: cultural controls (values, beliefs and social standards); planning (define objectives of the organization's functional areas, providing the standards to be achieved in relation to the goal); cybernetic controls (set performance standards or goals to be met); reward and compensation (motivate and increase individual performance); and administrative controls (monitor behavior and indicate the governance structure).

Thus, while these five MCS elements individually perform the function of controlling employee behavior, it is important that they are understood as a package because the configurations and connections among the elements need to be analyzed according to the results and performance they produce (Malmi & Brown, 2008). For King and Clarkson (2015) and Bedford, Malmi and Sandelin (2016), there are several ways in which companies can combine management control practices in a particular strategic context in order to promote system effectiveness.

Also considering the elements that could favor the execution of the MCS, it was observed that earlier studies have repeatedly investigated its relation with the trust within organizations (Vaz & Espejo, 2017). In the field of Accounting, trust has been defined as the belief that management will carry out what is in the best interest of the organization (Smith, 2005).

According to Tomkins (2001), trust allows us to adopt schemes that provide freedom of choice without trying to process more information about the world than it is capable of doing. Thus, institutions can foster trust in relationships, anticipating positive motives without high levels of monitoring (Rousseau, Sitin, Burt & Camerer, 1998). Institutional controls can also undermine trust though, especially when legal mechanisms give way to rigid responses and conflict because, in more fluid work environments, trust can prove important to the ability of workers to self-organize (Rousseau et al., 1998).

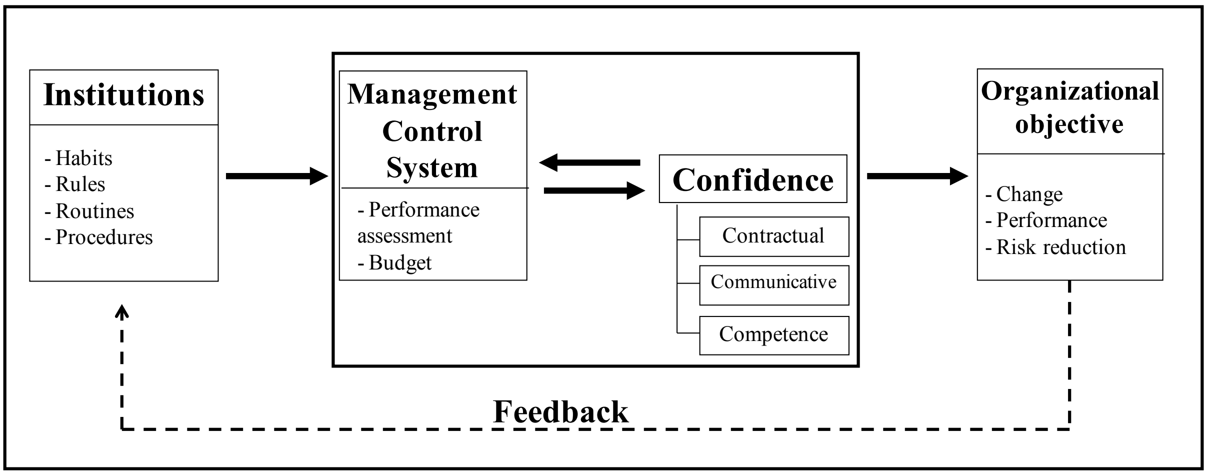
This impact of trust in the work environment is also highlighted by Reina and Reina (2007: 36), which indicate that "without trust, employees have little interest in being creative, taking risks and collaborating." They also point out that trust is the basis for effective leadership and relationships in the workplace, producing organizational regeneration and renewal (Reina & Reina, 2007).

According to Reina and Reina (2007), trust can manifest itself in three types: contractual (mutual understanding between people, that is, each part of the relationship will comply with what it says it will do); communicative (provides employees with security to ask questions, talk honestly about what they think, raise questions, give and receive feedback and seek help to understand what they do not understand); and competence (identified when the leader seeks employee input, demonstrating confidence in the individual. Thus, employees' confidence in their own competence is nurtured and, in return, trust in the leader is extended).

Previous studies on trust and MCS analyze the relationship between people in the organization. For Johansson and Baldivinsdottir (2003), performance evaluation is dependent on trust, as are production and reproduction of evaluation routines. According to Ferrante (2006), companies need to promote strategies to encourage and support employee efforts, including trust and leadership among leaders.

On the other hand, Hartman and Slapnicar (2009) verified that the subordinate's trust in superiors depends on the formality of the performance evaluation process and this relationship is mediated by managerial perceptions of justice and feedback. Bruno (2013) indicated that, when leaders and subordinates feel in optimal flow conditions, the perception of mutual trust is high.

Considering these concepts and seeking to advance on the existing theory, Vaz and Espejo (2017) carried out research in which they used the meta-synthesis method, defined according to certain criteria and steps established by Hoon (2014), whose objective was to construct theory based on earlier qualitative case studies on trust and "MCS" themes. The result obtained was a theoretical meta-causal target network indicated in Figure 1.



Source: Translated from Vaz & Espejo (2017, p. 168).

Figure 1. Meta-causal network

According to Figure 1, Vaz and Espejo (2017) inferred, based on the articles analyzed in the elaboration of the steps of the meta-synthesis, four causal networks: institutions, Management Control System, trust and organizational objectives (Vaz & Espejo, 2017). The institutions represented the scope of the studies examined, that is, the organizations, especially their characterization as a succession of habits, rules, routines, and procedures (Vaz & Espejo, 2017). Regarding the MCS, the studies analyzed aspects such as performance evaluation and the budget, both with regard to formal and informal controls.

On trust, the weighted studies discussed the contractual, communicative and competence aspects, that is, in accordance with the typology by Reina and Reina (2007). Not all papers addressed the three types of trust simultaneously though, but at least one of them could be identified in each research (Vaz & Espejo, 2017). On the organizational objectives, the studies analyze aspects such as changes in the current system, focus on performance and reduction of business risk. At the end of the analysis, the feedback item was presented as the step after achieving the objectives, in which management internalizes trust in personal relationships, becoming an important part of the attainment of goals and objectives (Vaz & Espejo, 2017).

This research advances in relation to the study by Vaz and Espejo (2017) in proposing the first (qualitative) stages for the construction of a questionnaire that relates the constructs indicated in Figure 1. Therefore, after the indication of the literature on trust and MCS, the next item presents the method adopted for this study, which permitted the elaboration of the questionnaire.

3. Research Method

In this study, a qualitative approach to the problem was adopted in which, initially, two case studies were carried out as a research strategy, which enabled the analysis of trust relationships between leaders and subordinates and their impact on the achievement of the organizational objectives defined as components of the MCS package.

The case studies followed Eisenhardt's theoretical framework (1989), as it permits the recognition of patterns of relationships existing within and among the analyzed cases. The choice of this research strategy is justified by its characteristic of generating insights about the possible dimensions of the constructs, which are difficult to obtain using purely quantitative methods (Eisenhardt, 1989).

Therefore, semi-structured interviews were used as a data collection approach. The first version of the interview was submitted to a pre-test in December 2015, involving three professionals from different large companies, all based in the city of Curitiba (PR). After the pre-test, the first version was corrected, aiming for the respondent's easy understanding. Some issues were also excluded because they were considered repetitive in the pre-test.

After the validation of the semi-structured interview script, the case studies were carried out during January and February of 2016 with leaders and subordinates of two companies from the city of Curitiba/PR. The company of Case Study I is a telecommunications company, whose branch visited in Curitiba (PR) housed sectors of customer support and Human Resources. This case study had a total of 210 minutes of recording and the company provided one day for the interviews.

The company of Case Study II is a financial institution with headquarters in Curitiba (PR). This case study totaled 180 minutes of recording and the company was visited on three occasions in January and February 2016, according to the respondents' availability.

Prior to the completion of each interview, the confidentiality of the company name, the respondents and other information that the interviewees might not feel comfortable disclosing were guaranteed. The two organizations visited were relevant to the purpose of the study due to the availability and openness of the respondents, that is, the ease of access to information in these two companies allowed the subjects to present their ideas about the analyzed constructs.

Although the analyzed companies had different branches and sizes, the research objective was not impaired, as the focus of the study was not the comparison of two organizations of different sizes and branches, but rather the possibility of demonstrating that the trust construct can be analyzed in any type of company and MCS package configuration. Therefore, we believe that the number of respondents was sufficient to reach the objectives of this research.

The limitations of the research involve the possibility of bias due to the choice of companies and respondents, as well as the number of interviewees who assume the functions of leaders and subordinates in each company analyzed. The comparison between the interviewees' discourse sought to reduce these limitations though, and also offered the possibility of expanding this research to other companies of different branches and sizes.

The data collected in the interviews of the two case studies were weighted in the light of discourse analysis, according to Gaskell (2013). For this author, the analysis of interviews in qualitative studies is not a purely mechanical process, as it depends on the researcher's "creative intuitions" (Gaskell, 2013, p.86). It is vital for the researcher to focus his interpretations on the material collected in the interviews themselves though, in order to allow the corpus to justify its conclusions, avoiding erroneous or forced explanations (Gaskell, 2013). Given this, Gill (2013) states that the researcher should also be attentive to the silences, that is, to what he realizes that he was not told by the interviewee.

Therefore, the choice of not using software to analyze the data collected in the interviews is related to this search for the researcher's ability and sensitivity, because "due to the fact that the computer packages have many possibilities, they contain the danger that the researcher gets absorbed in technology and lose sight of the text "(Gaskell, 2013, p.88). In this research, this choice of discourse analysis is justified by the behavioral characteristic of the trust phenomenon in organizations that, at first, needs to be analyzed in its essence, a fact made possible by the researcher's personal analysis and his impressions when conducting interviews.

After the completion of the case studies, a questionnaire based on the selected theory and the answers to the interviews in the two case studies, with the purpose of verifying the relationship of trust between leaders and subordinates and its impact on the achievement of the organizational objectives defined according to the components of the MCS Package. A committee composed of five Accounting and Administration experts submitted to questionnaire to validation in October 2016. In this committee, some corrections and substitution of terms that had given rise to doubt and that could make understanding difficult were suggested. The version for quantitative evaluation of the questionnaire is shown in Appendix A, which also indicates the reference of the questions, including the discourse of the respondents of the case studies that supported their elaboration. We propose that a Likert scale from 1 to 10 be used to apply the questionnaire, being 1 - I completely disagree to 10 - I completely agree. The expected relationships between the constructs followed the study of Vaz and Espejo (2017), indicated in Figure 1 of this article.

Before indicating the methodological procedures of the research, the next item considers the analysis and discussion of the collected data, which permitted the elaboration of the questionnaire in Appendix A.

4. Data Analysis and Discussion

In this research, two case studies were developed in distinct companies, focused on the analysis of the intra-organizational confidence phenomenon in its context in organizational realities. This analysis, in combination with the selected theory, as discussed in item 2, provided information that permitted the elaboration of the questionnaire in Appendix A. Thus, in the following sub-items, the company and respondents' characteristics are presented, followed by the discourse analysis of the interviews and statements.

4.1 Company and respondent characteristics

The company of Case Study I is a telecommunications company, particularly active in fixed telephony, pay-TV and Internet services. The headquarters visited in Curitiba (PR) houses the client support and Human Resources (HR) departments and employees. As for the interviewees, the company selected two leaders (subjects A and B) and three subordinates (subjects C, D and E) to participate in the research:

- Subject A: operations manager of the client support sector; four years on the job and 15 years in the company;
- Subject B: customer service quality manager; one year on the job and eight years in the company;
- Subject C: communications coordinator; three years on the job and ten years in the company;
- Subject D: quality coordinator; one year on the job and seven years in the company; and
- Subject E: supervisor of the quality monitoring area; two years on the job and six years in the company.

As for the company of Case Study II, initial contact took place in January 2016, at one of the company's commercial branches. The request was readily attended and the respondents demonstrated their interest in the possible research results, including benefits for the organization's future actions and planning. This is a financial company focused on consigned credit, real estate credit, credit for medium-sized companies and insurances. Three branches were visited in Curitiba (PR): one commercial branch, one administrative branch and the headquarters.

As for the interviewees, three leaders (subjects F, H and I) and one subordinate (subject G) participated in the study:

- Subject F: commercial manager of Curitiba region; eight years on the job and 11 years in the company;
- Subject G: commercial consultant; almost one year on the job and in the company;
- Subject H: commercial director of relationships with legal entities and company founder; and
- Subject I: product and Back Office managers; three years on the job and 16 years in the company.

In the next item, the data collected in the interviews on the MCS package are shown.

4.2 The respondents' perception on the Management Control System package

The questions of the semi-structured interview regarding the MCS and the relationship of trust perceived by the interviewees were separated into five blocks. In each of them, interviewees were questioned about their view of the five component elements of the MCS package according to Malmi and Brown (2008).

Regarding **cultural controls**, the first element of the Malmi and Brown package (2008), Case Study I respondents stated that values, beliefs, and standards the company shares with employees are available in the code of ethics. This code is disseminated to employees upon training as soon as they join the organization. According to subject D, employees need to sign a term stating that they have received and are in compliance with this code. That code also presents unacceptable behaviors and attitudes, as indicated in subject A's discourse.

Regarding the company of Case Study II, subject F stated that the availability of information about the values, beliefs, and standards of his company is constant, even being disclosed on the Internet portal for the entire community to access. According to him, the information is available in frames displayed in all work environments, aiming for the employees to recall them, also presenting the unacceptable behaviors.

Regarding the second element of the MCS package, **planning**, there was a certain divergence of perception among the interviewees. According to subject A (Case Study I), he does not have access to the company's long-term written plan, but participates in meetings at the beginning of each year, at which point the objectives of each area are indicated and what the company wants to reach. He also stated that the managers participate in these meetings. Subject B stated, however, that there is a written long-term plan of action for the company, and that the participation of all is stimulated.

Regarding Case Study II, subject I indicated the selectivity of the information, as long-term action plans are written, but are not formalized to all employees, "[...] because sometimes there are a lot of specific situations that are strategic to the bank, so if that leaks to the market, as the bank is a public company, this may end up favoring some".

As for the third element of the MCS package, the **cyber controls**, the interviewees were asked to reflect on budgets, financial and non-financial controls of the company. In Case Study I, only subject C claimed to be knowledgeable about the budget process in his area, while the other respondents said they did not know about it, as there exists specific company management for this.

In the company of Case Study II, subject F indicated that the budgeting process in the company is carried out "from the bottom up", that is, each area is responsible for the elaboration, passed on to the board for approval. Regarding the existing financial controls to follow the performance of the employees, subject F informed that the company works with the system of goals, which are proposed and monitored by the area itself, with board approval and observation of the market reality. He also indicated that there is a development plan for each team, prepared according to the need and to the next higher level. In this development plan, each employee is officially monitored, performed quarterly and including managers and directors, aiming to evaluate the general behavior of the employee and its relationship with the goals of the company.

On the fourth item of the MCS package, the **rewards and compensation** system, the interviewees were asked to explain the selection process and training of employees and the internal compensation policies of the company. In Case Study I, subject A indicated that remuneration policies are periodically reviewed in order to avoid flaws and feelings of injustice. He also said that this remuneration policy is already passed on to employees when they apply for a place in the company, which, according to him, avoids misunderstandings. In the view of subject A, this form of transmission is appropriate, as it avoids problems and there were no complaints after the completion of this process. He believes that one of the flaws is in the communication field though, because sometimes there is some change in the salary information without the time to inform the consulting firm that performs the hiring; therefore, sometimes the reported values may be incorrect.

Regarding Case Study II, subject F explained that when the employee is hired, it takes four to five days to get to know the company and its strategic areas in order to get a feel for the organization as a whole. After that, he goes through a period of adaptation to the function, where he accompanies other consultants for about a month. Then he starts working without direct supervision. In his view, this form of training is fit because the results obtained are positive. He believes that sometimes he lacks time to do recycling though, a point that could be improved in his vision.

Regarding the fifth item of the MCS package, the **administrative controls**, the interviewees were questioned about the organizational chart of activities and the policies and procedures of their area. In Case Study I, subject A stated that, before the restructuring of the company, all new formal organizational charts have already been passed on, including functions and names of employees. Organizational chart updates are not constant though, that is, they do not occur every time employees change. Regarding the policies and procedures, subject A said that they are formalized and available to all employees, including for online consultation on the organization's intranet. In his view, these policies are already transmitted to employees upon their entry into the company, and there are periodic training sessions that are aimed at updating employees to the new procedures adopted. In his opinion, however, subject A misses a more specific moment for feedback concerning policies and procedures.

Regarding Case Study II, subject F stated that there are formal organizational charts and flowcharts written for each function within the company, being highly disseminated in the employee's portal. There is also an indication of the appropriate profile to reach a certain position, which grants the employee a vision of the future, glimpsing which position he can reach, as the company values the promotion of internal talent to perform new functions.

In the next sub-item, the perception of trust between leaders and subordinates is analyzed in the interviews with the managers and employees of the two companies.

4.3 The trust relationship between leaders and subordinates in the companies

The trust relationship between leaders and subordinates was questioned through inquiries that sought to delimit the three types of trust in the organization: contractual, communicative and competence. Regarding **contractual trust**, when asked if one expects to receive trust from his/her leader in day-to-day actions, subject A (Case Study I) stated that "trust happens more during the time that we have of coexistence than properly expect something from it. Trust will come if he believes in my job or if he trusts that he is being seen and heard. "Regarding Case Study II, subject F believes that trust occurs in his/her sector, mainly because he seeks a partnership relationship with his/her collaborators. In the view of subject F, the company's current control system facilitates the dissemination of trust among leaders and subordinates as, with formalization, there is always a place where the employee can consult information and solve doubts. For subject G, the most important thing is to focus his work on actions that can increase the confidence of his manager, as he aims for company growth.

Regarding **communicative trust**, in Case Study I, subject A stated that some behaviors of the collaborator may indicate that he relies on management, especially in relation to the attainment of goals and increased production. In addition, he believes that the "freedom to expose what he is feeling" is an example of trust.

Regarding Case Study II, subject F indicated that the main behavior of the employees to demonstrate confidence is their commitment to the results, and the openness towards the manager to deal with any problems. In the view of subject G, the main behaviors are mutual respect, focus on work and commitment to show the manager that he can be the right arm that he expects it to be. For subject H, the company seeks to disseminate the "owner behavior" in each employee, that is, that always seek the "economy, be it in the search for revenue or in the improvement of the process". In the opinion of subject I, this view makes the employees feel encouraged to think differently, that is, to build the results in a team, facilitating the evolution of the company.

Regarding **competence trust**, in Case Study I, subject A indicated that employees can also contribute to their personal development as, without it, there would be no need to have their position. For the subject B, the contributors contribute to its development, because the labor relations are composed of exchanges, be it of experience, of ideas, of creativity or of different ways of performing work.

Regarding Case Study II, subject F indicated that the employees help a lot in their personal development and always seek to take improvement courses to improve their management skills. Subject G also affirmed that the role of the manager in his personal development is important, as he expects actions from him that are not of an "executioner".

In the next sub-item, the respondents' perception of the organizational objectives of the two companies is analyzed, according to the information that arrives to each.

