

# Methodological and Epistemological Criticism on Experimental Accounting Research Published in Brazil

## Abstract

In this article, I analyze 17 experimental studies published in Brazilian accounting journals between 2006 and 2015, in order to develop both critical and methodological criticism on these articles. First, I discuss the methodological characteristics of the experiments and the main validity threats they face, analyzing how the selected articles deal with these threats. Overall, this analysis shows a lack of consideration of the validity of the constructs used, difficulty to develop internally valid experiments and inability to express confidence in the applicability of the results to contexts other than the experimental. Then, I compare the positivist theoretical perspective these articles have in common with constructionist conceptions of the social sciences and criticize them, based on these notions. I maintain that these articles are characterized by a behaviorist approach, a reified notion of subjectivity, disregard of the cultural and historical specificities and axiological commitment to submission, instead of the emancipation of the people in relation to management control. The paper contributes to the Brazilian accounting literature in two ways: raising awareness on the challenges faced in conducting appropriate experimental designs and showing how the experimental accounting research can be problematic from an epistemological point of view, aiming to promote an interparadigmatic debate to arouse greater awareness on the subject and more robust consideration of such issues by future researchers.

**Key words:** Constructionism. Epistemology. Experiment. Accounting research. Positivism.

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## 1. Introduction

During the 1960s and 1970s, a large number of experimental studies in financial accounting were published in leading international journals (Libby, Bloomfield, & Nelson, 2002), but attracted a lot of criticism from the academic community. For Gonedes and Dopuch (1974), for example, these studies lacked theoretical support, had irrelevant results for efficient markets and considered the financial information only, ignoring the role of alternative sources of information in the financial markets. As for Swieringa and Weick (1982), these studies were focused only on cognitive aspects, neglecting feelings and attitudes; the tasks varied little and were reactive only, without the complexity or ambiguity in experimental settings; only the role of accounting information as a facilitator of decisions was analyzed, without considering its influence on these decisions after they have been taken; most experiments used considered individuals as the unit of analysis, regardless of collective interaction processes; and the focus of the studies had narrowed over the period analyzed by the authors through greater reliance on theoretical models and greater control over the experimental stimuli, to the detriment of the scope of the studies.

Because of such criticism, from the late 1970s onwards, experimental studies in accounting started focusing mainly on work on the judgment of auditors and, to a lesser extent, on management accounting (Kachelmeier & King, 2002). However, from the mid-1990s, there was a revival of experimental research in financial accounting in function of changes in the prevailing view on the efficiency of markets, the availability of new theoretical models coming from psychology, finance and economics and a broader consideration of institutional and contextual elements that affect the processing of financial information (Libby et al., 2002).

As contributions of experimental methods to accounting research, Swieringa and Weick (1982) argue that experiments can be instructive, helping researchers to discover through systematic observation, how individuals behave under the experimental conditions; Kachelmeier and King (2002) highlight the possibility of using experiments for ex-ante analyses of accounting policies, as they permit simulating scenarios not observed in practice; and Libby et al. (2002) argue that the experiments allow for the disaggregation of the effects of variables that act concurrently in natural environments.

But despite this long tradition in the international literature, experimental designs have a more recent history in the Brazilian accounting research, having started to become popular in the last decade. Hence, also reproducing an initiative already traditional abroad but not yet present in the Brazilian context, in this article, I present an analysis of 17 experimental accounting studies published in Brazilian journals between 2006 and 2015.

Even in the international accounting literature, however, criticism of the experiments usually depart from the same epistemological assumptions as the studies under review, limited to the examination of methodological issues. In this article, I try to innovate in this respect by not remaining limited to the methodology, adopting notions from social constructionist research to criticize some positivist assumptions of the 17 studies under review. The historical evolution itself of experiments in international accounting literature demonstrates the transformative role that criticism can exercise. According to Reiter and Williams (2002), interparadigmatic debates to discuss the validity of the assumptions made by different schools contribute to the progress of a discipline, defined by its degree of innovation and relevance to the community of practice.

Next, in section 2, the methodological characteristics of the experiments and the main validity threats they face are discussed, analyzing how the 17 selected articles deal with these threats. In section 3, I compare the positivist theoretical perspective, commonly adopted in experimental designs, with constructionist conceptions of social sciences and I formulate a critique of the 17 articles analyzed inspired by these conceptions. Finally, in section 4, I summarize my criticism and appoint how it can contribute to the Brazilian academic community.

## 2. Methodological Aspects of Experimental Research

Experimental designs are intended to allow the researcher to “control” all the variables that can affect a phenomenon, manipulating the variables of interest to him/her, allowing him/her to claim that the variations measured in this phenomenon only derive from the manipulated variables, i.e. the experimental treatments. According to Smith (2003), this makes the experiments “particularly suited to research questions that investigate causal relations between variables” (p. 100).

Experimental designs vary according to the combinations of some steps: the **random assignment** of subjects to experimental conditions; applying a **pre-test** to measure the dependent variable before experimental treatment; the **experimental treatment** itself, that is, the manipulation of one or more variables by the researcher; and the post-test, i.e. the measuring of the phenomenon of interest after the application of the experimental treatment. Table 1 shows some experimental designs of one variable commonly used.

When the researcher is interested in analyzing the effects of two or more experimental treatments, factorial designs may be applied, for example a 2 X 2 design, which involves four experimental conditions:  $X_1$ ,  $X_2$ ,  $X_1X_2$ , and the condition of no treatment (control group).

Table 1

**Single-variable experimental designs**

Single-group designs	Control-group designs with random assignment
One-shot case study X O	Pre-test/post-test control-group design R O X O R O X O
One-group pre-test/post-test design O X O	Post-test only control-group design R O X O R O X O
Time series design ... O O O X O O O ...	Solomon four-group design R O X O R O X O R O X O R O X O

Note. R = Random assignment; X = Experimental treatment; O = Pre-test and post-test observations of dependent variable.

Source: adapted from Gall, Borg and Gall (1996, p. 385).

Smith (2003) identifies three types of threat on the validity of experiments: the **construct validity**, related to the extent to which abstract concepts are translated into reliable measures; the **internal validity**, which indicates how well the experimental design eliminates the effects on the dependent variable of other variables than the experimental treatments; and the **external validity**, or the extent to which the findings of an experiment are applicable to individuals and environments beyond those studied. Table 2 presents a list of threats on the internal validity; and Table 3 the threats on the external validity of experiments.

Table 2

**Threats on internal validity of experiments**

Threat		Description
(a)	Maturation	Changes in the subjects can be due to the passage of time.
(b)	History	Environmental changes can also be due to the passage of time and affect the subjects.
(c)	Testing	Previous tests can by themselves affect the results of further tests.
(d)	Subject mortality	Subjects can drop out of an experiment before it ends.
(e)	Instrumentation	Measures of the same phenomenon can differ due to differences in the application of the measuring tools.
(f)	Selection	The treatment and control groups can have different characteristics.
(g)	Statistical regression	Statistical trend for successive individual results to return to the average.
(h)	Imitation of treatments	If communication is possible among the subjects, their answers may not be independent.
(i)	Resentful demoralization	Results can vary depending on the different levels of motivation created by the different experimental treatments.

Source: adapted from Smith (2003, pp. 109–111).

Table 3

**Threats on the external validity of the experiments**

Threat		Description
(A)	Population validity	The research samples may not be representative of a larger population.
(B)	Ecological validity	The research findings may not be generalizable based on the experimental context to distinct environmental conditions.
(C)	Temporal validity	The research findings may not be generalizable in time.

Source: adapted from (2003, pp. 111–112).

## 2.1 Methodological criticism on experimental accounting research published in Brazil

Table 4 presents my analysis of the threats on the validity of the 17 articles that employed experimental designs in accounting research published in Brazil. I identified these articles through a search for the terms **experiment** or **experimental** in the titles, abstracts or key words of articles published in Brazilian accounting journals, undertaken on 01/14/2016 in the repository *Scientific Periodicals Electronic Library* (SPELL). After reading the abstracts of all articles identified in this search, I excluded the articles on Marketing, Finance and Education.