4.4 The organizational objectives perceived in companies

In this block of questions of the semi-structured interview, the participants were invited to present their knowledge and opinion on the process of structuring the organizational objectives of the companies, according to Kilmann and Herden (1976). All were unanimous in stating that they know the objectives of their work area, as well as the goals that the organization intends to achieve in the long term. When questioned about what these objectives would be, however, some of the respondents did not know how to enunciate them.

In Case Study I, subject A indicated that the objectives specify ethics and respect, not only among employees but also with regard to clients and partners. In his discourse, he stressed that information on organizational goals is passed on to formal meetings.

Regarding Case Study II, according to reports from subjects F and I, during the same week of the interviews, the company president had participated in a meeting with all the managers and directors to present the bank's strategic plan for the next five years. After this meeting, communication and deployment would occur to the other employees of the company; this means that everyone will have access to the company's plans for the next five years. In the view of subject F, this process is quite effective, as it is the president offering space and talking to everyone; according to him, "this proximity generates enough confidence and enough insertion of content".

In the subitem below, the interviewees' statements are analyzed and discussed according to theory, in order to promote the understanding of the relationships between the constructs analyzed in this research.

4.5 The relations among the organizations' institutional characteristics, the MCS, confidence and the objectives

Initially, to analyze the data obtained from the interviews, the institutional characteristics of the organizations stand out, especially their vision as a union of habits, routines, rules, and procedures (Burns & Scapens, 2000). Thus, the concept of Johansson and Baldvinsdottir (2003) is clear in the interviewees' discourse, who affirm that the institution shapes the action of individuals, especially in the coding of principles into rules and procedures, making them participants in the reproduction of organizational principles. This is seen in subject C's discourse when questioned about the company's goals, stating that there is an unfolding of information and that everyone has access to the data they need to know. It was also noticed in the report of subject F, indicating that the procedures were formalized in order to avoid that the information is lost in eventual exchanges of functions or departures of employees from the company.

Another moment in which the institutionalization of the rules and procedures was observed was when interviewees were questioned about communicative trust, especially in the discourse of subjects B and D, when they indicated that transparency in operations facilitates the understanding of what needs to be done, avoiding misunderstandings. Likewise, the tendency of the two companies to hold periodic meetings to disseminate new policies and procedures is a way of facilitating the institutionalization of new practices.

In addition to the meetings, another way to facilitate the institutionalization of procedures in the two companies is to make information available on other channels, such as the intranet and corporate e-mail. All respondents in the two case studies reported this.

Interestingly, this form of dissemination of information, as reported by the subjects of Case Study II, provided the fifth element indicated in Vaz and Espejo's (2017) meta-synthesis, that is, feedback (bottom of Figure 1). After reaching the objectives, the management has the possibility to internalize confidence in personal relationships, becoming an important part of the attainment of the goals and objectives. This was demonstrated in the interviewees' discourse when they indicated that the company possesses the characteristic of proximity to the top management. At appropriate times, the president himself meets with all the employees and seeks to spread the feeling of mutual trust. The current structure of the MCS aims to provide moments of contact between the employees and the management, and vice versa, in order to build a reciprocal relationship and growth.

Through the interviews, it was possible to identify the five elements of the MCS package and their relationship with trust in the two case studies. The respondents related contractual trust to the understanding of information from cultural controls, clarity of cyber controls, understanding and monitoring of goals, evaluation of employees' reward and compensation systems, and clarity of roles of administrative controls.

In turn, communicative trust is linked to the sharing of information regarding cultural controls, planning, rewards and compensation, and administrative controls. And competence confidence relates to the new employee's monthly follow-up on cultural control, the budget elaborated per area in the cyber controls, the rewards and compensation evaluation system, and organizational charts of administrative controls.

In addition, the respondents from the two case studies indicated the importance of trust between leaders and subordinates within organizations, either because of the MCS's own clarity, which also allows room to solve doubts (contractual trust), transparency in daily actions and a strong vision of attainment of goals and results (communicative trust), or the willingness of the leader to seek the contribution of his or her collaborator and share opinions in a constant search for skills improvement and personal development (trust of competence).

Finally, when analyzing the respondents' answers about the organizational objectives of the companies, it is verified that their definition is not very clear for all, although they recognize the objectives of their area. With regard to Case Study II, the company president disclosed this information personally to all employees, except for sensitive and strategic information. While no respondent states what the company's goals are, it is understood that such closeness to top management makes the employee more personal, perhaps a way to increase employee engagement and reduce turnover.

In addition, the results obtained in the two case studies, added to the theory identified in item 2 of this research, permitted the elaboration of the questionnaire indicated in Appendix A, which can be applied to different samples of leaders and subordinates in the organizations.

5. Final considerations

This study aimed to analyze how trust between leaders and subordinates relates to the Management Control System in order to attain the organizational objectives. In order to do so, it identified ways of establishing trust in the relationship between leaders and subordinates within organizations, examined the relationship of trust for the execution of the Management Control System, and finalized with the elaboration of a questionnaire that could be applied to leaders and subordinates in organizations, with a view to a future quantitative analysis of the relationship between trust and the components of the MCS and facilitating the achievement of organizational objectives.

Initially, the meta-synthesis proposed by Vaz and Espejo (2017) indicated a theoretical research model that demonstrated the role of trust in the scope of the MCS, addressing its relationship with the organizational objectives, in order to identify its performance in achieving the goals set. In order to achieve the objectives proposed in this research, two case studies were conducted in companies in Curitiba (PR). The data collection technique was the semi-structured interview and the data were weighted in the light of discourse analysis.

As a result, we observed the occurrence of trust in the direct relationship between leaders and subordinates. According to the interviewees' reports, contractual trust is facilitated by the way the MCS is currently structured in the two companies as there is always room to consult information and solve doubts. On communicative trust, a strong vision of goal and result attainment is indicated as a way of demonstrating this type. And the interviewees perceived the confidence of competence as sharing opinions in a constant search for skills improvement and personal development.

In the interviewees' discourse, the possible relations of trust that can appear in the elaboration and transmission of information in each element of the package was also observed: contractual trust (understanding the information of the cultural controls, planning, cybernetic controls, monitoring of the goals and evaluation of the employees' rewards and compensation system; clarity of administrative control roles); communicative trust (information sharing of the five elements of the MCS package); and trust of competence (monitoring of employees in cultural control, evaluation and rewards system and organizational charts of administrative controls).

It is important to note that the different activity areas did not impair the research objective was not impaired, because the focus of the study was not the comparison of two different organizations and branches, but the possibility of demonstrating that confidence can be analyzed in any type of company and in any configuration of the MCS package. Therefore, it is believed that the number of respondents was sufficient to reach the research objectives.

As a theoretical contribution, this study proposed the elaboration of a questionnaire that allows the joint analysis of the components of the MCS package, according to Malmi and Brown (2008) and the trust aspects, relating to organizational objectives, according to the theoretical model proposed by Vaz and Espejo (2017). Its differential is the analysis of both the leader's confidence in the subordinate and the inverse relationship - from the subordinate to the leader. As a practical contribution, it seeks to foster internal discussion within organizations, demonstrating the role of trust as an important element for the effectiveness of the components of the MCS package.

As limitations, the selection of two companies, both from the services sector, could generate bias in the elaboration of the questionnaire. The non-homogeneous number of leaders and subordinates interviewed in each organization can also represent a limitation. The validation of this questionnaire elaborated in companies from other branches and sizes would help in the evaluation and improvement of the instrument to measure the relations proposed in the research.

Thus, a suggestion for future studies is the comparison of this environment analyzed in the case studies with other companies of diverse branches, in order to verify how the confidence behaves in the other contexts. A quantitative analysis of the relationship between the constructs is also suggested through the application of the questionnaire in Appendix A, permitting validation in larger samples. Studies with triangulation of data within the same organization are also possible, promoting both qualitative and quantitative analyses in the same context and providing space for subjects to be interviewed and to express their opinion on the subject.

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Appendix A – Questionnaire on Confidence, MCS and organizational objectives

Questionnaire – suggestion: Likert scale from 1 to 10 (1 – I completely disagree; 10 – I completely agree)		Reference
Part A	**Considering the organizational objectives as the goal the organization intends to achieve and which guide its behavior towards the future and the environment, answer:**	
Block 1 – Organizational Objectives	I thoroughly know the objectives of my work area.	Durden (2008); Alves (2010)
	I know the process and who are the persons responsible for elaborating the objectives in my area.	
	I can affirm that the objectives of my work area are linked to the maximization of business efficiency with the highest possible sales volume at the lowest cost.	Kilmann and Herden (1976); Case study I - subjects B and E
	I can affirm that the objectives of my work area are linked to maximizing the company's ability to get resources from other organizations and distribute products and services to the clients.	
	I can affirm that the objectives of my work area are linked to maximizing the employees' motivation and engagement in their tasks.	
	I can affirm that the objectives of my work area are linked to maximizing the society's level of satisfaction – community, suppliers and consumers – with the company.	
	I consider that the elaboration of the objectives in my work area is transparent.	Case study I - subjects C and D
	I consider that the transmission channels of the objectives in my work area are appropriate.	Case study II - subjects F and I
	I have space to suggest changes in the objectives of my area to my superiors.	Case study II - subject F
	The company seeks to engage the employees and know their ideas.	Reina and Reina (2007)
	I am able to easily identify the benefits and flaws in the elaboration and monitoring of the objectives.	Case study I - subject A

<table>
<tr><th>Part B</th><th colspan="2">(Questions on the Management Control System package)</th></tr>
<tr><td colspan="3">Considering the company values, beliefs and standards, answer:</td></tr>
<tr><td rowspan="16">Block 2 – SCG – Cultural Controls</td><td>I know the values, standards and beliefs that company shares with its managers and employees.</td><td rowspan="9">Malmi and Brown (2008); King and Clarkson (2015); Bedford, Malmi and Sandelin (2016)</td></tr>
<tr><td>The employees' personal values influence the values the company itself disseminates.</td></tr>
<tr><td>A written declaration exists of the company vision and mission.</td></tr>
<tr><td>A written code of conduct exists for all employees.</td></tr>
<tr><td>The code of conduct also defines unacceptable actions.</td></tr>
<tr><td>The company encourages the employees' participation in social activities.</td></tr>
<tr><td>The training process of new employees includes monitoring this new member's adaptation some time after (s)he has been hired.</td></tr>
<tr><td>The employee selection process considers the new member's ability to adapt.</td></tr>
<tr><td>I believe that the company values, beliefs and standards end up affecting the employees' personal life.</td></tr>
<tr><td>I consider that the disclosure of the values, beliefs and standards is transparent.</td><td>Case study II - subjects F and G</td></tr>
<tr><td>I consider that the transmission channels of the values, beliefs and standards are appropriate.</td><td>Durden (2008); Alves (2010)</td></tr>
<tr><td>I believe that I get constructive feedback.</td><td>Reina and Reina (2007)</td></tr>
<tr><td>I have space to suggest changes in the company values, beliefs and standards to my superiors.</td><td>Case study II - subject H</td></tr>
<tr><td>The employee selection and training process considers individual skills.</td><td>Reina and Reina (2007)</td></tr>
<tr><td>The company encourages the employees to develop new skills.</td><td>Reina and Reina (2007)</td></tr>
<tr><td>I am able to easily identify the benefits and flaws in the elaboration and disclosure of the company values, beliefs and standards.</td><td>Case study I - subjects A and B</td></tr>
<tr><td colspan="3">Considering the company planning, answer:</td></tr>
<tr><td rowspan="10">Block 3 – MCS – Planning</td><td>I know about the existence of a written long-term action plan for the company.</td><td rowspan="3">Malmi and Brown (2008); Alves (2010); King and Clarkson (2015)</td></tr>
<tr><td>I know about the existence of a written short-term action plan for the company.</td></tr>
<tr><td>I know how the limits of the organization's actions are set (activities, markets, risks).</td></tr>
<tr><td>I consider that the disclosure of the short and long-term plans is transparent.</td><td>Durden (2008); Alves (2010)</td></tr>
<tr><td>I consider that the transmission channels of these plans are appropriate.</td><td>Case study I - subjects A and B</td></tr>
<tr><td>I am encouraged to share information.</td><td rowspan="2">Reina and Reina (2007)</td></tr>
<tr><td>In my company, sensitive topics are treated confidentially.</td></tr>
<tr><td>I have space to suggest changes in the company's short and long-term plans to my superiors.</td><td>Case study I - subject C</td></tr>
<tr><td>I consider that the short and long-term plans set appropriate action limits.</td><td>Reina and Reina (2007)</td></tr>
<tr><td>I am able to easily identify the benefits and flaws in the elaboration and disclosure of the company's short and long-term plans.</td><td>Case study II - subject I</td></tr>
<tr><td colspan="3">Considering the company's budget and financial controls, answer:</td></tr>
</table>

Block 4 – MCS – Cybernetic Controls	I thoroughly know the budget elaboration process in my area.	Malmi and Brown (2008); King and Clarkson (2015); Bedford, Malmi and Sandelin (2016)
	In my area, there are measures in case of non-compliance with the budgetary targets.	
	In my area, there are financial controls to establish employee performance standards.	
	In my area, there are non-financial controls to establish employee performance standards.	
	I consider that the disclosure of the budget and the performance indicators is transparent.	Case study II - subject F
	I consider that the transmission channels of the budget and the performance indicators are appropriate.	
	I am encouraged to admit my errors.	Reina and Reina (2007)
	I have space to suggest changes in the performance indicators to my superiors.	Case study II - subject F
	I have space to suggest changes in the budget in my area.	
	I consider that the budget is appropriate.	Reina and Reina (2007)
	I am able to easily identify the benefits and flaws in the elaboration and disclosure of the performance indicators and the budget.	Durden (2008); Alves (2010)
Considering the company's reward and compensation system, answer:		
Block 5 – MCS – Rewards And Compensation	I know the process and who are the persons responsible for monitoring and rewarding employee performance.	Malmi and Brown (2008); Alves (2010); King and Clarkson (2015)
	I consider that the disclosure of the employees' monitoring and reward process is transparent.	Durden (2008); Alves (2010); Bedford, Malmi and Sandelin (2016)
	I consider that the transmission channels of the employees' monitoring and reward process are appropriate.	Case study II - subjects F and H
	I have space to suggest changes in the employees' monitoring and reward process to my superiors.	Case study I - subject A
	I consider that the reward plans are consistent.	Reina and Reina (2007)
	I consider that the compensation plans are consistent.	
	I manage to easily identify the benefits and flaws in the employees' monitoring and reward process.	Case study I - subjects A and B
Considering the company's internal procedures, answer:		
Block 6 – MCS – Administrative Controls	In my company, a formal organizational chart exists with activity, job and function descriptions.	Malmi and Brown (2008); Alves (2010); King and Clarkson (2015)
	In my company, the lines of authority are strictly followed.	
	In my company, formal policies and procedures exist that describe what should be done in the organization.	
	I consider that the disclosure of the organizational chart and the policies and procedures is transparent.	Case study I - subjects B and C
	I consider that the transmission channels of the organizational chart and of the policies and procedures are appropriate.	Durden (2008); Alves (2010)
	I am encouraged to tell the truth.	Reina and Reina (2007)
	I am encouraged to stimulate good actions.	
	I consider that the delegation of tasks is appropriate to the functions.	Reina and Reina (2007)
	I have space to suggest changes in company policies and procedures to my superiors.	Case study II - subject I
	The company encourages the employees' freedom to make their own decisions.	Reina and Reina (2007)
	I manage to easily identify the benefits and flaws in the elaboration and disclosure of company policies and procedures.	Case study I - subject A

Part C	**Now, consider your relationship with your managers: For Managers:**	
Block 7 – Confidence Leaders And Subordinates	I hope that my daily attitudes make my collaborator trust me.	Bruno (2013); Case study I - subject A; Case study II - subject F
	The disclosure of the company's Management Control System (policies and procedures, values, planning) helps to build confidence between my superior and me.	Johansson and Baldivinsdottir (2003); Case study I - subjects A and C
	I believe that information transparency is a key factor to demonstrate that I trust my collaborator.	Bruno (2013); Case study I - subjects A and D
	I believe that commitment to results is a key factor to demonstrate that my collaborator trusts me.	Case study I - subject C; Case study II - subjects F and H
	I believe that a good interpersonal relationship is important to demonstrate that I trust my collaborator.	Bruno (2013); Case study I - subject E
	I believe that my collaborators can greatly contribute to my professional development.	Johansson and Baldivinsdottir (2003); Case study II - subject F
	I always try to find a moment to exchange professional experiences between my collaborators and me.	Case study I - subjects A, B, C and D
Part C	**Now, consider your relationship with your managers: For Collaborators:**	
Block 7 – Confidence Leaders And Subordinates	I hope that my daily attitudes make my superior trust me.	Bruno (2013); Case study II – subjects F and G
	The disclosure of the company's Management Control System information (policies and procedures, values, planning) helps to build confidence between my superior and me.	Johansson and Baldivinsdottir (2003); Case study I - subject E
	I believe that information transparency is a key factor to demonstrate that my superior trusts me.	Bruno (2013); Case study I - subjects A and D
	I believe that commitment to results is a key factor to demonstrate that I trust my superior.	Case study I - subject; Case study II - subjects F and H
	I believe that a good interpersonal relationship is important to demonstrate that my superior trusts me.	Bruno (2013); Case study I - subject E
	I believe that my superior can greatly contribute to my professional development.	Johansson and Baldivinsdottir (2003); Case study II - subject G
	My superior always tries to find a moment to exchange professional experiences with me.	Case study I - subjects A, B, C and D
Part D	**Finally...**	
Block 8 – Identification Of Respondent	What is your gender?	
	What is your age range?	
	What is your education level?	
	What is your functional area in the company?	
	In what branch is your company active?	
	How long have you worked at this company?	
	How long have you performed this function?	

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Managerial ability and goodwill impairment losses: analysis in publicly-held companies listed on B3

Abstract

Objective: The study analyzes the influence of managerial ability on the existence and magnitude of goodwill impairment losses in publicly-held companies listed on B3.
Method: Descriptive, documentary and quantitative research, using data collected in the database Economática, management reports and notes to the financial statements. The sample consisted of 148 observations. Information for the period from 2012 till 2016 was analyzed.
Results: Of all companies with goodwill, 10.81% accounted for losses. The largest number of companies that accounted for losses was found in the "petroleum, natural gas and biofuels" sector. As for the magnitude of the losses, the highest mean value was found in the "basic materials" sector, followed by "information technology" and "petroleum, natural gas and biofuels". Company managers from the "non-cyclical consumption" sector revealed higher managerial ability, followed by the managers from the "health" and "cyclical consumption" sectors. More skilled managers can avoid and reduce losses of goodwill.
Contributions: The Recoverability test is a relevant issue when discussing aspects of information quality in the financial statements and a procedure of interest to the stakeholders, as it affects the future cash flow production. Therefore, the research is relevant by providing new evidence of factors that can interfere in the recognition and magnitude of losses in the Brazilian scenario.
Key words: Managerial ability; Impairment loss of goodwill; Publicly-held companies.

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1. Introduction

In response to the globalization of international trade, a growing number of countries, including Brazil, have adopted the International Financial Reporting Standards (IFRS) of the International Accounting Standards Board (IASB) (Martins & Paulo, 2010). In Brazil, among the several changes in accounting, we highlight the impairment of assets, or Impairment test, which is dealt with in Accounting Pronouncement Committee CPC 01 (R1, 2010).