Table 4

**Analysis of experimental accounting research published in Brazil**

Article	Construct	Internal validity <sup>a</sup>										External validity <sup>b</sup>		
		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(A)	(B)	(C)	
Beuren, Beck e Popik (2015)	☒	N/A	N/A	☒	N/A	N/A	✓	x	⊗	x	☒	☒	x	
Santos (2015)	x	N/A	N/A	☑	x	x	✓	x	⊗	N/A	⊙	x	x	
Carvalho, Silva, Mendes e Silva (2013)	x	N/A	N/A	N/A	N/A	x	x	N/A	⊗	N/A	x	x	x	
Cesar, Boggio, Fregni e Campanhã (2012)	☑	✓	N/A	✓	x	✓	N/A	x	⊗	N/A	x	x	x	
Dantas, Dantas e Silva (2012)	x	N/A	N/A	N/A	N/A	☒	✓	N/A	⊗	N/A	x	x	x	
Lima, Rodrigues, Silva e Silva (2012)	x	N/A	N/A	x	N/A	✓	N/A	x	⊗	N/A	x	x	x	
Lima Filho, Bruni e Sampaio (2012)	x	N/A	N/A	x	N/A	x	N/A	N/A	⊗	N/A	⊙	x	x	
Marcelino e Bruni (2012)	✓	N/A	N/A	x	x	☒	☒	N/A	⊗	N/A	⊙	x	x	
Borges, Vieira e Silva (2011)	x	N/A	N/A	☒	N/A	x	x	N/A	⊗	N/A	☒	x	x	
Cardoso, Mendonça, Oyadomari e Correio (2010)	x	N/A	N/A	x	N/A	x	N/A	N/A	⊗	N/A	x	x	x	
Silva, Gonçalves, Tavares e Lima (2010)	x	N/A	☒	x	N/A	☒	x	N/A	☒	N/A	⊙	☒	x	
Alves e Borba (2009)	x	N/A	N/A	x	N/A	☒	✓	N/A	✓	N/A	⊙	☒	☒	
Cardoso e Aquino (2009)	x	N/A	N/A	x	N/A	x	✓	N/A	⊗	N/A	⊙	x	x	
Carvalho Junior, Rocha e Bruni (2009)	✓	N/A	N/A	x	N/A	N/A	✓	N/A	⊗	N/A	x	x	x	
Mendonça Neto, Cardoso, Oyadomari e Silva (2009)	☒	N/A	N/A	N/A	N/A	N/A	✓	N/A	⊗	N/A	☒	☒	x	
Cardoso, Riccio e Lopes (2008)	☒	N/A	N/A	x	N/A	N/A	✓	N/A	⊗	N/A	☒	x	x	
Murcia e Borba (2006)	x	N/A	N/A	x	N/A	x	N/A	N/A	⊗	N/A	☒	x	x	

Note. P = Mitigated; R = Partially mitigated; O = Not mitigated; Q = Admitted; V = Improbable; X = Justified by references; N/A = Does not apply.

a According to Table 2; b According to Table 3.

Source: elaborated by the author.

Despite dealing with abstract concepts, such as decision making; ethical disengagement; congruence of information; level of disclosure; heuristics; incentives; accounting choices; and semantic and epistemic vagueness, most of these articles do not even acknowledge that the constructs applied to “measure” these variables can be problematic. Notable exceptions are Marcelino and Bruni (2012) and Carvalho Junior, Rocha and Bruni (2009), but their validity claims are based more on statistical evidence than on convincing arguments on the feasibility of measuring price justice, knowledge level or academic performance.

Alves and Borba (2009) are the only authors to explicitly express that they asked their research participants not to communicate with one another, but it does not seem likely that other researchers did not do so either. Except for this possibility, among the 17 articles analyzed, only Mendonça Neto, Cardoso, Oyadomari and Silva (2009) is not subject to any internal validity threat. It is important to note that, when the authors admit a potential threat, although reporting it is a good research practice, this does not eliminate its effects.

In terms of external validity, some authors cite research conducted in Anglo-Saxon contexts (Elliott, Hodge, Kennedy, & Pronk, 2007; Libby et al., 2002; Liyanarachchi & Milne, 2005) as evidence that students are good substitutes for professionals, without discussing whether the Brazilian context is comparable to the context investigated in those studies; some claim that a distinctive feature of their work is the test of a psychological theory in an “accounting environment”, without discussing whether the resolution of an exercise in class is comparable to the decision-making process in an organizational context; and none of the authors, except Alves and Borba (2009), acknowledge that their findings may be specific to a given period.

On the whole, the contributions of all experimental accounting research analyzed in this article, related to the advancement of knowledge, can be questioned under the methodological premises characteristic of this approach. Although the feasibility conditions are specific to each case, it seems reasonable to argue that the experimental designs, given their own logic, represent a major challenge to researchers in accounting. In my view, however, such methodological difficulties are not even the main drawback of experimental designs, since the philosophical assumptions they are based on are quite problematic when studying social phenomena like accounting.

### 3. Epistemological Premises in Social Sciences

Experimental research designs were initially developed in the natural sciences. According to Gall, Borg and Gall (1996), “the success of experiments in this field is due to the fact that physical matter is quite adaptable to study and control in a laboratory” (pp. 367-368). The authors acknowledge, however, that “it is doubtful whether rigorous experimental control ever can be achieved in the behavioral and social sciences” (p. 368).

Imported into the humanities and social sciences, such as accounting, experimental designs entail a number of underlying assumptions characteristic of the positivist theoretical perspective: a realistic ontology that asserts the existence of a “real” world of objects, and an epistemology that does not only claim that such objects exist by themselves, but also “have meaning prior to, and independently of, any consciousness of them” (Crotty, 1998, p. 27).

Positivism is based on empiricism to mark a distinction between objective knowledge, thus considered the knowledge that is empirically verifiable; and subjective knowledge produced in the human mind. This distinction also underlies the foundations of the opposition between facts and values and the goal of a value-neutral science, which “positivistically minded scientists tend to uphold with a significant degree of fervour” (Crotty, 1998, p. 27).

Mainstream accounting research, imbued with the positivist paradigm, takes some of its assumptions, such as the hypothetical-deductive model of scientific explanation, the existence of an empirical reality external to the subject, and a characterization of humans as passive objects rather than builders of social reality (Chua, 1986). However, positivism has attracted a lot of criticism on the social sciences because of its premise of a reality independent to the reports made of it and the consequent denial of a role for social action in the creation and maintenance of social facts. For example, Tinker, Merino and Neimark (1982) question:

In what sense can we touch an equilibrium, see a bliss point or smell an income number and verify their character and existence in the same way that we can (say) with an element or a sulphur crystal? Are personalities, market prices, pluralistic ideologies, role structures, costs, growth paths, culture, dissonance, motivation and leadership, items that we can show, unequivocally, exist “out there”; or are they imputations, contrivances and projections that originate from within ourselves and our social relations? (p. 169).

Although the view adopted by positivism that knowledge has certain and secure foundations dates back to ancient Greek philosophy and is the epistemological foundation of Western science, in the social sciences, it has received heavy attacks (Crotty, 1998). Glynos and Howarth (2007), for example, highlight a fundamental ontological difference between the natural and the social sciences: the fact that humans are self-interpretative and meaning-producer animals, which leads to unpredictability of social phenomena. Thus, they criticize the prevailing hypothetical-deductive model of explanation in the social sciences, trying to emulate the natural sciences in the search for general laws that permit deductions, given a set of assumptions.

One major source of criticism against positivism in the social sciences stems from a constructionist epistemological perspective. According to Crotty (1998), constructionism

Is the view that all knowledge, and therefore all meaningful reality as such, is contingent upon human practices, being constructed in and out of interaction between human beings and their world, and developed and transmitted within an essentially social context (p. 42).