The recognition of the impairment of an asset represents an economic loss, that is, a decrease in the future economic benefits that are expected from the use or sale of this asset (CPC 01, R1, 2010). In this sense, the objective of companies and managers is to reduce or avoid possible impairment, as a loss indicates a decline in the performance of the asset, which will consequently result in a decline in the company's overall performance (Li, Shroff, Venkataraman & Zhang, 2011; Sun, 2016). Thus, CPC 01 (R1, 2010) establishes the procedures the entity is to apply to ensure that its assets are recorded at a book value that does not exceed the recoverable values.

Among the company assets, goodwill, because of its complexity, has attracted the attention of academics and practitioners in relation to its impairment (Wen & Moehrle, 2016). Goodwill in the accounting context represents amounts paid in excess, that is, it is an incremental amount paid by one company in the acquisition of another. This incremental value is paid in order to obtain abnormal returns on investments in the future (Kabir & Rahman, 2016).

Over the years, the global economy has developed a number of technological innovations and advances in knowledge, and goodwill is directly related to these aspects, as it encompasses intangible investments such as human resources, new technologies, research and development and advertising (Kabir & Rahman, Wen & Moehrle, 2016). At the time of an acquisition, these assets are difficult to identify and are therefore called goodwill. They can only be recognized by accounting when acquired through a business combination, when the cost will be measured safely, as determined by CPC 04 (2008).

In view of its relevance, several researchers have sought to identify factors that may influence the existence or otherwise of impairment and the impairment value of goodwill. Several authors divide these factors, including Avallone and Quagli (2015), Majid (2015), Kabir and Rahman (2016) and Vogt, Pletsch, Morás and Klann (2016), between indicators of the company's economic performance and management incentive factors.

The main indicators of the company's economic performance that can influence the recognition of losses are: sales growth (Duh, Lee & Lin, 2009; Majid, 2015; Kabir & Rahman, 2016; Vogt, Pletsch, Morás & Klann, 2016); variation in the operating cash flow (Majid, 2015; Kabir & Rahman, 2016; Vogt et al., 2016); company performance (Avallone & Quagli, 2015; Majid, 2015; Kabir & Rahman, 2016; Vogt et al., 2016); market value (Zhang & Zhang, 2007; Kabir & Rahman, 2016; Vogt et al., 2016).

The main management incentive factors that can influence the recognition of losses are: company indebtedness (Kabir & Rahman, 2016, Avallone & Quagli, 2015, Majid, 2015, Vogt et al., 2016); company size (Avallone & Quagli, 2015; Kabir & Rahman, 2016); performance and tenure of the CEO (Avallone & Quagli, 2015; Majid, 2015; Kabir & Rahman, 2016; Vogt et al., 2016).

Another possible influential factor is management skill. According to authors like Demerjian, Lev, Lewis and McVay (2013), Chen, Podolski and Veeraraghavan (2015), Jiraporn, Leelalai and Tong (2016), Demerjian, Lewis-Western and McVay (2017) and Huang and Sun 2017), managerial ability is directly related to the ability of a manager to transform corporate resources into revenue.

In this case, savvy managers can anticipate business opportunities, make better decisions, and better manage companies and their assets to maximize shareholder benefits compared to less capable managers. Thus, more skillful managers can reduce or even avoid losses (Demerjian, Lev & Mcvay, 2012, Sun, 2016). This is an issue that still needs to be investigated in Brazil though.

In view of the above, the following question was elaborated: **what is the influence of managerial ability on the existence and magnitude of goodwill impairment losses in companies listed on B3?** Thus, the general objective of the study is to verify the influence of managerial ability on the existence and magnitude of goodwill impairment losses in publicly-held companies listed on B3? Thus, the overall objective of the study is to verify the influence of managerial ability on the existence and magnitude of goodwill impairment losses in companies listed on B3.

To achieve the objective, a descriptive, documentary and quantitative research was conducted, using data collected in the Economática database, management reports and notes to the financial statements. The sample consisted of 148 observations, and the information for the period from 2012 to 2016 was analyzed. The results showed that, of all companies with goodwill, 10.81% reported losses. The largest number of companies that accounted for impairment losses was found in the "petroleum, natural gas and biofuels sector". Company managers in the "non-cyclical consumption" sector presented higher managerial skill indicators, followed by the managers in the "health" and "cyclical consumption" sectors. In addition, more skillful managers were able to avoid and reduce goodwill impairment losses.

The study is justified because a factor is analyzed that can influence losses but has not yet been investigated in the Brazilian scenario, the managerial ability. Another justification for this research is the fact that the Recoverability test is still considered a recent accounting practice in the country; it is also justified by the number of studies that investigated the influence of different factors on the impairment losses, which still tend to be low in the Brazilian scenario (Amaro, Bachmann, Fonseca & Espejo, 2015; Santos, Dani & Klann, 2015 Wrubel, Marassi & Klann, 2015, Vogt et al., 2016). Therefore, the study will contribute to the literature by providing further evidence on the determinants of asset impairment.

2. Theoretical framework

The literature review provides the theoretical framework for the research. Therefore, the determinant factors of the impairment losses of goodwill are discussed, classified under economic indicators and management incentive factors. Then, the influence of managerial ability in the impairment losses of goodwill is addressed.

2.1 Economic performance indicators that influence the impairment losses of goodwill

Economic performance indicators refer to factors that may affect the implicit performance of all the assets of a company, including goodwill. In the literature, the main performance indicators investigated are sales growth (Duh et al., 2009, Riedl, 2004, Kabir & Rahman, 2016, Vogt et al., 2016; Majid, 2015); operating cash flow variation (Riedl, 2004; Majid, 2015; Kabir & Rahman, 2016; Vogt et al., 2016); ROA (Riedl, 2004; Avallone & Quagli, 2015; Majid, 2015; Kabir & Rahman, 2016; Vogt et al, 2016) and the market-to-book (Zhang & Zhang, 2007; Kabir & Rahman, 2016).

In general, sales, operating cash flow and ROA are considered performance indicators. Therefore, a reduction in sales, operating cash flow and ROA indicate negative changes in the performance of the company as a whole and may represent financial problems. Therefore, these situations are usually associated with higher impairment losses of goodwill (AbuGhazaleh, Al-Hares & Roberts, 2011; Majid, 2015; Kabir & Rahman, 2016).

More specifically, sales growth indicates an increase in operating performance, which will directly result in a higher projection of future benefits of the assets as, the higher the variation in revenues, the higher the projected future cash flows, resulting in a higher value-in-use of the assets. Therefore, the probability of recognition of impairment losses will be lower, as the value-in-use of the goodwill will tend to be higher than its book value (Vogt et al., 2016).

Operating cash flow captures performance attributes related to money, that is, the cash-generating ability of assets. Thus, cash flows are expected to be a key economic indicator that contributes to determine the impairment value of goodwill, as the estimated value-in-use strongly depends on the projected cash flow. Therefore, a smaller-than-expected cash flow generation will increase the likelihood of goodwill impairment (AbuGhazaleh et al., 2011; Kabir & Rahman, 2016). In the opposite sense, with higher cash flows, the value in use of the assets would also be higher and would thus reduce the recognition of these losses.

With regard to the accounting performance, through ROA, researchers like AbuGhazaleh et al. (2011), Avallone and Quagli (2015), Kabir and Rahman (2016) and Sun (2016) point out that a lower ROA, i.e. lower profitability of assets is positively related to goodwill impairment. Consequently, a higher return on assets, i.e. a better performance will mean less goodwill impairment.

In relation to the market-to-book, Chen and Zhao (2004) mention that it is an important determinant of the capital structure, because it represents the difference between the market value of the asset and the book value. Thus, this is an important economic factor, as a higher market-to-book represents economic income recognized by the market. The closer the Net Worth is to the company's market value, however, the more likely it is that its assets may be overvalued or may not be fully recoverable. In this sense, a higher market-to-book index may indicate that goodwill losses will be more significant (Zhang & Zhang, 2007; Kabir & Rahman, 2016).

AbuGhazaleh et al. (2011) treat the market-to-book as a measure that considers the entire company as a cash-generating unit. Therefore, the companies that present the highest indicator tend to report more losses due to goodwill impairment. Stein (1996) mentions that companies and investors commit mistakes in the formation of expectations, as actions may present excessive or underestimated values at times.

As these valuation errors are corrected, according to Stein (1996), inventory returns will become partially predictable. As an example, the author mentions inventories: when overvalued, they tend to have a low relation to the market-to-book and, over time, this overvaluation will have an impact on the stock price, so that this low relation with the market-to-book will bring low future returns.

2.2 Management incentive factors that influence goodwill impairment

The main management incentive factors that can influence the losses are: company indebtedness (Avallone & Quagli, 2015; Majid, 2015; Kabir & Rahman, 2016; Vogt et al., 2016); company size (Avallone & Quagli, 2015; Kabir & Rahman, 2016); the stage of the CEO's mandate and CEO performance (Avallone & Quagli, 2015; Majid, 2015; Kabir & Rahman, 2016; Vogt et al., 2016).

In relation to indebtedness, companies with higher levels of indebtedness are prone to accounting choices that maximize their results and, therefore, tend to underestimate impairment losses, particularly if debt is tied to restrictive clauses, so-called contractual covenants (Zang, 2008; AbuGhazaleh et al., 2011; Avallone & Quagli, 2015). The logic is that companies that are close to violating their debt agreements will be less likely to report goodwill impairment losses (Majid, 2015).

Data on corporate debt covenants, according to Majid (2015), are difficult to access, or, most of the time, not publicly available. Thus, leverage becomes a proxy for the proximity of breaches of debt agreements. Therefore, according to the author, a higher level of indebtedness is expected to correspond to a smaller magnitude of goodwill impairment losses. In this sense, Riedl (2004) also reports that the greater the leverage, the greater the probability of managers seeking earnings management, aiming to increase the result, which would lead to a significant and negative association between leverage and goodwill impairment losses.

With regard to company size, Zang (2008) mentions that the managers of larger companies generally conduct more mergers and acquisitions, leading to higher goodwill balances. Consequently, there will be a probability of higher goodwill losses. Kabir and Rahman (2016) draw attention to the fact that, in the earnings management literature, the managers of large companies tend to choose the accounting policies that reduce the result in the current year. Therefore, according to the authors, this fact is another indication that there should be a positive association between company size and losses of goodwill.

Regarding the CEO's mandate, Jordan and Clark (2015) mention that it may also interfere in the recognition of goodwill losses as, according to them, a CEO who acquired the asset that gave rise to goodwill is less likely to register an impairment loss than his successor. Another factor related to the CEO's mandate is that CEOs receive incentives to discharge expenses in years when the executive board changes, as the low result could be attributed to the previous management and the historical bases for future comparison would be reduced. In addition, the relief of these expenses in the future would increase the opportunity to show superior results in subsequent periods. Thus, there may be a positive association between CEOs in the first year of their mandate and goodwill losses (AbuGhazaleh et al., 2011).

On the other hand, a CEO in his final year in office can inflate reported earnings to increase the value of the company's stock options as well as his personal value in the managerial job market. Therefore, a negative association between CEOs in the final year of their mandate and goodwill losses is expected (AbuGhazaleh et al., 2011). In this sense, Ramana and Watts (2012) concluded in their study that the reputation of executives, as well as their behavior and rewards associated with financial results influence the recognition of goodwill impairment losses. Another factor that may influence impairment losses is the managerial ability, already investigated at the international level by Sun (2016), but this issue still needs to be investigated in Brazil.

2.3 Influence of managerial ability on goodwill impairment

In the literature, several authors have investigated the influence of managerial ability in several areas, such as Hayes and Schaefer (1999), which related it to company value; Demerjian et al. (2012) to the generation of revenues; Demerjian et al. (2013) examined the relationship between managerial ability and the quality of results; Francis, Sun and Wu (2013) related it to tax evasion; Chen, Podolski and Veeraraghavan (2015) to innovation; Krishnan and Wang (2015) to the ability to transform corporate resources into revenue, Koester, Shevlin and Wangerin (2016) to tax evasion; Jiraporn, Leelalai and Tong (2016) observed the effect of managerial ability on the dividend policy; Demerjian; Lewis-Western and McVay (2017) to income smoothing; and Huang and Sun (2017) to earnings management.

Overall, these studies indicate that more skillful managers manage their companies better. In this sense, if the recognition of the goodwill impairment loss is seen as a negative signal that reduces performance (Hirschey & Richardson, 2002; Majid, 2015; Sun, 2016), it is possible that more skilled managers can prevent or reduce such losses through more efficient management when compared to less capable managers (Sun, 2016).

In relation to the influence of managerial ability on the goodwill impairment losses, only Sun (2016) investigated this influence. This author used the measure of managerial ability developed by Demerjian et al. (2012), which captures the ability of a manager to transform available corporate resources into revenue. The results revealed that more skillful managers were better able to prevent and reduce goodwill impairment losses compared to less able managers.

The logic is that for managers to be successful in their activities, they need to possess various types of skills, such as strategic management skills, ability to manage operational risks, process management and also leadership skills. For example, Garriosn, Norren, and Brewer (2013) emphasize that successful managers understand that the actions that establish the variables they try to control and the decisions they make are all influenced by the strategies of the companies they operate in. The strategy, in turn, is a "game plan," which allows a company to attract customers, differentiating itself from its competitors. Bertrand and Schoar (2003) point out that managers have different management styles and levels of knowledge that impact a wide range of corporate decisions.

Thus, the two hypotheses of the research were elaborated:

- **H_1:** Managerial ability is negatively related to the existence of goodwill impairment.
- **H_2:** Managerial ability is negatively related to the magnitude of goodwill impairment losses.

The expected test result of hypotheses H1 and H2, based on the literature review, is that more skillful managers can prevent and reduce the goodwill impairment losses.

3. Methodological Procedures

To achieve the study objective, a descriptive, documentary and quantitative research was carried out. To define the sample, initially, due to the peculiarities of the sector, each year, Brazilian public companies that were engaged in financial activities were excluded. Also excluded were companies that did not have the necessary information to calculate the managerial ability variable and to calculate the control variables used in the research. Thus, overall, to define the sample, all Brazilian public companies that possessed goodwill and available data for all the research variables were identified.

After these procedures, the sample was composed of 148 observations in the period from 2012 to 2016. It is important to clarify that 2010 was a first learning step for Brazilian companies in the assimilation of a new accounting system, based on cultural and institutional traditions (common law) that differ from the roots of Brazilian accounting (code law). Therefore, to reduce bias in this research, we chose to exclude the first two years of full adoption of the international standards from the analysis. Thus, the research focused on the period from 2012 to 2016. We believe that this time cut is able to contribute to the literature and with less bias resulting from the new standards in Brazil.

Initially, companies that possessed goodwill in the period from 2012 to 2016 were identified in the Economática database. Then, the explanatory notes and management reports of each of these companies were analyzed individually to identify the existence of goodwill impairment and its value.

As regards the existence of goodwill impairment losses, a categorical variable called Dummy_LossesGoodwill was created, which corresponded to "1" in cases where the company had goodwill losses, and "0" otherwise. The adoption of this criterion is similar to that adopted in previous studies such as Avallone and Quagli (2015), Majid (2015), Kabir and Rahman (2016), Sun (2016) and Vogt et al. (2016).

As to the magnitude of the goodwill impairment losses (Vlr_LossesGoodwill), in each company, the goodwill impairment value was divided by the total assets. The adoption of this criterion is also similar to that adopted in previous studies such as Amaro et al. (2015), Avallone and Quagli (2015), Majid (2015), Kabir and Rahman (2016) and Sun (2016).

Next, the managerial ability of the managers was analyzed. For this purpose, a measure was used that was developed by Demerjian et al. (2012) and used in Sun's similar study (2016). This measure is based on the efficiency of the managers in the use of company resources to generate revenue, calculated in two stages.

In the first, the total efficiency of the companies is estimated by sector and year, with the aid of Data Envelopment Analysis (DEA). Demerjian et al. (2012) describe that total company efficiency can be attributed to the specific characteristics of the manager and to the specific characteristics of the company itself. Therefore, first, we calculate the total efficiency of the company, and then, in the second stage, we identify the efficiency of the managers.

To calculate total company efficiency, we relate the inputs (available resources) with the output (revenues generated). The inputs considered as resources are the cost of goods sold; sales, general and administrative expenses; property, plant, and equipment; operating lease; research and development expenses; goodwill; other intangible assets. The output is "net sales".

The objective is to identify which companies can achieve a better combination of inputs and output, so the DEA was performed in the statistical software DEA-Solver. The DEA model adopted in this study is called the BCC model (Banker, Charnes & Cooper, 1984), also known as Variable Returns to Scale (VRS). It uses a formula that permits projecting each inefficient DMU on the frontier surface (envelopment) determined by the efficient DMUs of compatible size.

Chart 1 displays the analysis units or decision making units (DMU), presenting the inputs and output of the research.

Total efficiency	Input 1	Input 2	Input 3	Input 4	Input 5	Input 6	Input 7	Output 1
	CGS	SGAE	PPE	OA	RDE	GW;	IA	NS

CGS: Cost of goods sold; SGAE: Sales, general and administrative expenses; PPE: Property, plant and equipment; OA: Operational lease; RDE: Research and development expenses; GW: Goodwill; IA: Intangible assets; NS: Net sales.

Source: elaborated by the authors.

Chart 1. Definition of analysis units or efficiency concept

The data referring to the variables in Chart 1 were collected in the Economática database, except for research and development expenses, which were also collected in the explanatory notes and management reports, as most companies did not present this specific account in their statements.

According to Demerjian et al. (2012), the total efficiency score generated by the DEA can be attributed to the specific characteristics of the company as well as the managerial ability factor. In order to isolate the managerial ability, we need to regress the indicator of total (dependent) efficiency against specific company variables (independent) that can help or hinder managers' ability to obtain a regression error term, which will be the indicator of managerial ability.

The six company-specific variables, according to Demerjian et al. (2012), are company size (log of total assets), market share (Herfindahl-Hirschman index (HHI), which measures market share based on total assets), available cash (cash and cash equivalents), company age (years since the foundation), operational complexity (number of branches) and operations abroad (export revenues).

In this study, after performing the regression, following Demerjian et al. (2012), regression residuals were used as a proxy for managerial ability. The data of these variables were collected in the Economática database, Reference Forms, and Management Reports.

Then, data were collected on the control variables, whose measures, data source and authors are displayed in Chart 2.