Constructionism does not deny an ontological existence to objects, but maintains that the meanings are constructed rather than discovered, based on the interaction between subject and object, between human beings and their world. Therefore, it is neither objectivist nor subjectivist; or perhaps better, it is both because, although it denies the objects an intrinsic essence, they participate in the construction of meaning by limiting the possible meanings ascribed to them (Crotty, 1998).

Many constructionists also emphasize the social character of the ascription of meanings, arguing that “while we individually engage in acts of production of meanings, these acts are significantly mediated by cognitive schemata and language that we get in our societies” (Prasad, 2005, p. 14, our translation). Jørgensen and Phillips (2002) list some key assumptions of constructionism: a critical approach to common sense; a focus on historical and cultural specificities; a link between knowledge and social processes; and a link between knowledge and social action.

Constructionism emphasizes the contingent nature of knowledge, emphasizing its location in time and space, rejecting the reification of social reality, described by Berger and Luckmann (1967) as

The apprehension of human phenomena as if they were things, that is, in non-human or possibly supra-human terms. Another way of saying this is that reification is the apprehension of the products of human activity as if they were something other than human products – such as facts of nature, results of cosmic laws, or manifestations of divine will (p. 106).

From a constructionist viewpoint, the premises underlying experimental research designs are very problematic. In fact, the very idea of conducting experiments in social sciences like Accounting is questionable.

### 3.1 Epistemological criticism on experimental accounting research in Brazil

In this section, I use the articles listed in Table 4 to exemplify some of the epistemological problems, from a constructionist viewpoint, when conducting experiments in Accounting. My criticism rests on four foundations: the behaviorist approaches employed in these articles; their reified notions of subjectivity; their disregard for cultural and historical specificities; and their submission to a logic of control of human beings instead of an emancipatory logic.

### 3.1.1 Behaviorist approach

While constructionists often emphasize the social nature of social phenomena, most experimental research designs are based on a behaviorist tradition that virtually ignores this aspect, placing it under generic labels like “context”, “environment”, and focusing, instead, on individual behaviors. In addition, the mental processes associated with human cognition are also hardly considered, since most experiments are limited to observation of individual behaviors under experimental conditions. Research participants are treated as black boxes that react to external stimuli, and when their behaviors are not consistent with the assumptions of the researchers, they present highly speculative interpretations.

Thus, reporting that participants in their experiment did not show risk aversion in gain situations, Cardoso et al. (2008) state that this “could be related to the amounts involved, or even some other cultural variable that has not been studied in this research and can be particular to the Brazilians” (our translation). Alves and Borba (2009) state that, if they had interviewed the subjects of their experiments, that could have helped to explain why some of them pointed to the environmental accounting information as relevant in their decision making, even in a low disclosure scenario. But, as their hypotheses did not predict this possibility, the authors did not include this procedure in their research design. Mendonça Neto et al. (2009) justify that, for not lying within the scope of their investigation, there was no explanation as to why women without work experience were not subject to the framing effect in a decision process based on accounting information. Dantas, Dantas and Silva (2012), then, consider two hypotheses about the fact that women in their sample prove indifferent to moral incentives, while Marcelino and Bruni (2012) consider three different possible explanations for the fact that the numerical cognitive bias number was found in only one of the four problems proposed.

In this regard, the most curious case is that of Cesar, Boggio, Fregni and Campanhã (2012). They developed a decision-making game in which the participants had to choose investment targets based on financial information presented in graphical form, with an implicit rule for correct answers, and applied this game to subjects connected to an electroencephalograph. However, the most interesting insights from their research came from a question they asked to all participants after the end of the game, about what they had taken into account to choose their goals. Therefore, however, it was necessary for the authors to take distance from narrow dogmas of behaviorism, not limiting themselves to observing the subjects, but also considering how the subjects themselves interpreted their behaviors.

### 3.1.2 Reified notion of subjectivity

Given the behaviorist inspiration of the articles analyzed, whose research designs, except for Alves and Borba (2009) and Cesar et al. (2012), do not take into account the evaluation of the participants about the mental processes employed, many authors resort to economic or psychological theories about the process of human decision making to interpret their research findings. The Prospect theory developed by Kahneman and Tversky (1979), for example, is referenced by 11 of the 17 articles under analysis and figure among the main theoretical foundations in Cardoso et al. (2008), Carvalho Junior et al. (2009), Lima Filho et al (2012) and Carvalho et al. (2013).

These theories, however, are based on what Jørgensen and Phillips (2002) call “the standard Western understanding of the subject as an autonomous and sovereign entity” (p. 15). Experimental research that adopts these kinds of theories attempts to describe a kind of transcendental “human nature”, located in a vacuum of culture and history and, once again, ignoring the social nature of human experience.



Santos (2015) states that “the employee about to leave his function has no incentive to engage in actions that are aligned with long-term interests of the company” (p 197, our translation); Lima et al. (2012) claim that “if investors are unable to identify precisely the future business performance, they tend to use an average price for all entities” (p 160, our translation); based on a literature review, Marcelino and Bruni (2012) state that “there is a distinction between the components of the processing of Arabic numerals and the components of verbal numerical processing” (p 99, our translation); according to Cardoso et al. (2010), their results suggest that “when economics are emphasized, people often reason with real values, but when aspects related to the well-being are emphasized, the nominal values prevail” (p. 58); Carvalho Junior et al. (2009) state that “human beings make their decisions based on a very limited number of available information, which does not allow them to be fully rational in this process, especially in a business environment” (p. 20); Mendonça Neto et al. (2009), based on a literature review, state that “people tend to make decisions based on summarized and simplified information” (p. 117); according to Murcia and Borba (2006), “managers, accountants, economists and decision makers in general do not like the feeling of having invested time and money in vain” (p. 227).

The universality of these claims about “natural” properties of humans contrasts with constructionist approaches, affiliated with the premise that the social world is shaped by language, understood as a dynamic form of social practice, which “entails the view of mental processes and categories as constituted through social, discursive activities rather than as ‘internal’” (Jørgensen & Phillips, 2002, p. 96). Adherence to a reified notion of subjectivity, however, inhibits these researchers to pay due attention to culture and history.

### 3.1.3 Disregard of cultural and historical specificities

The conception of subjectivity as a natural, constant and universal phenomenon in the articles analyzed is consistent with the reductionist character of experimental designs, which exclude, a priori, many historical and cultural elements as a source of explanation for the phenomena analyzed. Thus, only generic information about the contexts of the participants are provided: the articles usually report that the experiments were conducted with “post-graduate students in Salvador” (Marcelino & Bruni, 2012), or “graduate students from a federal university” (Murcia & Borba, 2006), without discussing, for example, the curricular approach of each institution (Toohey, 1999); the life stories of the participants are translated into “variables” like age, course, year of schooling and work experience, as if they represent homogeneous experiences; gender is reported in nine articles and taken into account during the analysis of the results of five of the 17 articles, but is treated only as a biological variable, not as a concept (Young, 2015); Beuren et al. (2015) explicitly express their desire to “simplify” the budget process. By including professionals from a single organization in their sample, the authors do not seek greater immersion in the context of the participants’ performance, but the assurance that “the cultural elements, at a certain level, will be maintained” (p. 13, our translation). Moreover, they suggest that “specific characteristics of the participants, given the organizational culture they are part of” (p. 24, our translation) are addressed in other studies.

Thus, contextual factors are hardly articulated in the analysis of the results: characteristics specific of the Brazilian context are taken into account only by Alves and Borba (2009), Cardoso et al. (2010) and Carvalho et al. (2013). Moreover, the survey results are analyzed and sometimes compared to foreign publications, as if the history and local culture were irrelevant to understand them.