Economic Performance Indicators Of The Company			
Variable	**Measure**	**Data source 2012 till 2016**	**Authors**
Sales growth (CrescVend)	Mean sales growth percentage in the past 3 years	Economática database	Majid (2015); Kabir and Rahman (2016); Vogt *et al*. (2016).
Operating cash flow variation (VarOCF)	(OCFt - OCFt-1)/TA OCF = Operating cash flow TA = Total assets	Economática database	Riedl, (2004); Majid (2015); Kabir and Rahman (2016); Vogt *et al*. (2016).
Return on assets (ROA)	Net income Total assets	Economática database	Verriest and Gaeremynck (2009); Avallone and Quagli (2015); Vogt *et al*. (2016); Sun (2016).
Market-to-book (MTB)	Market value Net equity	Economática database	Zhang and Zhang, (2007); Kabir and Rahman (2016); Vogt *et al*. (2016).
Management Incentive Factors			
Indebtedness (Indebt)	(Current liabilities + Non-current liabilities) / Total assets	Economática database	Verriest and Gaeremynck (2009); Avallone and Quagli (2015); Majid (2015); Kabir and Rahman (2016); Sun (2016).
Size (LogTA)	Natural logarithm of book value of company's total assets	Economática database	Verriest and Gaeremynck (2009); Avallone and Quagli (2015); Kabir and Rahman (2016); Sun (2016).
First year of CEO mandate (CEOFirstYear)	First year of CEO mandate Categorical variable: Yes = 1 No = 0	Reference form: Section 12.5/6 – Composition and prof. experience of adm. and FC;	Majid (2015); Avallone and Quagli (2015); Kabir and Rahman (2016); Vogt *et al*. (2016).
Final year of CEO mandate (CEOFinalYear)	Final year of CEO mandate Categorical variable: Yes = 1 No = 0	Reference form: Section 12.5/6 – Composition and prof. experience of adm. and FC;	Majid (2015); Avallone and Quagli (2015); Kabir and Rahman (2016); Vogt *et al*. (2016).
Amount Of Goodwill			
Goodwill value (GoodwillValue)	Value of goodwill Total assets	Economática database	Avallone and Quagli (2015); Vogt *et al*. (2016).

Source: elaborated by the authors.

Chart 2. Control variables

Table 2 shows that the control variables used were the economic performance indicators, the management incentive factors, whose relationships with the goodwill impairment losses were discussed in the literature review, and also the amount of goodwill.

Regarding the amount of goodwill, AbuGhazaleh et al. (2011) describe that companies that present higher goodwill values in the composition of their assets may report more impairment losses, as the relative values of goodwill exposed to impairment tests are higher. Avallone and Quali (2015) also mention that companies that present higher goodwill values are more likely to have higher losses, as well as a greater probability of recognizing losses.

To verify the influence of managerial ability on the "existence" of goodwill impairment losses, a logistic regression analysis was performed. Logistic regression does not assume residue normality and homogeneity of variances (Hair Jr. et al., 2005). The other assumptions described by Hair, Anderson, Tatham and Black (2005) of multicollinearity were observed though, using the variance inflation factor - VIF and Tolerance; homoscedasticity, by means of the Pesarán-Pesarán test; and absence of serial self-correlation, using the Durbin-Watson test.

In this case, the variable existence of losses (Dummy_LossesGoodwill) was classified as dependent. The managerial ability variable (Manag_Ability), as well as the control variables, were classified as independent, according to Equation 1:

(Equation 1)

$$Ln\left[\frac{PROB(\text{Dummy\_LossesGoodwill})}{1-PROB(\text{Dummy\_LossesGoodwill})}\right] = \alpha_0 + \beta_1 Manag\_Ability_{it} + \beta_2 SalesGrow_{it} + \beta_3 \text{VarOCF}_{it} + \beta_4 ROA_{it} + \beta_5 MTB_{it} + \beta_6 Indebt_{it} + \beta_7 Size_{it} + \beta_8 CEOFirstYear_{it} + B_9 CEOFinalYear_{it} + \beta_{10} ValueGoodwill_{it} + \varepsilon_{it}$$

Where:
i represents the company, ranging from 1 to N, t represents the year, ranging from 1 to T;
Dummy_LossesGoodwill = Existence of goodwill impairment;
Manag_Ability = Managerial ability;
SalesGrow = Sales growth;
VarOCF = Variation of operating cash flow;
ROA = Return on assets;
MTB = Market-to-book;
Indebt = Indebtedness level of the company;
LogTA = Company size;
CEOFirstYear = First year of the CEO's mandate;
CEOFinalYear = Final year of the CEO's mandate;
ValueGoodwill = Value of goodwill.

To verify the influence of managerial ability on the "magnitude" of goodwill impairment losses, multiple regression analysis with panel data was performed. The normality assumptions were observed, through the Kolmogorov-Smirnov test; multicollinearity through the Variance Inflation Factor (VIF) and Tolerance; homoscedasticity by means of the Pesarán-Pesarán test; and absence of serial self-correlation using the Durbin-Watson test.

The variable magnitude of goodwill impairment (Vlr_LossesGoodwill) was classified as a dependent variable. The variable managerial ability (GM_General), as well as the control variables, were classified as independent, according to Equation 2:

(Equation 2)

$$Vlr\_LossesGoodwill_{it} = \beta_0 + \beta_1 Manag\_Ability_{it} + \beta_2 SalesGrow_{it} + \beta_3 \text{VarOCF}_{it} + \beta_4 ROA_{it} + \beta_5 MTB_{it} + \beta_6 Indebt_{it} + \beta_7 Size_{it} + \beta_8 CEOFirstYear_{it} + B_9 CEOFinalYear_{it} + \beta_{10} ValueGoodwill_{it} + \varepsilon_{it}$$

Where:
i represents the company, ranging from 1 to N, t represents the year, ranging from 1 to T;
Vlr_LossesGoodwill = Magnitude of goodwill impairment;
Manag_Ability = Managerial ability;
SalesGrow = Sales growth;
VarOCF = Variation of operating cash flow;
ROA = Return on assets;
MTB = Market-to-book;
Indebt = Indebtedness level of the company;
LogTA = Company size;
CEOFirstYear = First year of the CEO's mandate;
CEOFinalYear = Final year of the CEO's mandate;
ValueGoodwill = Value of goodwill.

4. Data Description and Analysis

4.1 Goodwill impairment

Table 1 shows the number and percentage of companies that accounted for goodwill impairment between 2012 and 2016. In addition, for the sake of a richer analysis, the numbers and percentages of companies that accounted for impairment of other assets are also presented.

Table 1
Quantity and percentage of companies that accounted for impairment of goodwill and other assets between 2012 and 2016

Economic sectors on B3	Companies with goodwill between 2012 and 2016	Companies that accounted for goodwill impairment		Companies that accounted for impairment of other assets	
		No.	%	No.	%
Industrial goods	37	1	2.70	1	2.70
Cyclical consumption	29	5	17.24	10	34.48
Non-cyclical consumption	15	0	0.00	1	6.67
Basic materials	26	4	15.38	5	19.23
Petroleum, natural gas and biofuels	7	4	57.14	0	0.00
Health	12	1	8.33	5	41.67
Information technology	12	1	8.33	2	16.67
Telecommunication	7	0	0.00	0	0.00
Public utility	3	0	0.00	0	0.00
Total	**148**	**16**	**10.81**	**24**	**16.22**

Source: research data.

It can be verified in Table 1 that 148 companies possessed goodwill in the period from 2012 to 2016. Among those companies, the economic sector of "industrial goods" stands out with 37 companies (25% of the total). Then, with 29 companies (19.59%), the "cyclical consumption" sector ranks second, followed by the "basic materials" sector in which 26 companies (17.57%) possessed goodwill. Most of the companies that possessed goodwill are in these three economic sectors, which together totaled 62.16%. On the opposite side, "public utility", "telecommunications" and "petroleum, natural gas, and biofuels" stood out, totaling only 11.49% of the companies that possessed goodwill.

Regarding the number of companies accounting for goodwill impairment losses, as observed in Table 1, out of 148 companies in the sample, only 16 reported losses or only 10.81% of the total. This percentage resembles the result of Vogt et al. (2016), in which of the 91 Brazilian companies analyzed, 6% recorded goodwill impairment losses in the period from 2011 to 2014.

Regarding the economic sector, the companies in the "petroleum, natural gas, and biofuels" sector were highlighted, which proportionally recognized greater losses. In this sector, 57.14% recorded impairment losses. The "cyclical consumption" sector, in which 17.24% of companies reported losses, also stood out. On the other hand, the companies in the "non-cyclical consumption", "telecommunications" and "public utility" sectors did not account for losses during the analyzed period. Another fact worth mentioning refers to the economic sector of "industrial goods" in which, despite being the sector with the largest number of companies that possessed goodwill, only one of them accounted for losses.

In addition, when analyzing the accounting for impairment losses of other assets, Table 1 shows that the companies in the "health" sector stood out, as 41.67% of them recognized losses, followed by the "cyclical consumption" sector, with 34.48%, and the "basic materials" sector, where 19.23% of the companies reported losses on other assets. On the other hand, companies in the "petroleum, natural gas, and biofuels", "telecommunications" and "public utility" sectors did not record impairment losses of other assets in the analyzed period.

When comparing the accounting treatment of goodwill impairment losses with the losses of other assets, in accordance with Table 1, the companies in the "petroleum, natural gas, and biofuels" sector had greater losses in relation to goodwill, but no company recorded losses for other assets, indicating that goodwill losses have a significant impact on companies in this sector. On the other hand, the companies in the economic sectors of "cyclical consumption" and "basic materials", which stood out in terms of accounting for goodwill impairment losses, also evidenced the impairment of other assets.

Table 2 presents the average values and percentages of impairment losses in the period from 2012 to 2016, according to the economic sectors represented on B3.

Table 2
Mean impairment values and percentages between 2012 and 2016 according to economic sectors on B3

Economic sectors on B3	Mean goodwill values	Goodwill in relation to total assets	Mean goodwill impairment	Goodwill impairment in relation to total assets	Mean impairment of other assets	Impairment of other assets over total assets
	R$	%	R$	%	R$	%
Industrial goods	359,035.30	5.78	92.86	0.01	386.84	0.05
Cyclical consumption	354,531.34	16.24	18,290.76	0.76	34,554.76	0.65
Non-cyclical consumption	13,157,840.47	24.14	0.00	0.00	1,595.80	0.10
Basic materials	4,714,554.42	13.82	436,805.31	0.71	185,028.38	0.27
Petroleum, gas and biofuels	403,196.71	11.77	71,358.00	5.60	0.00	0.00
Health	921,986.25	32.31	1,809.92	0.06	39,678.17	1.15
Information technology	4,772,814.42	19.40	80,013.58	0.09	63.02	0.00
Telecommunication	1,128,485.71	3.76	0.00	0.00	0.00	0.00
Public utility	65,832.67	0.38	0.00	0.00	0.00	0.00
Total	**2,856,544.73**	**14.44**	**90,352.66**	**0.55**	**42,756.56**	**0.29**

Source: research data.

As shown in Table 2, companies in the non-cyclical consumption sector presented the highest average goodwill in their financial reports, corresponding to R$ 13,157,840.47, followed by companies in "information technology" and "basic materials". On the other hand, companies in the "public utility" sector had the lowest average goodwill, corresponding to R$ 65,832.67. When comparing the average values of goodwill with the percentage that goodwill represents in relation to total assets, according to Table 2, in the health sector, goodwill represents 32.31% of the total company assets; in the "non-cyclical consumption" sector, it is equivalent to 24.14% of total assets; and in the "telecommunications" sector, it corresponds to 19.40%. On the other hand, in companies from the "public utility" sector, goodwill represents only 0.38% of total assets.

In relation to average goodwill losses, Table 2 shows the highest value in the "basic materials" sector, with R$ 436,805.31, followed by "information technology" and "oil, gas, and biofuels". When analyzing goodwill losses in relation to total assets, however, the values are not that representative, with the "petroleum, natural gas, and biofuels" sector showing the highest percentage, with 5.60%, followed by "cyclical consumption" and "basic materials" with 0.76% and 0.71%, respectively. On the other hand, the sectors of "non-cyclical consumption", "telecommunications" and "public utility" did not show goodwill losses.

When analyzing the average losses for other assets, according to Table 2, the highest average loss is found in the "basic materials" sector with R$ 185,028.38. On the other hand, the "petroleum, natural gas, and biofuels", "telecommunications" and "public utility" sectors did not show losses for other assets. When analyzing how much these losses of other assets represent in relation to total assets, we can see that these losses represent only small percentages. The health sector shows the highest percentage with 1.15% of total assets.

When comparing the percentage of goodwill losses and losses for other assets in relation to total assets, Table 2 shows that goodwill losses are more representative, being equivalent to 0.55 % of total assets, while losses for other assets represent 0.29% of the total assets.

4.2 Managerial ability

In Table 3, the managerial ability indicators are displayed according to the economic sectors on B3 between 2012 and 2016.

Table 3

Descriptive statistics of managerial ability indicators between 2012 and 2016 according to economic sectors on B3

Economic sectors on B3	No. Companies	Minimum	Maximum	Mean	Standard deviation
Industrial goods	37	-0.300	0.070	-0.014	0.087
Cyclical consumption	29	-0.160	0.080	0.023	0.056
Non-cyclical consumption	15	-0.140	0.070	0.029	0.058
Basic materials	26	-0.240	0.060	0.012	0.066
Petroleum, natural gas and biofuels	7	-0.380	-0.010	-0.166	0.124
Health	12	-0.140	0.050	0.025	0.052
Information technology	12	-0.240	0.050	0.008	0.080
Telecommunication	7	-0.060	0.080	0.016	0.063
Public utility	3	-0.280	0.040	-0.067	0.185
Total	**148**	**-0.380**	**0.080**	**0.001**	**0.085**

Source: research data.

As shown in Table 2, companies in the "non-cyclical consumption" sector had the highest average goodwill in their financial reports. In relation to the managerial ability indicators, Table 3 shows that the companies in the sample presented average indicators by sector that ranged from -0.166 to 0.029, averaging 0.001. When analyzing the averages of each of the economic sectors, the companies in the "non-cyclical consumption" sector presented the highest average, with 0.029, followed by the "health" and "cyclical consumption" sectors with averages of 0.025 and 0.023, respectively. Thus, the results indicate that company managers in the "non-cyclical consumption" sector have higher managerial ability indicators, followed by managers of the "health" and "cyclical consumption" sectors.

On the other hand, companies in the "petroleum, natural gas, and biofuels" and "public utility" sectors had the lowest averages, with -0.166 and -0.067, respectively. Thus, the results indicate that the managers of these sectors present less efficiency in the use of available resources to generate revenues.

The results of Table 3 show that firms in the "health", "cyclical consumption" and "non-cyclical consumption" sectors also had the lowest standard deviations, with 0.052, 0.056 and 0.058, respectively. This demonstrates that these companies present average ability indicators that are less dispersed around the mean, that is, generally appointing that the managers of these sectors present managerial skills closer to the average indicator identified.

4.3 Descriptive statistics of control variables

In Table 4, the descriptive statistics of the control variables are presented, which like the managerial ability can influence the impairment of goodwill.

Table 4
Descriptive statistics of control variables between 2012 and 2016

Control variables	Total sample	Companies that accounted for goodwill impairment	Companies that did not account for goodwill impairment	Test of means	
	Mean	Mean	Mean	t	Sig
SalesGrowth	8.72	-1.56	9.97	-2.16	**0.04**
VarOCF	35.81	-43.08	45.37	-1.22	**0.02**
ROA	1.13	-6.69	2.08	-3.10	**0.00**
MTB	1.89	1.26	1.96	-0.53	0.22
Indebtedness	60.41	62.15	60.20	0.32	0.75
Size	6.67	6.73	6.66	0.35	0.73
CEOFirstYear	0.40	0.56	0.38	1.42	0.16
CEOFinalYear	0.39	0.38	0.39	-0.15	0.88
ValueGoodwill	14.44	19.33	13.84	-1.86	**0.08**

Source: research data.

In Table 4, the means of the variables of the companies that accounted for losses can be compared with the means of the companies that did not. To compare the means, Student's t-test was performed, which according to Spiegel (1993) is a test of comparison of means that permits verifying if the existing differences between the averages of the variables are statically significant. Prior to the application of this test, the data normality assumptions described by Spiegel (1993) were observed through the Kolmogorov-Smirnov test; and homogeneity of variances was verified by the Levene test.

Regarding the performance indicators, the average values of the companies that recorded losses, except for MTB, were negative. The variation of the operating cash flow was the most negative, being equivalent to -43.08.

It is important to highlight that the results of the t-test indicated that the differences between the mean performance indicators of the two groups of companies were statistically significant for most variables, the only exception being the MTB.

In the case of the variable sales growth, operating cash flow variation and ROA, the results are in line with the arguments of researchers such as AbuGhazaleh et al. (2011), Majid (2015), and Kabir and Rahman (2016) who reported that these variables, when negative, indicate financial problems and are therefore also associated with higher goodwill impairment losses.

When comparing the means of the management incentive variables, it can be observed that the companies accounting for goodwill losses had slightly higher averages in the indicators of indebtedness level (62.15), size (6.73) and first year of the CEO's mandate. Only the variable referring to the CEO's final year presented a lower average indicator in the group of companies that recorded losses.

When considering only the identified averages, the results are in line with the observations of Zang (2008), who described that managers of larger companies tend to become more involved in mergers and acquisitions, leading them to higher goodwill balances, which will also lead to higher goodwill impairment losses; as well as Kabir and Rahman (2016), who alerted that managers of large companies tend to choose accounting policies that detract from performance to retain and reinvest profits. Also, Li et al. (2011) found a significant positive association between size and impairment loss.

As for the variable capturing the first year of the CEO's mandate, the results are also in line with the comments of Riedl (2004), Zang (2008) and AbuGhazaleh et al. (2011) that CEOs are given incentives to discharge expenditures in the first year of their mandates, as they could attribute losses to previous management and not be held accountable for the poor performance of their predecessors.

Regarding the CEO's final year, Ramana and Watts (2012) and AbuGhazaleh et al. (2011) describe that, in the last year in office, directors seek to inflate reported earnings to increase the value of the company's stock options as well as their personal value in the job market. Consequently, they tend to report lower goodwill impairment losses. As shown in Table 4, the indicator of this variable is slightly lower in the group of companies that reported losses, being in line with the arguments of Ramana and Watts (2012), and AbuGhazaleh et al. (2011).

It is important to note, however, that the results of the t-test indicated that the differences of means between management incentives of the two groups of companies were not statistically significant, as the level of significance was higher than 0.10. Therefore, we cannot argue for certain that there really are differences in the mean incentive indicators between the two groups.

As for the amount of goodwill, the result is also in line with the arguments and results of researchers such as AbuGhazaleh et al. (2011) Avallone and Quali (2015) and Vogt et al. (2016), who described that companies that present higher goodwill values in the composition of their assets may report more impairment losses simply because the relative value of goodwill exposed to impairment tests is higher.

4.4 Influence of managerial ability on goodwill impairment losses

In Table 5, the logistic regression results are presented, based on which the influence of managerial ability on the existence of goodwill impairment losses can be verified.

Table 5
Regression coefficients of the influence of managerial ability on the existence of goodwill impairment losses

Variables	Dependent variable: *Dummy_ LossesGoodwill*		
	Model I	Model II	Model III
ManagAbility	**-4.71****	**-3.42****	**-7.31****
Performance indicators			
SalesGrow	**-0.02***		**-0.05****
VarOCF	0.00		0.00
ROA	**-0.05***		**-0.11****
MTB	-0.06		-0.06
Management incentives			
Indebt		-0.01	-0.03
LogAT		0.24	0.62
CEOFirstYear		**1.01****	**2.21****
CEOFinalYear		-0.51	-1.29
Amount of goodwill			
ValueGoodwill	**0.04****	**0.04****	**0.06***
(Constant)	-2.73	**5.90****	**-6.97****
Step / Block / Model	**16.63*****	7.04	**29.39*****
-2 Log likelihood	84.76	94.35	72.00
Cox & Snell R Square	0.10	0.05	0.18
Nagelkerke R Square	0.21	0.09	0.36
Hosmer and Lemeshow Test	9.96	**14.81****	3.99

*** Significant at 1%; ** Significant at 5%; * Significant at 10%.

Source: research data.

The Step, Block, and Model tests aim to demonstrate the predictive capacity of the model. According to Table 5, the result of model 1 was 16.63, model 2 7.04 and model 3 29.39, and the indicator was not statistically significant only in model 2. In the case of model 2, the lack of significance indicates the low predictive capacity of the model.

The -2Log likelihood test indicators corresponding to 84.76, 94.35 and 72.00 indicate good adjustments. The Cox & Snell test, which resembles the R^2 determination coefficient used in the linear model, indicated that approximately 10% of the changes occurred in the log of the ratio of the dependent variable (existence or not of goodwill losses) in model 1 are explained by the set of independent variables; only 5% of the variations in model 2 are explained and 18% in model 3. Nagelkerke, which is an adapted version of Cox and Snell, indicates that the model is able to explain about 21% of the variations recorded in the dependent variable, in model 1; only 9% in model 2; and 36% in model 3.

Finally, the Hosmer and Lemeshow test, which aims to test the hypothesis that there are no significant differences between what was predicted and what was observed by the model, resulted in a value of 9.96 in model 1, 14.81 in model 2 and 3.99 in model 3, being significant only in model 2. This result indicates that the predicted values were not significantly different from those observed only in models 1 and 3. Thus, there is one more indication that only model 2 may not be considered reliable to verify the influence of the variables in that model.

Also, according to Table 5, the variable "ManagAbility", which captures managers' managerial ability, presented negative coefficients in the three models, that is, when analyzed in combination with the economic performance indicators, in combination with the management incentives and also in model 3, when analyzed in conjunction with all variables. Thus, the results show that managers with greater managerial ability can avoid goodwill losses. These results are similar to those found by Sun (2016), who also found an influence of managerial ability to avoid goodwill impairment losses. Thus, it can be concluded that more skillful managers can avoid goodwill losses when compared with less capable managers. Consequently, we do not reject the study hypothesis H, that managerial ability is negatively related to the existence of goodwill impairment losses.

Regarding the economic performance indicators, we can see that two variables (SalesGrow and ROA) were statistically significant, when analyzed in combination with the managerial ability variable only (model 1) or when combined with contractual incentive variables (model 3). These results indicate that higher sales growth and greater profitability of assets influence the existence of goodwill losses.

Thus, the results confirm the arguments of researchers such as AbuGhazaleh et al. (2011), Majid (2015) and Kabir and Rahman (2016) who reported that performance variables are associated with the amount of goodwill impairment losses. In this study, the findings confirm that higher sales growth and better ROA are related to the absence of goodwill losses.

Regarding the contractual incentives of the managers, the results showed that the coefficients of the variables "Indebt", "LogTA" and "CEOFinalYear" were not significant, indicating that there is no influence on the existence of goodwill losses. The variable "CEOFirstYear", however, which captures the CEO's first year of operation, was statistically significant in model 2 and model 3. Thus the results are in line with the arguments of authors such as Riedl (2004), Zang (2008), and AbuGhazaleh et al. (2011) that CEOs are given incentives to discharge expenditures in the first year of their mandates, given that they could attribute losses to previous management and not be held accountable for the poor performance of their predecessors.

As to the amount of goodwill, the result is in line with AbuGhazaleh et al. (2011), Avallone and Quali (2015), and Vogt et al. (2016), who found that companies that present higher values of goodwill in the composition of their assets tend to account for goodwill losses.

Table 6 shows the coefficients of panel data regressions on the influence of managerial ability on the magnitude of goodwill losses.

Table 6

Regression coefficients of panel data on the influence of managerial ability on the magnitude of goodwill impairment

Variables	Dependent variable: *Vlr_LossesGoodwill*		
	Model I (Fixed effects)	Model II (Fixed effects)	Model III (Fixed effects)
ManagerialAbility	**-2.81****	**-3.46****	**-3.48****
Economic performance indicators			
SalesGrow	**-0.03****		**-0.02****
VarOCF	-0.00		-0.01
ROA	**-0.07*****		**-0.06*****
MTB	0.03		0.03
Management incentives			
Indebtedness		0.04	0.03
Size		0. 07	0.09
CEOFirstYear		0.15	0.13
CEOFinalYear		-0.02	-0.06
Amount of goodwill			
ValueGoodwill	**0.04***	**0.04***	**0.04***
(Constant)	**1.21****	**2.16****	**1.47****
R^2 Within	0.18	0.13	0.23
Significance of the Model	**0.00*****	**0.00*****	**0.00*****
No. of observations	148	148	148
Breusch-Pagan LM	**0.00*****	**0.00*****	**0.00*****
Hausman test	**0.00*****	**0.00*****	**0.00*****

*** Significant at 1%; ** Significant at 5%; * Significant at 10%.
Source: research data.

As observed in Table 6, both the Breusch-Pagan test and the Hausman test were significant at 1% ($p <0.01$). Then, fixed-effects panel modeling was used, as described by Fávero (2009) for results like these. It can also be verified that the R^2 within corresponded to 18%, 13%, and 23%. These R^2 are similar to those recorded in other previous studies of the same nature, such as Avallone and Quagli (2015), who found R^2 coefficients of 9% and 25%; Majid (2015), with R^2 between 5% and 11%; Kabir and Rahman (2016), with R^2 of 19%, 20% and 23%; and Sun (2016), with an R^2 of 20%. Thus, the percentage explained by the independent variables can be considered acceptable.

Table 6 shows that the variable "ManagAbility", which captures managers' managerial ability, as well as the existence of goodwill losses, had negative and statistically significant coefficients in the three models, that is, when analyzed in combination with economic performance indicators; when analyzed in combination with management incentives; and also in model 3, when analyzed in conjunction with all variables. Therefore, the results show that managers with greater managerial ability can reduce the value of goodwill losses.

These results, again, are similar to those found by Sun (2016), who also identified the influence of managerial ability to reduce goodwill impairment losses in a sample of US companies. Thus, in the same way as Sun (2016), we conclude that more skillful managers are better able to reduce the value of goodwill losses compared to less capable managers. Therefore, we do not reject the study hypothesis H2 that the managerial ability is negatively related to the magnitude of the recoverable goodwill losses.

Regarding the economic performance indicators, again, the variables SalesGrow and ROA were statistically significant, either when analyzed only in combination with the managerial ability variable (model 1), or when combined with the management incentive variables (model 3). Again, the results confirm the arguments of researchers such as AbuGhazaleh et al. (2011), Majid (2015) and Kabir and Rahman (2016) that the performance variables are associated with the amount of goodwill impairment losses. In this study, the findings confirm that higher sales growth and better ROA influence the goodwill losses downwards.

Regarding the management incentives, the results of Table 6 show that the coefficients are not significant, pointing out that there is no influence on the magnitude of goodwill losses. With regard to the amount of goodwill, the result is also in line with that of researchers such as AbuGhazaleh et al. (2011), Avallone and Quali (2015) and Vogt et al. (2016), whose findings were that companies with higher goodwill in the composition of their assets were subject to greater goodwill impairment losses.

5. Final Considerations

The general objective of the study was to verify the influence of managerial ability on the existence and magnitude of goodwill impairment losses in companies listed on B3. To achieve this goal, a descriptive, documentary and quantitative research was carried out. The data were collected in the Economática database, in the management reports and in the explanatory notes of the companies. The sample was composed of 148 observations, and the information for the period from 2012 to 2016 was analyzed.

Regarding the existence of losses, the results showed that of all companies that possessed goodwill, 10.81% reported losses, a result similar to Vogt et al. (2016) in which, of the 91 Brazilian companies analyzed, 6% recorded goodwill impairment losses in the period from 2011 to 2014. Regarding the economic sector, companies in the "petroleum, natural gas, and biofuels sector" showed greater recognition of losses.

As for the magnitude of the losses, the "basic materials" sector showed the highest average value, followed by the "information technology" and "petroleum, natural gas, and biofuels" sectors. When considering the value of goodwill in relation to total assets, the "petroleum, natural gas and biofuels" sector showed the highest average percentage, followed by the "cyclical consumption" and "basic materials" sectors.

Regarding the managers' managerial ability to use the resources of publicly-held companies listed on B3, the results revealed that the managers of companies in the health sector present higher managerial ability indicators, followed by company managers in the sectors of "cyclical consumption" and "non-cyclical consumption", while company managers in the "petroleum, natural gas and biofuels" and "public utility" sectors possess the lowest managerial ability indicators. In general, the managers' efficiency was identified, which can be considered close between the companies of the sample; but indicators were also found that showed the possibility of inefficiency in some companies.

As to the influence of managerial ability on the existence and magnitude of goodwill impairment losses, it was concluded that more skilled managers could avoid and reduce losses. The results of the research are similar to the findings of Sun (2016), who also verified the influence of managerial ability to avoid and reduce goodwill impairment. Therefore, we did not reject the study hypotheses H1 and H2 that the managerial ability is negatively related to the existence and the magnitude of the goodwill impairment value.

It should be noted that the Recoverability test is an important issue when addressing information quality issues in the financial statements and an important procedure for stakeholders, as it contains prominent information on the generation of future cash flows. Therefore, the research becomes relevant in providing new evidence of facts that may interfere in the recognition of losses in the Brazilian scenario.

Despite the scientific rigor and methodological care taken, the research comes with limitations. One of these limitations refers to the metrics used to analyze managerial ability. In this study, the method developed by Demerjian et al. (2012) was adopted, which was used in later studies, such as Krishnan and Wang (2015), Sun (2016) and Demerjian et al. (2001). There are other methods pointed out in the literature though, which could be used in future research.

Other recommendations are an increased number of companies and the use of other time periods to identify trends in goodwill impairment and managerial ability. It would also be interesting to investigate the influence of managerial ability on the goodwill impairment losses in companies from different sectors, levels of corporate governance and countries to ascertain the impact of institutional contexts.

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The effect of corporate reputation, based on accounting transparency, on earnings management in public companies on B3

Abstract

Objective: According to the Signaling theory, reputation derives from the issuing of signals that reduce the information asymmetry and the opportunistic management actions. In that sense, this study aims to investigate the relation between corporate reputation, based on transparency, and earnings management in public companies listed on B3 (Brasil, Bolsa, Balcão).

Method: The sample consists of 231 companies (1,355 observations) from the group of all non-financial companies listed on B3 between 2010 and 2017. Earnings management is measured by Jones (1991) and modified by Dechow, Ge and Schranda (1995), Larcker and Richardson (2004) and Kothari, Leone and Wasley (2005). Corporate reputation (REP) is a binary variable, based on the Transparency Trophy.

Results: Based on accounting transparency, a negative relationship exists between corporate reputation and discretionary accruals, mitigating opportunistic and aggressive earnings management attitudes, enhancing the quality of the financial information, so that the study hypothesis is not rejected. Therefore, a good reputation represents a signal for the shareholders, creditors and other stakeholders with regard to the financial information quality, consequently granting the companies a competitive advantage, and signaling that companies renowned for their accounting transparency are a good investment.

Contributions: The corporate reputation generates a competitive advantage and superior performance. Hence, the companies would tend not to use opportunistic and aggressive practices like earnings management. The study signals that the companies should focus on the quality of their financial reports to achieve a corporate reputation and, thus, maintain a competitive advantage and superior performance.

Keywords: Earnings management, discretionary accruals, corporate reputation, signaling theory.

Practical implications

The corporate reputation generates a competitive advantage and superior performance. Thus, companies would tend not to use opportunistic and aggressive practices like earnings management. The study signals that the companies should focus on the quality of their financial reports to achieve a corporate reputation and, thus, maintain a competitive advantage and superior performance.

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1. Introduction

In order to gain competitiveness and remain sustainable, companies resort to different attitudes, called signals, which differentiate them from others. Spence (1973) states that signals function as discretionary mechanisms, in an environment of informational asymmetry, capable of changing beliefs and transmitting information to other individuals.

These signals are intended to reach the various stakeholders, because they are the ones who will attribute, through direct and/or indirect experiences, different characteristics to the companies, distinguishing them from one another. Thus, over time, companies start to obtain a certain prestige, which is granted to them by the stakeholders, constituting their corporate reputation.

Corporate reputation consists of the set of organizational attributes developed over time, influencing how stakeholders perceive the company with good corporate behavior (Roberts & Dowling, 2002). Based on the Signaling theory, corporate reputation is a non-measurable intangible asset, which the stakeholders perceive through the different signals that firms emit (Spence, 1973; Bergh, Ketchen, Boyd & Bergh, 2010; Walker, 2010).

In addition, reputed companies would perform better and persistently because of their competitive advantage (Roberts & Dowling, 2002; Bergh et al., 2010). Thus, companies with a better reputation would tend not to engage in opportunistic earnings management practices to improve business performance, as these companies already derive economic benefits from the competitive advantage of reputation.

Earnings management occurs when managers "use judgment in financial reporting and structuring transactions to change financial reporting to mislead some stakeholder on the underlying economic performance of the company, or to influence contractual outcomes that depend on the reported financial figures" (Healy & Wahlen, 1999, p.368).

Among the many signals that constitute the reputation, transparency is one of the most relevant. Thus, companies recognized for greater transparency of their accounting practices make less use of earnings management, as they do not want to lose the competitive advantage gained through reputation, and as they are exposed in the media, tending to be careful with their practices (Agarwal, Taffler & Brown, 2011; Cao, Myers & Omer, 2012; Dyck, Volchkova & Zingales, 2008; Garrett, Hoitash & Prawitt, 2014; Luchs, Stuebs & Sun, 2009).

Departing from the literature review (Roberts & Dowling, 2002; Agarwal et al., 2011; Cao et al., 2012; Garrett et al., 2014; Luchs et al., 2009), this study aims to investigate the relationship between corporate reputation and earnings management in companies listed on B3 - Brazil, Bolsa, Balcão.

According to Davies, Chun, Silva, and Roper (2003), there are several ways of measuring corporate reputation, such as The Most Admired Companies, the Best Companies to Work, the Best and Largest. In order to observe the reputation effect obtained through accounting transparency, this study analyzes the companies indicated in the Transparency Trophy of Anefac, Fipecafi and the Serasa Experian Initiative.

As for the award being a proxy of reputation, Henrique Haddad, the director of management, finance and investor relations at Duratex, argues: "without a doubt, the transparency of financial statements increases the knowledge about the company, transmitting credibility to both investors and to other stakeholders and generating a positive environment for our company" (Revista Anefac, 2018). Therefore, the participants in the award consider that it grants prestige and reputation to the companies.

This is because the few studies that have analyzed the effect of corporate reputation on earnings management (Cao et al., 2012; Garret et al., 2014, Luchs, Stuebs & Sun, 2009; Wu, Gao, & Li, 2016) mostly use rankings with different foci and directly or indirectly adopt past business performance as one of the factors as, in many rankings, analysts answer the questions for the creation of the ranking. Therefore, using a ranking that disregards business performance factors and is concerned about the transparency of financial statements is most relevant academically and professionally, because it does not address the problem of the effect of past business performance on reputation and analyze reports that various stakeholders, specifically shareholders and creditors, use to make investments.

Therefore, this study differs from the others by using a new approach to corporate reputation aligned with Accounting. And it is justified by addressing a topic of great relevance for companies, considering that it is through a good corporate reputation that they are able to stand out in the market, get new customers, suppliers and investors. That is, this set of interactions helps the company to gain competitive advantages over its competitors, thus reducing opportunistic actions by management.

2. Literature Review

Yoon, Guffey, and Kijewski (1993) argue that the use of reputation only makes sense in a scenario that contemplates informational asymmetry. That is the context for the Signalling theory, based on the problem of information asymmetry, in which managers have information about the company, which investors do not know (Spence, 1973). Spence (1973) further states that signals function as discretionary mechanisms in an environment of information asymmetry, capable of changing beliefs and transmitting information to other individuals.

Information asymmetry can be reduced if one company offers more information than others, leading reputed business managers to seek to differentiate themselves from low-repute firms through signals (Bergh et al., 2010). In this way, high-quality companies would be evaluated by stakeholders which, based on the signals they emit, would grant these companies a better reputation.

Corporate reputation consists of a perceptive representation of a company's past actions and future prospects, which describe the attractiveness of the company to all its key stakeholders compared to its main competitors (Fombrun, 1996). In this way, corporate reputation becomes valuable because, when positive, it strengthens the attractiveness of an organization, attracts and retains employees, and attracts new sources of financial capital. Thus, companies with a positive reputation are less likely to encounter risk (Van Riel & Fombrun, 2007). Reputation is also considered important because it is seen as a solution for information asymmetry (Melo & Garrido-Morgado, 2012).

In this sense, too, reputation is important both for the owners of the reputation and for subjects who have that reputation stored in their long-term memory, considering that when a company has a favorable reputation, the transmission of its positive reputation constitutes an essential pre-requisite to establish a commercial relationship with its stakeholders (Van Riel & Fombrun, 2007).

In this way, corporate reputation is a potential source of competitive advantage, as it is associated with countless strategic benefits such as sustainable financial performance, higher margins and prices, perceived value, contracting firms and positive reactions of investors (Walker, 2010).

Several authors, such as Bergh et al. (2010), argue that companies with a better reputation can gain a competitive advantage. Thus, companies with a better reputation would not need to use earnings management, because earnings management opportunistically seeks to change the financial figures of the period.

According to Healy and Wahlen (1999: 368), earnings management occurs when managers "use judgment in financial reporting and in structuring transactions to alter financial reporting to deceive some stakeholder on the underlying economic performance of the firm, or to influence contractual outcomes that depend on the reported financial figures".

Not very different from that, Ball (2009) argues that earnings management is used to express the manipulation of managers in reporting their own financial performance, encompassing several practices, including: legal practices that do not violate accounting rules or principles and are generally seen as ethical; and legal practices that do not violate accounting rules or principles, but may violate the accepted disclosure standards.

In this sense, earnings management ends up triggering opportunistic behavior of the manager, which changes the financial figures, affecting the quality of the accounting information. Xie, Davidson III, and DaDalt (2003) explain that this happens because Accounting, through accruals, gives managers the ability to determine the actual earnings in a given period. In turn, Scott (2012) states that managers will choose an accounting policy among the various possibilities to achieve their goals.

Wu et al. (2016) argue that managers tend to use earnings management to achieve goals, reduce or alleviate the pressures they suffer from the media, and to remedy any loss of reputation, as negative media exposure results in even higher levels of earnings management activities. Therefore, companies with a better reputation and/or trust are less likely to distort their annual financial statements (Cao et al., 2012; Garrett et al., 2014), and have a better quality of provision and lesser probability of disclosure of material weaknesses in internal control (Garrett et al., 2014).

Other attributes that relate to, or even make up the corporate reputation are also capable of reducing earnings management practices and improving the quality of financial information, such as corporate social responsibility (CSR) and corporate ethics.

As for CSR practices, companies tend not to smoothen the income and to show less interest in avoiding losses and income reductions, while remaining prone to engage in more aggressive earnings management practices in countries with weak enforcement (Chih, Shen & Kang, 2008). Scholtens and Kang (2013) evidenced that firms with relatively good CSR are significantly less involved in earnings management, while Kim, Park, and Wier (2012) and Bozzolan, Fabrizi, Mallin, and Michelon (2015) are also less prone to manipulate operational activities and to be the subject of SEC investigations.

In relation to the corporate commitment to business ethics, companies with a higher level of ethical commitment are involved in less earnings management; report earnings more conservatively; and predict future cash flows more accurately than those with a lower level of ethical commitment (Choi & Pae, 2011).

Thus, considering the precepts of the Signaling theory and the recommendations of the literature on the relationship between corporate reputation and earnings management, it is expected that the signals issued to the market in relation to accounting transparency, which generates the reputation to companies, inhibit managers' earnings management practices, as reputation creates competitive advantage and makes the company more visible to diverse stakeholders. Therefore, this study proposes the following research hypothesis:

- **Hypothesis:** Corporate reputation negatively influences earnings management.

3. Method

The study population consists of all non-financial companies listed on Brasil, Bolsa, Balcão (B3), totaling 325 companies. The sample is composed of all companies that presented the variables to measure earnings management: company size; return on equity; leverage, sales growth; market-to-book; audit quality; and corporate governance, between 2010 and 2017, in the Capital IQ database and on the B3 website. Thus, the sample is composed of 231 companies (1,355 observations).

Earnings management is based on the discretionary accruals approach, developed by Jones (1991) and modified by Dechow, Sloon, and Sweeney (1995). Thus, regressions were estimated by sector and year. Discretionary accruals (DACC) represent the residuals of Equation 1. In addition, this study uses the absolute value of discretionary accruals for analyses, whereas earnings management may involve accruals with the intention of increasing or decreasing earnings (Warfield, Wild & Wild, 1995; Klein 2002). Equation 1 represents the model of Dechow et al. (1995).

$$AT_{it} = \beta_1 1/A_{it-1} + \beta_2(\Delta REC - \Delta CREC)_{it} + \beta_3 IMOB_{it} + \varepsilon_{it} \quad (1)$$

Where:

AT_{it}: Total Accruals in year *t* for company *i*, defined as AT = [ΔCurrent Assets - ΔCash and Cash Equivalents] - [ΔCurrent Liabilities] – Depreciation and Amortization Expense, divided by total lagged assets;

A_{it}: Total Assets in year *t - 1* for company *i*;

REC_{it}: Sales Revenues in year *t* for company *i*, divided by total lagged assets;

$CREC_{it}$: Accounts Receivable in year *t* for company *i*, divided by total lagged assets;
$IMOB_{it}$ = Fixed Assets in year *t* for company *i*, divided by total lagged assets;
ε_{it} = error term in year *t* for company *i*.

The variable of interest is Corporate Reputation (REP) based on the Transparency Trophy of Anefac, Fipecafi and Serasa Experian. To run for the Transparency Trophy, there are no enrollments. The candidates are all public and private companies based in Brazil that publish their financial statements, acting in the areas of commerce, industry, and services - except financial services. The Transparency Trophy does not consider the company earnings or the economic-financial situation, which does not interfere with the selection process. It considers the transparency and clarity of the information the companies provide to the market though, generating added value for the business. The Transparency Trophy does not evaluate the company management either, but the quality of the financial statements presented.

In the selection process to receive the Transparency Trophy, the following are analyzed: Quality and degree of information contained in the financial statements and notes to the financial statement; Transparency of information provided; clarity of the management report and its consistency with the information disclosed; Full compliance with accounting standards; Non-presentation of the changes (qualifications) in the independent auditors' report; Presentation of the disclosure as to layout, readability, conciseness, clarity, etc.; and Disclosure of relevant aspects, even if not legally required, but important for the business, such as: EBITDA, aggregate economic value, social and environmental balance, etc.

In this study, REP (reputation) is measured as a lagged binary variable, equal to 1 if the firm is listed in the Transparency Trophy ranking by Anefac, Fipecafi, and Serasa Experian at t-1 and 0 otherwise. The literature tends to investigate the effects of past reputation (t-1), business performance, or other corporate characteristics (Roberts & Dowling, 2002). Thus, in this study, the same approach is used.

To avoid the problem of correlated omitted variables, this study includes some control variables that can affect earnings management and corporate reputation. Dechow, Ge, and Schrand (2010) suggest that the opportunity for growth, profitability, indebtedness, firm size, audit quality, and corporate governance can influence earnings management.

Likewise, in this study, to capture the relationship between earnings management and corporate reputation, and in order to test the research hypothesis, we estimate Equation 2.

$$DACC_{it} = \beta_0 + \beta_1 REP_{it-1} + \beta_2 TAM_{it} + \beta_3 ROE_{it} + \beta_4 END_{it} + \beta_5 CRES_{it} + \beta_6 MTB_{it} + \beta_7 AUD_{it} + \beta_8 GOV_{it} + Efeitos\_Fixos + \varepsilon_{it} \quad (2)$$

Equation 2 is estimated by means of multiple linear regression with panel data (POLS), with robust standard errors and controlled by fixed effects of sector and year. As Dechow et al. (2010) argue, there are problems in the calculations of the discretionary accruals, so that in this study two other models of discretionary accruals (Larcker & Richardson, 2004; Kothari, Leone & Wasley, 2005) are used as robustness tests. As another robustness test, discretionary accruals were analyzed by signs (positive and negative values) instead of analyzing only by absolute value.

As in the proposed model by Dechow et al. (1995), sector and year regressions were estimated for the model by Larcker and Richardson (2004), and the absolute value of the residuals of Equation 3 represents discretionary accruals (DACC).

$$AT_{it} = \beta_1 1/A_{it-1} + \beta_2(\Delta REC - \Delta CREC)_{it} + \beta_3 IMOB_{it} + \beta_4 BTM_{it} + \beta_5 FCO_{it} + \varepsilon_{it} \quad (3)$$

Where:
BTM_{it}: Book-to-market ratio in year *t* for company *i*, defined as net worth divided by market value;
FCO_{it}: Operating Cash Flow in year *t* for company *i*, divided by total lagged assets.

The second Robustness model is based on Kothari *et al.* (2005), in which regressions were estimated per sector and year. The absolute residuals in Equation 4 represent the discretionary accruals.

$$AT_{it} = \beta_1 1/A_{it-1} + \beta_2(\Delta REC - \Delta CREC)_{it} + \beta_3 IMOB_{it} + \beta_4 ROA_{it} + \varepsilon_{it} \qquad (4)$$

Where:

ROA_{it}: Return on assets in year *t* for company *i*, defined as the profit before the extraordinary items divided by the total assets.

In Table 1 below, all variable definitions are displayed.

Table 1
Definition of the variables

Variables	Metric	Operationalization
DACC1	Discretionary accruals by Dechow *et al*. (1995)	Absolute residual of Equation 1.
DACC2	Discretionary accruals by Larcker and Richardson (2004)	Absolute residual of Equation 3.
DACC3	Discretionary accruals by Kothari *et al*. (2005)	Absolute residual of Equation 4.
REP	Corporate Reputation	Lagged binary variables: 1 if the firm is listed on the Transparency Trophy of Anefac, Fipecafi and Serasa Experian at *t-1* and 0 if the opposite.
TAM	Company size	Natural logarithm of total assets.
ROE	Return on Net equity	Net profit divided by net equity.
END	Indebtedness	Total debt divided by total assets
CRES	Sales growth	Percentage variation of sales revenue.
MTB	Market-to-Book	Market value divided by net worth.
AUD	Audit Quality	Binary variable: 1 if the firm is audited by a Big Four (EY, KPMG, Deloitte or PwC) and 0 if the opposite.
GOV	Corporate Governance	Binary variable: 1 if the firm is listed on the New Market of B3 and 0 if the opposite.

All continuous variables, used to estimate Equation 2, are winsorized in the 1st and 99th percentile for each year.

4. Results and Discussion

To verify the behavior of the data, initially, descriptive analysis was performed. Table 2 shows the minimum and maximum values, mean and standard deviation of the variables analyzed in this study, as well as the test of difference of means (t-test), except those indicated by audit quality and corporate governance, as these are binary variables. Therefore, the frequency distribution is presented and the chi-square test is performed.

Table 2
Descriptive statistics

Continuous variables	REP	Obs.	Mean	Standard deviation	Minimum	Maximum	T test
DACC1	1	121	0.039	0.035	0.000	0.200	2.916***
	0	1.234	0.062	0.086	0.000	1.287	
DACC2	1	121	0.036	0.031	0.000	0.203	3.469***
	0	1.234	0.066	0.094	0.000	1.367	
DACC3	1	121	0.038	0.032	0.000	0.188	2.869***
	0	1.234	0.063	0.098	0.000	2.093	
TAM	1	121	23.654	1.244	21.119	26.405	-13.389***
	0	1.234	22.089	1.225	20.083	26.204	
ROE	1	121	0.090	0.257	-1.465	0.659	-1.676*
	0	1.234	0.019	0.463	-5.060	2.157	
END	1	121	0.346	0.159	0.019	0.756	-1.523
	0	1.234	0.320	0.175	0.000	0.859	
CRES	1	121	0.091	0.167	-0.405	0.716	1.463
	0	1.234	0.145	0.400	-0.990	4.882	
MTB	1	121	2.302	2.581	0.114	19.274	-0.220
	0	1.234	2.241	2.944	0.015	33.057	
Binary variables	**Category**	**REP=0**	**REP=1**	**Frequency**	**Percentage**	**Cumulative**	**Chi-squared**
AUD	0	169	5	174	12.84	12.84	9.004***
	1	1.065	116	1181	87.16	100.00	
GOV	0	618	55	673	49.67	49.67	0.9435
	1	616	66	682	50.33	100.00	

Obs.: *, **, *** Indicates statistical significance at 0.10, 0.05 and 0.01, respectively.
DACC1: Discretionary accruals by Dechow *et al*. (1995); DACC2: Discretionary accruals by Larcker e Richardson (2004); DACC3: Discretionary accruals by Kothari *et al.* (2005); REP: Lagged corporate reputation; TAM: Company size; ROE: Return on Equity; END: Indebtedness; CRES: Sales Growth; MTB: Market-to-book; AUD: Audit Quality; GOV: Corporate Governance.

The average absolute value of discretionary accruals (DACC1, DACC2, and DACC3) is about 0.06 for the companies listed on B3. Thus, compared with the 0.065 Wu et al. (2016) found for Chinese companies, and the 0.20 that Kim et al. (2012) found in US-listed companies, earnings management in Brazil is consistent with other countries. In addition, discretionary accruals have high dispersion, so the companies listed on B3 differ at the level of performance management practices.

Only 8% of the sample has a good reputation (REP) through accounting transparency. It is worth mentioning that this is because the Transparency Trophy only selects 25 companies as the best companies in Brazil. This type of behavior is observed in other studies, as reputation is, in most cases, measured by rankings, which establish a maximum number of reputed companies (Fombrun, 2007). Thus, the companies included in the Transparency Trophy are the ones with the best reputation.

Analyzing all the variables, based on the Transparency Trophy, in relation to having or not having a better reputation, on average, the indicated companies have less earnings management by discretionary accruals (DACC), are larger (TAM), present better corporate performance (ROE) and are more closely associated with better audit quality (AUD). These results suggest that reputation signals guarantee a competitive advantage over other competitors (Bergh et al., 2010; Van Riel & Fombrun, 2007; Walker, 2010), thus constituting a desirable attribute for companies.

In relation to the control variables, only the company size (TAM) presents low dispersion, indicating that the companies have homogeneous size, all are large companies, which is consistent with the studies by Wu et al. (2016) and Choi and Pae (2011), who found size ranges between 22,115 and 19,225 for Chinese and Korean companies, respectively.

The sample presents a positive business performance (ROE), similar to Cao et al. (2012) and Wu et al. (2016). Based on Garrett et al. (2014), Wu et al. (2016), Cao et al. (2012), Choi and Pae (2011) and Kim et al. (2012), which admit levels of indebtedness (END) inferior to 50%, the companies listed on B3 have a good level of indebtedness, equal to 0.3227. As for sales growth (CRES), the companies listed on B3 show solid growth in sales revenue, as the average is positive. The sample presents a high level of intangibility, as the MTB is greater than 1, consistent with Garrett et al. (2014).

Regarding audit quality (AUD), almost 90% of the sample is audited by a Big Four company (Deloitte, EY, KPMG, and PwC). In this case, based on Wu et al. (2016), the sample has high audit quality. Finally, corporate governance (GOV) is represented by the listing on the B3 Novo Mercado segment of corporate governance, which has the best governance practices, indicating that almost half of the sample (50.33%) has the best corporate governance practices.

Considering the literature reviewed by Dechow et al. (2010), the characteristics of the companies in the sample refer to companies that, on average, would tend to engage less in earnings management practices. Thus, to deepen these results, Table 3 presents the Pearson correlation coefficients between the variables used in the regression analyses.

Table 3
Pearson correlation

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(2)	0.805***	1								
(3)	0.954***	0.791***	1							
(4)	-0.079***	-0.094***	-0.078***	1						
(5)	-0.089***	-0.114***	-0.075***	0.342***	1					
(6)	-0.042***	-0.040***	-0.031***	0.045***	0.057**	1				
(7)	-0.048***	-0.073***	-0.042***	0.041***	0.231***	-0.237***	1			
(8)	0.140***	0.103***	0.109***	-0.039***	0.016***	0.117***	-0.019***	1		
(9)	0.032**	0.022***	0.048***	0.006***	-0.003***	0.110***	0.031***	0.045***	1	
(10)	0.019**	-0.025***	0.021***	0.081***	0.098***	0.105***	0.036***	0.030***	0.094***	1
(11)	0.065***	0.035***	0.072***	0.026***	-0.000***	-0.023***	0.068***	0.001***	0.131***	0.144***

Obs.: *, **, *** Indicates statistical significance at 0.10, 0.05 and 0.01, respectively.
(1) DACC1: Discretionary accruals by Dechow *et al.* (1995); (2) DACC2: Discretionary accruals by Larcker e Richardson (2004); (3) DACC3: Discretionary accruals by Kothari *et al.* (2005); (4) REP: Lagged corporate reputation; (5) TAM: Company size; (6) ROE: Return on Equity; (7) END: Indebtedness; (8) CRES: Sales Growth; (9) MTB: Market-to-book; (10) AUD: Audit Quality; (11) GOV: Corporate Governance.

First, it is observed that the variables that represent the discretionary accruals (DACC1, DACC2, and DACC3) have a high mutual correlation, thus demonstrating that they represent the same construct, in accordance with the precepts of Dechow et al. (2010), which advise using more than one metric to achieve a consistent result.

Based on the literature (Cao et al., 2012, Garrett et al., 2014, Wu et al., 2016), this study predicted a negative correlation between corporate reputation (REP) and earnings management measures (DACC1, DACC2, and DACC3), and this forecast is not rejected for all earnings management measures. Thus, companies that have a better reputation for accounting transparency engage less in earnings management practices.

In addition, it is observed that company size (TAM) and indebtedness (END) are negatively related to discretionary accruals, showing that large and more indebted companies engage less in earnings management practices, as larger companies tend to possess better internal controls, mitigating opportunistic actions (Dechow et al., 2010), and higher indebtedness limits the management of earnings, as companies are pressured by creditors, and are subject to a reduction in the expenses the creditors induce (Zamri, Rahman & Isa, 2013).

Sales growth (CRES) and corporate governance (GOV), however, are positively related to discretionary accruals. According to Dechow et al. (2010), companies with higher growth tend to have less persistent earnings, favoring the use of earnings management. As for governance, some studies show that greater monitoring would not reduce the manipulation of financial figures (Dechow et al., 2010). This may be due to the governance mechanism the company uses, as well as the lack of governance and not just compliance-oriented culture.

The results of the multivariate regression analyses of the discretionary accruals are presented in Table 4. In this sense, this study estimated three models for each discretionary accrual measure, based on Dechow et al. (1995), Larcker and Richardson (2004), and Kothari et al. (2005).

Table 4
Analysis of the relation between earnings management and corporate reputation

		Discretionary accruals		
		Model 1	Model 2	Model 3
Corporate Reputation	$REP_{(t-1)}$	-0.010*	-0.015***	-0.014**
		(0.006)	(0.005)	(0.006)
Company Size	$TAM_{(t)}$	-0.004**	-0.004**	-0.004**
		(0.002)	(0.002)	(0.002)
Return on Net Equity	$ROE_{(t)}$	-0.012**	-0.011*	-0.009*
		(0.005)	(0.006)	(0.006)
Indebtedness	$END_{(t)}$	-0.008	-0.026	-0.006
		(0.013)	(0.016)	(0.014)
Sales Growth	$CRES_{(t)}$	0.029**	0.023*	0.025**
		(0.012)	(0.014)	(0.012)
Market-to-Book	$MTB_{(t)}$	0.001	0.001	0.002**
		(0.001)	(0.001)	(0.001)
Audit Quality	$AUD_{(t)}$	0.004	-0.009	0.003
		(0.007)	(0.011)	(0.006)
Corporate Governance	$GOV_{(t)}$	0.004	0.001	0.007
		(0.005)	(0.005)	(0.005)
Intercept		0.153***	0.192***	0.158***
		(0.042)	(0.047)	(0.045)
Fixed effect - Year		Yes	Yes	Yes
Fixed effect - Sector		Yes	Yes	Yes
R^2		0.123	0.107	0.124
F-test		4.164***	4.411***	4.241***
N		1,355	1,355	1,355

Obs.: *, **, *** Indicates statistical significance at 0.10, 0.05 and 0.01, respectively.
Each cell contains an estimated coefficient and a robust standard error between parentheses below.
Model 1: Discretionary accruals by Dechow *et al*. (1995); Model 2: Discretionary accruals by Larcker and Richardson (2004); Model 3: Discretionary accruals by Kothari *et al.* (2005); REP: Lagged corporate reputation; TAM: Company size; ROE: Return on Equity; END: Indebtedness; CRES: Sales Growth; MTB: Market-to-book; AUD: Audit Quality; GOV: Corporate Governance.

Based on the F-test, all models are significant at 1%, indicating that at least one of the variables in the models is significant. Corporate reputation, through accounting transparency (REP), has a negative relationship with discretionary accruals (DACC1, DACC2, and DACC3), as expected. Therefore, the study hypothesis is not rejected. It should be noted, once again, that companies that are nominated for the Transparency Trophy award reduce, on average, 0.01 in discretionary accruals and the average of discretionary accruals is 0.06 (Table 2). Thus, based on this average, being indicated to the premium reduces by approximately 16.67% the practice of earnings management.

The Signaling theory advocates that companies disclose information to the market in order to reduce information asymmetry and create trust towards their stakeholders, so that reputation based on the quality of accounting information is well viewed by investors and creditors, as well as by other stakeholders, by being able to reduce opportunistic earnings management practices that sometimes arise due to agency conflicts. In addition, when companies seek to have high-quality and transparent financial reports, managers reduce their opportunistic management practices, perhaps by using discretionary accruals only to demonstrate the company's actual economic situation, considering that, as Scott (2012) comments, earnings management has not only has a negative connotation, but there may be good management. Therefore, managers would be using earnings management for the benefit of the company and not for their own interests, thus increasing the quality of accounting information.

This finding is consistent with Li (2010), Choi and Pae (2011); Cao et al. (2012); Kim et al. (2012); Scholtens and Kang (2013); Garrett et al. (2014); Bozzolan et al. (2015) and Wu et al. (2016), which argue that corporate social responsibility, media exposure, business ethics, aspects of reputation as well as reputation itself increase the quality of financial information and reduce earnings management by discretionary accruals.

The regression models also include several control variables. Sales growth (CRES) is positively associated with discretionary accruals for all models. In this case, growing companies exhibit a higher level of discretionary accruals. It is assumed that these firms have aggressive earnings management practices precisely to increase their performance, as they do not have persistent results, which is consistent with the findings of Skinner and Sloan (2002) and the discussion by Dechow et al. (2010). On the other hand, firm size (TAM) and business performance (ROE) are significantly and negatively associated with discretionary accruals for all models, indicating that large and profitable firms are generally less likely to engage in earnings management based on accruals (Kim et al., 2012), because they have a better organizational structure, which helps to mitigate opportunistic practices (Dechow et al., 2010).

Also as a Robustness test, we analyzed the effect of corporate reputation on earnings management, distinguishing between the aggressive strategy (positive accruals) and conservative (negative accruals), as shown in Table 5.

Table 5

Analysis of the relation between aggressive and conservative earnings management and corporate reputation

	Discretionary accruals					
	Model 1		Model 2		Model 3	
	Aggressive	Conservative	Aggressive	Conservative	Aggressive	Conservative
$REP_{(t-1)}$	-0.010	0.008	-0.023**	0.011*	-0.018	0.011*
	(0.009)	(0.006)	(0.011)	(0.006)	(0.012)	(0.006)
$TAM_{(t)}$	0.001	0.006***	-0.002	0.006***	0.002	0.006***
	(0.003)	(0.002)	(0.003)	(0.002)	(0.004)	(0.002)
$ROE_{(t)}$	-0.012	0.011*	-0.011	0.012**	-0.010	0.010*
	(0.011)	(0.006)	(0.013)	(0.006)	(0.013)	(0.006)
$END_{(t)}$	0.001	0.020	-0.026	0.023	-0.003	0.011
	(0.018)	(0.019)	(0.024)	(0.019)	(0.026)	(0.017)
$CRES_{(t)}$	0.038**	-0.011	0.021	-0.020	0.038**	-0.011
	(0.015)	(0.015)	(0.021)	(0.014)	(0.015)	(0.015)
$MTB_{(t)}$	0.000	-0.002	0.001	-0.002	0.002	-0.002*
	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)	(0.001)
$AUD_{(t)}$	-0.001	-0.005	-0.028	-0.011	0.001	-0.004
	(0.011)	(0.007)	(0.019)	(0.007)	(0.013)	(0.006)
$GOV_{(t)}$	-0.005	-0.007	-0.007	-0.009*	-0.005	-0.012**
	(0.008)	(0.005)	(0.008)	(0.005)	(0.008)	(0.005)
Intercept	0.071	-0.185***	0.176**	-0.185***	0.042	-0.184***
	(0.064)	(0.050)	(0.076)	(0.049)	(0.095)	(0.047)
Fixed effect – Year	Yes	Yes	Yes	Yes	Yes	Yes
Fixed effect – Sector	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.141	0.141	0.112	0.146	0.126	0.150
F-test	2.644	2.821	2.810	3.930	3.340	3.919
N	608	747	632	723	607	748

Obs.: *, **, *** Indicates statistical significance at 0.10, 0.05 and 0.01, respectively.
Each cell contains an estimated coefficient and a robust standard error between parentheses below.
Model 1: Discretionary accruals by Dechow *et al*. (1995); Model 2: Discretionary accruals by Larcker and Richardson (2004); Model 3: Discretionary accruals by Kothari *et al.* (2005); REP: Lagged corporate reputation; TAM: Company size; ROE: Return on Equity; END: Indebtedness; CRES: Sales Growth; MTB: Market-to-book; AUD: Audit Quality; GOV: Corporate Governance.

The results presented in Table 5 support the results found in Table 4, especially with regard to Model 2, not rejecting the study hypothesis, as they indicate that companies that have a better reputation through accounting transparency engage less in aggressive earnings management practices, that is, they do not use accounting in order to increase earnings, thus using more conservative attitudes, which reduce the earnings.

5. Conclusion

The objective of this study was to investigate the relationship between corporate reputation based on accounting transparency and the management of results by discretionary accruals in companies listed on Brasil, Bolsa, Balcão (B3), departing from the Signaling Theory. Therefore, multiple linear regression analysis with panel data and robust standard errors was applied in a sample of 231 companies (1,355 observations).

Corporate reputation, through accounting transparency, showed a negative relationship with earnings management of results by discretionary accruals. Thus, companies nominated for the Transparency Trophy by Anefac, Fipecafi and Serasa Experian, that is, those with a better corporate reputation, have managers who engage less in opportunistic and aggressive attitudes, managing the company earnings less. Thus, this study does not reject the hypothesis presented.

The results show that companies that signal the quality of their statements to the market tend to gain more confidence and esteem in the market (corporate reputation) from the accounting point of view, besides having a competitive advantage, engaging less in opportunistic practices such as earnings management, as they are likely to have the best corporate social responsibility practices, corporate governance, and corporate ethics, retaining and attracting talent and having bargaining power with suppliers.

Hence, corporate reputation would be a valuable strategic resource, capable of highlighting the reputed company from others in the same industry and, from an accounting point of view, is reflected in the financial reporting quality. This quality of the financial statements, which emerges from transparency, is reflected in management practice as companies do not want to lose the competitive advantage gained through reputation and, being exposed in the media, they tend to be careful about their practices accounting policies. Davies et al. (2003) argue that reputation can be lost more easily than being created, being fragile as an investment in credibility. In this sense, bad actions (fraud, corruption, etc.) carried out by companies corrode reputation, as stakeholders lose confidence in the company, which would drive investors away.

As corporate reputation grants competitive advantage and, generally, companies with a better reputation tend to be highly performing and provide great compensation to managers, they have no reason to use discretionary choices (Chaney, Faccio & Salsa, 2011).

It is observed, therefore, that this study offers contributions both for the professional field and for the academic field. For the professional, the study provides insights for companies, indicating that they should focus on issuing signals to the market about the quality of their financial reports, aiming to gain a corporate reputation. In addition, a good reputation is a signal to shareholders, creditors and other stakeholders regarding the quality of accounting information, reducing information asymmetry and conferring a competitive advantage, thus demonstrating that companies with a better reputation would be a better investment.

For the academy, this study demonstrates that the ranking of the Anefac, Fipecafi, and Serasa Experian Transparency Trophy is a proxy of the reputation about the quality of accounting information, in which the awards would be a signal of reduction in the practice of discretionary accruals. In addition, this study expands the literature that relates reputation and earnings management, as not many studies on this topic are found in both the Brazilian and international literature.

The limitations of this study relate to metrics for earnings management and corporate reputation and to the sample. Dechow et al. (2010) state that metrics that measure discretionary accruals are problematic, but there are still no perfect metrics for this. Thus, for the first problem, this study adopted three different metrics and found the same result. For the second problem, considering the statement by Davies et al. (2003) that reputation is a complex construct and difficult to measure, in this study, we chose to use a metric with a specific aspect, accounting transparency, which is related to the quality of accounting information. Regarding the third problem, the metrics were adopted only for companies listed on B3, which, despite being a small sample, is especially relevant for the Brazilian market, and the ranking of the Transparency Trophy includes only Brazilian companies.

It should be noted that the second and third problems create selection biases as they consider only the best companies and do not allow variability among companies due to being a dummy variable. This is a problem in reputation searches that use rankings though, because there is not yet a proper proxy for reputation, and the proxies closest to the reputation construct are measured by means of a questionnaire.

Finally, this study suggests that future studies expand the analysis to the Latin American market, using the Merco Companies ranking for companies with better reputation; or the Merco Responsabilidad and Gobierno Corporativo ranking for companies with greater corporate social responsibility and corporate governance. Also, it is suggested to analyze the effect of the reputation of the leader in earnings management. For this purpose, one can use the Merco Líderes ranking. Because companies can manage less by discretionary accruals and compensate through management and operational activities, we suggest analyzing the effect of corporate reputation on the trade-off between discretionary accruals management and activity-based management operations.

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External contingency factors and performance measuring: a study in Brazilian NGOs

Abstract

Objective: Analyze the relations between the external contingency factors and the performance measuring management practices in Brazilian non-governmental organizations.
Method: A mail survey was used with 43 organizations members of the Brazilian Association of Non-Governmental Organizations. The variables used to execute the study were subdivided in two blocks. The first block targeted the External Environment contingency factor, by means of the variables intensity of the competition; environmental dynamism and environmental uncertainty. The second block targeted the management practices to measure performance levels, by means of the variables performance planning; performance indicatorsl performance objectives; data collection tools and rewards and sanctions. As a statistical technique to analyze the results, Spearman's correlation coefficient was used, significance being set at 99% (p= 0.01).
Results: The results indicated that the external contingency factors were not related to most performance measuring management practices, revealing a lack of correlation between managers' actions and the organizational design of Brazilian non-governmental organizations.
Contributions: Empirical study of non-governmental organizations' external environment and its relation with the performance measuring practices managers use, going beyond ideological aspects. Thus, the article contributed to the literature and professional practice by understanding the intensity of the correlation between management actions and the contingency factors of third-sector organizations.
Key words: External contingency factors, Performance measuring, Non-Governmental Organizations.

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1. Introduction

Due to governments' inability to meet social needs completely, the third sector, which non-governmental organizations (NGOs) are part of, has played a relevant role in society and is gaining an increasing role in the world economy, as it proposes to solve different social problems (Quintairos, Silva, Costa & Oliveira, 2009; Cruz, Stadler, Martins & Rocha, 2009). Therefore, a greater number of NGOs are participating in social welfare, community building and other public activities, in an effort to constitute a new relationship network with the government.

In recent years, after governmental reforms, the role of NGOs and the understanding of their environment have become more crucial in accelerating the economic and social development of any country (Al-Ammary & Hamad, 2012). The environment in which the entities operate is dynamic and its success depends on the ability to meet the stakeholders' needs. Thus, in order to guarantee the survival and growth of all entities, whether for profit, and especially non-profit, they need to measure, monitor and analyze their performance.

According to Ciucescu and Feraru (2014), the main reasons for implementing performance measurement practices in NGOs, which have been based on the growing interest of academics and professionals, consist in increasing the number of organizations; reductions of entities' budgets; decrease in the number of donors and increase in managerial challenges arising from the multiplicity of social cases, such as terrorism, unemployment, gender issues and consumption.

Nonetheless, it should be noted that there is a particular complexity in the measurement of NGOs' performance, as assessing progress toward their missions and the social benefits they produce is complex in nature to quantify, difficult to measure and depends on values (Kanter & Summers, 1987). According to Ayene, Kumar and Asefa (2014), these difficulties become more worrying, as often there is no well-defined area of action in the sector, besides the lack of mission, vision and established values.The external environment in which the entities of the Third Sector relate is influenced by changes that may affect the performance measurement of entities. Ahmed (2014) notes that social, cultural, and political factors can vary even within developed countries, while NGOs in developing countries like Brazil can act in even more uncertain environments, making it difficult to adopt management practices.

In view of this reality, Kareithi and Lund (2012) have confirmed the need to increase research on factors that are related to NGO performance measurement practices, noting that trends in study results are based on ideological grounds, with no empirical verification. Wadongo (2014) argues that, even though there is a demand to implement managerial performance measurement practices, several external environmental contingency factors have been ignored in the Third Sector, such as competition, uncertainty, and environmental dynamism.

Some international evidence points to a positive relationship between the contingency variables and the managerial practices of performance measurement of the third-sector entities in relation to the external environment (Kaplan, 2001; Beamon & Balcik, 2008; Wadongo, & Abdel-Kader 2014). Brazilian studies have only been focusing on for-profit firms (Guerra, 2007; Junqueira, 2010; Beuren & Fiorentin, 2014; Leite, Diehl & Manvailer, 2015; Lavarda, Gorla, Lavarda & Angonese, 2016; Klein & Almeida, 2017).

Based on these discussions, this study is guided by the following question: **Is there a relationship between the external contingency factors and the managerial practices of performance measurement in the context of Brazilian NGOs?** Thus, the general objective of the research is to analyze the relationships between the external contingency factors and the managerial practices associated with performance measurement within Brazilian non-governmental organizations.

Therefore, a correspondence survey was used, based on the studies by Ferreira and Otley (2009) and Wadongo (2014), involving 43 organizations members of the Brazilian Association of Non-Governmental Organizations (Abong). The proxies selected to execute the research were subdivided into two groups: (1) contingency factor External environment and (2) management practices of performance measurement. Due to the nature of these variables, the data were analyzed through non-parametric tests.The main evidence from the study indicated that the external contingency factors were not related to most performance measurement management practices, suggesting evidence of the absence of association between the actions of the managers and CEO's and the particular characteristics of Brazilian NGOs' external environment.

This research can contribute to the business market of NGOs and to research that is based on Contingency theory because, when investigating the external contingency factors, relating them to management practices of performance measurement, foundations are provided for the managers or presidents of NGOs to balance internal needs and adapt them to external environmental circumstances. Thus, the decision-making process, aiming at meeting the strategic social objectives, can be customized and guided according to the specific external contextual characteristics of the Brazilian NGOs.

In addition to this introduction, the study is divided into four further stages. The second stage presents the theoretical framework, subdivided into performance measurement and external contingency factors. The third step contemplates the methodological procedures used in the research. The fourth step shows the results analysis. Finally, in the fifth step, the final considerations are presented.

2. Theoretical Framework

2.1 Performance measurement

It should be noted that the interest in measuring performance is not new. In the 1970's and 1980's, authors expressed general discontent about performance measurement based on traditional performance indicators, that is, from Accounting (Skinner, 1974; Banks & Wheelwright, 1979; Johnson & Kaplan 1987; Flapper, Fortuin & Stoop, 1996; Bourne, Kennerley & Franco - Santos, 2005; Serrat, 2010).

Initially, critics pointed out the weaknesses of the accounting and costing system, as they stimulated short-term decisions; lack of strategic focus; minimization of variance rather than continuous improvement; not being focused on the external environment; subjectivity in the allocation of costs; and adoption of historical cost in the measurement of assets and liabilities (Skinner, 1974; Banks & Wheelwright, 1979; Johnson & Kaplan, 1987; Flapper et al., 1996).

Later, in the 1980's and 1990's, critics argued that traditional financial indicators, derived from Accounting, should not be excluded from performance measurement but balanced with non-financial performance indicators (Bourne, Kennerley & Franco - Santos, 2005; Serrat, 2010). This era marked the development of balanced or multidimensional performance measurement structures. These new frameworks placed emphasis on non-financial, external, and future performance measures (Bourne, Mills, Wilcox, Neely & Platts, 2000).

It should be emphasized that the measurement of performance through financial or non-financial indicators comes with limitations and advantages. Critics, as discussed earlier, focus their arguments on financial measures; however, these traditional indicators, in addition to revealing useful information for the decision-making process, are objective, while some non-financial indicators are more subjective, entailing the possibility of managers' bias to maximize their utility.

By definition, performance measurement can be understood as the process of determining the performance measures, their range, magnitude and evaluation, aiming at adjusting, adjusting, providing or regulating some activity (Soares, 2006). Concurrently, Poister (2003) notes that performance measurement is a method of identifying, controlling, and using different objective performance measures of the organization and its programs on a regular basis.

Nevertheless, the taxonomy, the basis used in the study, is based on the seminal research of Neely, Gregory, and Platts (1995). In that research, performance measurement is described as the process of quantifying the action, to the point that this action leads to the performance. In a comprehensive way, this quantification process involves the measurement of performance indicators and the implementation of the performance measurement system.

In the context of NGOs, managerial practices of performance measurement consist of a process that involves performance planning, performance evaluation and performance management system (Wadongo, 2014). The practice of performance planning includes how the organization deals with defining and communicating its mission, vision, goals, goals, key success factors, strategies and plans. The practice of performance assessment involves the identification and definition of key performance domains and indicators, performance targets, data collection methods, rewards, and incentives. Finally, performance measurement systems comprise practices related to contextual factors such as information flow systems, use of performance information, system dynamism, and system of strength and coherence. The particular depth and specificity of the system will depend on the individual organization.

Management performance measurement practices in NGOs are not only a tool that helps organizations assess their impact, results and outputs, but are also considered a feedback tool for internal learning (Ramadan & Borgonovi, 2015). For Kareithi and Lund (2012), the main mission of NGOs is focused on the goals desired by their target beneficiaries and their communities, so the performance of NGOs should be evaluated based on their effectiveness in helping beneficiaries reach mutually identified social goals.

In Brazil, the norms that regulate the registration and maintenance of the status of third-sector entities do not require the adoption of informational models for performance measurement and efficiency comparison among entities (Milani Filho, 2009). Nonetheless, Law No. 9790/1999 provided the advance in the performance measurement practices of the sector, as the remuneration of employees and creation of partnership contracts were allowed. In particular, Law No. 13019/2014, which amended Law 9790/1999, made it obligatory to use Collaboration and Promotion contracts in the legal relationships between the partners (Brasil, 1999; Brasil, 2014).

Through this formalization, performance measurement was stimulated from the perspective of NGOs and, above all, that of public administration. NGOs, when benefiting from Government resources to provide services in areas in need of specialized professionals, such as children and adolescents or persons with disabilities, should measure the performance of the actions carried out and report to the public administration and society itself, while the public administration should compulsorily monitor and evaluate the performance of the actions and resources used from the partnership contracts, and also account for the contracts and the execution of the partnership services.

Thus, it is expected that Brazilian NGOs will have a minimum level of performance measurement management practices aimed at guaranteeing their survival in the market or simply meeting the demands of government agencies. In addition, these practices should be tailored to the characteristics of the external environment of those NGOs.

2.2 External contingency factors

Contingency theory emerged in the 1960's to 1970's, based on the premise that there are no universally fit accounting practices that apply to all firms in all circumstances, as they will depend on contextual factors (Otley, 1980; Ferreira & Otley, 2010).

This theory was constructed from a set of theories that investigate the evolution of the complexity of the companies and their organizational structures (Burns & Stalker, 1961; Woodward, 1965; Lawrence & Lorsch, 1967; Perrow, 1970; Thompson, 1967; Khandwalla, 1972; Waterhouse & Tiessen, 1978; Miles & Snow, 2003) and is intended to study the factors internal and external to the organization, also known as contingency factors, which are guiding factors for decision making (Marques, Souza & Silva, 2015).

The external environment is a contextual variable that is the basis of research that uses Contingency theory in several types of companies, such as public companies, financial companies and industries (Chenhall, 2003). At the international level, one type of literature that has gained ground is research in third-sector organizations (Wagondo, 2014) because, due to the distinct characteristics of these organizations in relation to private companies, the external contingency factors can affect the performance measurement practices.

The socioeconomic situation of the countries can be considered a determining factor of the characteristics of the external environment inherent to these organizations. According to Ahmed (2014), the performance control and measurement mechanisms used by Western NGOs are not easily transferable to developing countries because their sociopolitical contexts are different.

As a result, NGOs in developing countries work in very uncertain environments, to the point that donors fear that the resources invested will not have the right destination and that NGOs will have negative outcomes. Donors say, however, that if NGOs operate effectively and transparently, future performance will be improved, and if operations are transparent, support and funding can be made more secure (Ahmed, 2014).

In order to facilitate the understanding of the effect of the external contingency factors in the NGOs through the environmental contingency variable, this study uses the taxonomy suggested by Wadongo and Abdel-Kader (2014), which classifies the external environment into three variables. The first is the degree of unpredictability or environmental uncertainty. The second variable, the degree of competition. Finally, the environmental dynamism organizations face.

According to Chenhall (2003), the most studied external environment variable may be uncertainty. For the author, uncertainty is a situation in which probabilities of occurrence cannot be determined and even the elements of the environment cannot be predicted, thus distinguishing themselves from risk but affecting the management of organizations.

Environmental uncertainty is associated with the design and implementation of performance measurement and control systems, often focused on non-financial indicators for NGOs, as well as affecting the level of accountability of these organizations (Kaplan, 2001; Poister, 2003; Ferreira & Otley, 2010).

Some studies have investigated the empirical relationship of this variable in the performance control and measurement practices, as in the study by Hoque (2004), based on a contingency framework that investigated the determinants and consequences of performance measures. In general, it analyzed the role of choosing performance measures in the relationship between (a) strategic priorities and performance and (b) uncertainty and environmental performance. The results revealed a significant and positive association between strategic choice and manager performance through the high use of non-financial measures for performance evaluation. On the other hand, the study found no evidence of a significant relationship between environmental uncertainty and performance through the use of non-financial performance measures by management.The qualitative empirical evidence from Wadongo's (2014) study in third-sector organizations in Kenya found that the requirements and demands of stakeholders indicated that donor demands and accountability were particularly predictable. The results of the quantitative study showed that various stakeholders mentioned performance measurement practices, including: governments, donors, regulators, the public interest group and the beneficiaries. The justification for high unpredictability of stakeholder demands, specifically donors, may be due to a lack of clear communication of the requirements and conditions attached to donor funding. In turn, environmental uncertainty was negatively related to data collection and performance-based rewards, while at the same time being positively related to performance indicators, strength and consistency of the performance management system and information flows of the performance management system.The second variable used in the study was the degree of intensity of environmental competition among NGOs. Normally, environmental competition is associated with private-sector companies (Wadongo & Abdel-Kader, 2014). This characteristic is normal, as private companies aim to make a profit, considering all aspects of the market, such as scarcity of resources, dispute for customers, suppliers, internal competitions, among others, which encourage the adaptation of management controls to these environmental conditions.

The NGOs also need to respond to growing market pressures and competitiveness in the third sector though, so competition is characterized by intense competition by staff and volunteers, external funding, new innovative projects and community resources (Wadongo & Abdel-Kader, 2014).

In the same sense, Beamon and Balcik (2008) argue that one of the justifications for implementing mechanisms to control and measure performance in NGOs is due to increased competition in a growing series of organizations, internal competition in organizations and the search for donors to finance activities.

International research results, such as Kaplan (2001), Beamon and Balcik (2008) and Ferreira and Otley (2010), show that performance measurement practices and formal controls and budgets are directly related to the competitive environment of organizations.

In the same direction, the quantitative evidence of Wadongo (2014) showed that there is great environmental competitiveness. External financing and competition for local and community resources emerged as the most competitive factors though. The results revealed that the participants considered competition for financing as a significant determinant of performance measurement. In addition, environmental competitiveness was positively related to performance planning practices and data collection methods, but was negatively related to the use of project indicators.

The last variable of the external environment was the degree of environmental dynamism. According to Wadongo and Abdel-Kader (2014), environmental dynamism is highly uncertain and the organization faces frequent changes in the regulatory, socioeconomic, political and technological environment.

In the context of NGOs, environmental dynamism, which includes turbulent economic and political climates, regulatory concerns and a rapidly changing technological environment, often poses challenges for the third sector and may affect performance measurement and control practices (Wadongo & Abdel-Kader, 2014). Also, Kaplan's (2001) study indicates that the dynamic environment is positively related to formal controls and budgets.The empirical evidence from Wadongo's (2014) research indicated that environmental dynamism was directly related to the use of project indicators, strength, and consistency of the performance management system. In addition, it was related to the use of performance information. There was a negative relation between the use of data collection methods based on Information and Communication Technology (ICT) in the sector and environmental dynamism though. These results were justified because Kenya has witnessed a number of natural disasters, terrorist attacks, post-electoral violence and hunger in recent years, leading NGOs to reorient their activities, and thus had an impact on the performance control and assessment process.

In view of the discussions and evidence presented, we postulate that managers and presidents of Brazilian NGOs adapt the use of managerial practices associated to performance measurement according to the specific characteristics of the external environment (competition, dynamism, and uncertainty) without establishing a general administrative strategy applicable in all organizations and in all circumstances, as Contingency theory argues. Therefore, the following research hypothesis is raised:

H_0: A relationship exists between external contingency factors and the use of managerial practices associated with performance measurement in the context of Brazilian NGOs.

3. Methodological Procedures

In order to investigate a particular reality of Brazilian NGOs about the relationships between external contingency factors and performance measurement management practices, a descriptive and quantitative typology based on survey research is used. According to Gil (2009), the survey is based on the request of information to a group of people, whose behavior one intends to find out. For this study, the group is represented by managers and presidents of Brazilian NGOs. Regarding the descriptive typology, Cervo and Bervian (2002) affirm that it is characterized by knowing the situations and relationships that occur in social, political, economic life and in other aspects of human behavior, both of the individual alone and of groups and more complex communities. Finally, quantitative research is supported by the use of quantification, ranging from the information collected to the final analysis through statistical techniques, regardless of their robustness (Richardson, 1999).

The study universe consists of all the Brazilian NGOs listed in the Brazilian Association of Non-Governmental Organizations (Abong). After consulting the Abong website (www.abong.org.br), in total, 240 associated NGOs representing the organizations under study were identified.

Specifically, the Northeast region with 39% and the Southeast with 38% concentrate the largest number of organizations in Brazil, while the South represents the third largest concentration, totaling 10% of NGOs registered in Abong. On the other hand, the North and Center-West, with 8% and 6% of the registered NGOs, were the regions with the lowest concentration.The choice of organizations listed in Abong is due to the organization's time of operation, which is more than two decades, being considered the largest third-sector association and one of the first NGO networks in the country, and especially due to the criteria Abong requires for its affiliates, such as: activities for at least 2 years, description of mission and values, as well as annual presentation of the financial reports. Thus, Abong-listed organizations are expected to have a minimum level of professionalization, which tends to lead to the use of performance measurement practices.

The representatives (presidents and managers) of all 240 NGOs listed on Abong were invited to participate in the study through electronic correspondence. In total, 43 questionnaires answered by NGO representatives were obtained though, corresponding to the study sample.

As a data collection technique, a correspondence survey was used, using a standardized and structured questionnaire, based on the studies of Ferreira and Otley (2009) and Wadongo (2014). To create and send the survey by correspondence to the e-mails of NGOs listed in Abong, Google Docs was used as a tool.

The data collection period was 3 (three) months, beginning in August 2016 and ending in October 2016. The first questionnaire answered by the representatives (managers or presidents) of the NGOs was received on 8/8/2016 and the last questionnaire was received on 10/12/2016.

To develop the study, a set of ordinal Likert-style variables was selected, divided into two blocks according to Table 1, based on the specific literature of companies in the third sector, in order to serve as support for the data collection instrument and the further analysis of the results (Poister, 2003; Waweru & Spraakman, 2009; Ferreira & Otley, 2010; Wadongo, 2014). The Likert scale used in the study aims at identifying the intensity of the attitudes (Likert, 1932) of the presidents and managers of the NGOs in relation to a series of suggested statements about the external environment and the management practices of performance measurement used.

Table 1
Structural Variables of the Study

Block	Categories	Variables	Reference Sources	Measuring Scale
I. Contingency Factors	External Environment	Intensity of competition; Environmental dynamism; Environmental uncertainty.	(Poister, 2003; Ferreira & Otley, 2010; Wadongo, 2014)	Ordinal
II. Performance	Planning Practices and Performance	Mission, Vision, Values and Objectives, Key success factors	(Waweru & Spraakman, 2009; Wadongo, 2014)	Ordinal
	Performance Measuring Practices	Performance targets; Performance indicators; Performance objectives; Performance data collection tools; Rewards and sanctions.	(Waweru & Spraakman, 2009; Wadongo, 2014)	Ordinal

Source: Elaborated by the authors

The contingency factor External Environment, according to Block I, is investigated through three variables: intensity of competition, environmental dynamism and environmental uncertainty. Regarding the variable Intensity of Competition, the respondents were asked to answer a linear Likert scale, ranging from 1 (Non-competitive) to 6 (Very competitive), for a series of statements aiming to determine the level of competition in certain areas, such as: dispute over staff and volunteers, external funding, innovative programs and projects and community resources among NGOs. In the variable Environmental Dynamism, the participants indicate in the Likert scale how frequently external environmental factors could be modified on the basis of assertions linked to the regulatory (for example, laws, regulations), socioeconomic (e.g., inflation, population, crime and disaster), political (e.g. elected leaders, politics and violence) and technological environments (e.g. innovations). Finally, in the variable Environmental Uncertainty, participants indicate on the Likert scale whether the environment was represented by 1 (not predictability) to 6 (highly predictable), for statements about stakeholder requirements and accountability of other demands, such as: accountability to government, donors, beneficiaries and society.

Block II is subdivided into two categories. The first category of performance measurement practices was planning, investigated by the following variables: mission, vision, values and objectives and key success factors. NGO representatives are invited to answer a linear scale ranging from 1 (Never) to 6 (Always), on a series of statements, namely: mission and vision are communicated; goals and targets are well specified and communicated; plans and strategies are clearly linked to objectives and mission; actions and programs reflect mission and vision; the strategic planning process involves workshops and, finally, management has a set of clear strategic activities in the NGO. The second category involves a set of variables, such as: performance goals; performance indicators; performance objectives; performance data collection tools, rewards and penalties. Participants also respond to claims about Likert-type linear usage levels, ranging from 1 (Never) to 6 (Always), on performance goals (team goals, individual goals, and organizational goals); types of indicators used (inputs, process or activity, results/impacts, revenues, administrative costs, savings, efficiency, productivity, quality of service, beneficiary satisfaction, sustainability, innovation, supply chain effectiveness and flexibility); types of data collection tools used (key interviews with informants and focus groups; e-mail/website; phone/mobile phone interviews; research forms/questionnaires; personal/casual conversation; project/unstructured program visits, among other aspects); and, ultimately, the use of rewards and penalties (team rewards, individual rewards, layoffs, downgrades/terminations, and termination of the program or project).

After all data collection procedures were performed, the reliability of the measurement instrument was analyzed using the Cronbach alpha coefficient. Thus, the test results demonstrate a Cronbach alpha coefficient of 97%, therefore superior to the acceptable minimum parameter of 70%.

For the results analysis process, this research uses Spearman's correlation coefficient as the statistical technique, as this test is a non-parametric option of Pearson's correlation when the research variables (contingency factor and performance) are ordinal. According to Martins and Theóphilo (2009, p. 131), the Spearman Correlation test aims to measure the "intensity of the correlation between two variables as ordinal measurement levels, so that the objects or individuals under study can be arranged by ranks, in two ordered series". Thus, this statistical technique measures the intensity of relationships, not capturing the meaning because there are no determined dependent or independent variables. In this study, the Spearman correlation coefficients, which corresponded to 99% levels (p = 0.01), were considered statistically significant.

4. Analysis of the Results

Based on the collected data, statistical tests were performed to identify possible statistical significance of the relationships tested.

Considering the relationships between performance planning practices and factors associated with the external environment (Intensity of competition, Environmental dynamism and environmental uncertainty), it was verified that none of the relationships investigated presented a statistically significant Spearman correlation coefficient, suggesting that these factors did not relate to performance planning practices. Similar results were obtained when considering the performance goals and factors associated with the environment, where none of the investigated relationships had a statistically significant Spearman correlation coefficient.

Then, the relationships between the use of indicators and the factors associated with the external environment were tested. The variables related to competition and uncertainty did not present statistically significant relationships, unlike environmental dynamism. The results are displayed in Table 2.

Table 2

Correlation between Use of Indicators and External Environment (dynamism)

Use of indicators	Regulatory environment	Socioeconomic environment	Political and safety aspects	Technological environment
Input indicators	0.17	0.27	0.21	0.33
Process indicators	0.23	0.11	0.02	0.31
Output indicators	0.32	0.24	0.11	**0.39**
Impact indicators	0.36	0.18	0.04	0.34
Revenue indicators	0.19	0.23	0.16	0.30
Administrative cost indicators	0.13	0.19	0.15	0.24
Economic indicators	0.14	0.06	-0.01	0.21
Efficiency indicators	0.06	0.03	-0.10	0.16
Productivity indicators	0.09	0.04	-0.08	0.19
Service quality	0.23	0.10	-0.06	0.27
Satisfaction	0.27	0.19	0.05	0.31
Sustainability indicators	0.16	-0.02	0.03	0.15
Innovation indicators	0.30	0.01	-0.08	0.28
Efficacy indicators	0.31	0.16	0.02	0.28
Supply chain flexibility	0.07	-0.14	-0.17	-0.02

Obs. 1: The coefficients in the table are correlation coefficients
Obs. 2: Coefficient highlighted, corresponding to 99% (p= 0.01)

Source: Research data

Based on the results obtained, this time, it was verified that the use of a type of performance indicator presented a positive and statistically significant coefficient with environmental dynamism. Specifically, the use of outcome indicators is directly related to the dynamism of the technological environment, that is, possible changes in aspects such as technological innovations, for example, may lead NGO managers and presidents to use performance indicators. This result corroborated the surveys by Kaplan (2001), Wadongo and Abdel-Kader (2014) and Wadongo (2014), as the environmental dynamism variable was directly related to the use of performance measurement indicators.The relationships between the collection instruments and the factors associated with the external environment were also tested. None of the variables tested showed statistically significant relationships.The relations between rewards and sanctions and external contingency factors were also analyzed. The variables related to competition and dynamism did not present statistically significant relationships, unlike uncertainty. The results are displayed in Table 3.

Table 3

Correlation between Rewards and Sanctions and External Environment (uncertainty)

Rewards and sanctions	Government	Donors	Beneficiaries	Public and community
Team Rewards	0.17	-0.13	0.11	0.14
Individual Rewards	-0.16	-0.16	0.02	-0.16
Dismissal	-0.05	-0.01	0.04	0.12
End of the program	**0.48**	-0.02	0.11	0.37

Obs. 1: The coefficients in the table are correlation coefficients
Obs. 2: Coefficient highlighted, corresponding to 99% (p= 0.01)

Source: Research data

The uncertainty stemming from the requirements of accountability to the Government was directly associated with the sanctions linked to the termination of the NGO program or project. This result, although statistically significant, contradicted the evidence from Wadongo's study (2014), where environmental uncertainty was negatively related to performance-based rewards.

Overall, most of the evidence from this study was not in accordance with previous studies (Kaplan, 2001; Hoque, 2004; Beadongo & Balcik, 2008; Wadongo, 2014; Wadongo & Abdel-Kader, 2014), which independently of the sense of the coefficients' signals presented statistically significant relationships between the external contingency factors and the use of performance measurement practices. In addition to the specific differences between Brazilian NGOs listed in Abong and the organizations investigated previously, other factors may justify the results.

In this context, financial issues, human resources, management skills and internal communication are specific between developed and underdeveloped countries, possibly influencing the evidence found. Bromideh (2011) also highlights national and international factors. Nationally, NGOs have challenges, relationships with other NGOs and interaction with other sectors. In turn, at the international level, they present factors such as religion, politics, internationalization and financial crisis.

5. Final Considerations

The objective of this study was to analyze the relationship between external contingency factors and management practices associated with performance measurement within Brazilian non-governmental organizations. For the development of the study, a correspondence survey was used, based on the research by Ferreira and Otley (2009) and Wadongo (2014), involving 43 organizations listed in Abong. Spearman's correlation coefficient was used as the analysis technique.

Regarding the results of the correlations between management practices associated with performance measurement and external contingency factors (competition, dynamism and uncertainty), we have identified only two positive and statistically significant correlation coefficients linked to the use of performance indicators and rewards and sanctions. Initially, managerial practice performance indicators, through result metrics only presented a direct relationship with the dynamism of the technological environment. In turn, the practice of measuring performance, rewards and sanctions was positively related to the environmental uncertainty arising from the requirements of accountability to the Government. Specifically, the unpredictability of transparency requirements to the Government was directly related to the use of sanctions linked to the termination of the NGO program or project.

Based on the results, it was verified that the external environment contingency factor, through the environmental variables uncertainty and dynamism, showed evidence of a relationship in the actions of managers and presidents of Brazilian NGOs in the customization of their performance measurement management practices.

Nevertheless, the research hypothesis (H0) was rejected, as most of the relations investigated did not present statistically significant associations, contrary to the specific literature on the third sector. Therefore, external contingency factors were not significantly related to most performance measurement practices.

These results can be justified when assuming that Brazilian NGOs did not present high levels of competition, dynamism and uncertainty, that is, a representative change in the organizational configuration and in the actions of the managers towards the external environment was not necessary, as observed in internationally active NGOs.

It should be noted that the results obtained have limitations, as they are focused only on NGOs, that is, they cannot be generalized to other third-sector organizations in Brazil, besides the traditional limitations of studies originating in correspondence surveys, which are, however, dependent on the perceptions of the presidents and managers of NGOs listed in Abong.

Further research can be conducted to deepen discussions on the causes of particular associations between performance measurement practices and the external environment of third-sector organizations in Brazil. In addition, qualitative studies can be conducted with Brazilian NGOs to identify external and internal contingency factors, as well as performance measurement management practices.

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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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Objective: this study was aimed at investigating the relevance of accounting education and research for the growth of the Brazilian economy during the first decade of the 21st century.

Method: to collect the data, a structured questionnaire was used, elaborated based on the relevant literature. The questionnaire was tested and applied to a sample of Brazilian accountants and businessmen during 2017. In the analysis of these data, content analysis was applied and statistical tests were used to establish relations between the answers obtained.

Results: the main findings of this study indicate that the expansion of accounting education and research in Brazil was essential for the growth of the economy, according to the respondents' perception, despite the impression that accountants and businessmen need to make better use of the accounting information.

Contributions: from the academic viewpoint, the evidences from this research contribute to fill of an important existing gap in the Brazilian literature. What the market is concerned, they contribute by providing evidence that, despite its perceived relevance, its users need to make better use of the accounting information.

Key words: Education: Research; Accounting.

- The article itself, written in Portuguese or English, with at least 5,000 and at most 9,000 words, including tables, figures, notes and references.
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Tables and figures should be used in articles whenever their information make text comprehension more efficient, without repeating information already described in the text.

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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.

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

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