This lack of contextual integration is aggravated by a simplistic understanding of the role of accounting, defined as providing useful information for making economic decisions, or some variation around that in most articles. Young (2006) describes the historical development of this assumption in the US, now incorporated in the common sense of the area; Burchell, Clubb, Hopwood, Hughes and Nahapiet (1980) describe “the roles which accounting serves as being intertwined in the contexts in which it operates”, and point to “the diversity of functions which can be associated with even a single accounting” (p. 22); Carruthers and Espeland (1991) argue that accounting has both technical and rhetorical dimensions, and that the latter implies an understanding of accounting as an attempt to legitimize commercial projects before an audience; and Hines (1988, 1991) argues that accounting plays an important role in the construction of social reality, claiming that the vision of accounting as a mere representation of an independent economic reality is based on mundane reasoning.

The adoption of this problematic concept of accounting, which contributes to obscure its partisan nature in social conflicts, together with lack of attention to contextual conditions, allows most authors to implicitly align with a conservative project to intensify the management control.

### 3.1.4 Control instead of emancipation

Control is a pervasive theme when it comes to experimental research designs - the purpose of the experiments is precisely to allow researchers to control, manipulate and measure events. For example, Cesar et al. (2012) report that the procedures for the use of an electroencephalogram require the submission of the subject to the

low complexity of stimuli, their presentation at a specific visual distance, ensuring that the display of the stimuli and the subsequent response do not require movement beyond the touch of a keyboard (the subject cannot move the head, for example), noise control in the data collection environment, among others (p. 34, our translation).

This description, an example of how rigorous experimental control can be, is not the only form of control desired by the authors of these 17 articles though, and not even the most problematic form, given the elementary ethical requirement of informed consent. But imbued with the Enlightenment project of control over nature (Horkheimer & Adorno, 2007), they also seek to develop means of predicting human behavior to make it manageable.

To give an example, Cesar et al. (2012) argue that the applicability of its results ranges “from the development of decision support systems to the discussion of compensation systems based on goals related to conditioning between goals achievement and personal results” (p. 49, our translation); according to Lima et al. (2012), the main contribution of their study is that “if proven the association between level of disclosure and stock price, detailed disclosure of information can be configured as a competitive distinction among companies, reducing the effects of adverse selection and adding more value to the entities” (p 162, our translation); according to Lima Filho et al. (2012), identifying how age and other variables influence decision making “is essential to check the most desired or more suitable profile according to the activities each manager is to perform” (p 113, our translation); Marcelino and Bruni (2012) intend to contribute to improve the process of decision making, since “the biases present in management decisions may potentiate the risk of occurrence of bad decisions” (p 89, our translation); Santos (2015), to discuss the situation of managers whose perception of continued employment is below the excellent investment horizon of the company, claims that the situation “can induce myopic behavior of these agents and compromise the company’s ability to create value over time” (p. 196, our translation); Beuren et al. (2015) investigated the phenomenon of the budget slack, defining the level of such slack as “accuracy” of budget reports, and their non creation by managers as “honesty”: “accurate” are the interests of the organization and possible ways of resistance to management control are “dishonest”.

In line with a unitary perspective in which “the organizational logic of the enterprise is seen as pointing towards a unified authority and loyalty structure with managerial prerogative being legitimised by all members of the organization” (Fox, 1973, p. 186, cited by Amernic, 1988, p. 147), this managerial approach contrasts markedly with critical accounting research, adopting a constructionist epistemology, “committed to the emancipation of humans from the constraints imposed by other humans” (Lukka, 1990, p. 243), whose objectives are usually articulated in terms of promoting social justice instead of managerial efficiency.

Thus, the claims on objectivity and independence of scientific discourse, resulting from the positivist perspective underlying experimental designs, permits concealing one axiological commitment to the maintenance and reproduction of the highly partisan role accounting plays in social conflicts (Tinker et al., 1982). An intriguing exception, however, is the case of Murcia and Borba (2006), whose appeal on universities to better prepare their students for the labor market, is inspired by Paulo Freire’s ideas, an author renowned for his emancipatory approach to education.

## 5. Final comments

In the first part of this article, I analyzed, according to its own logic, the experimental designs used in 17 articles published in Brazilian accounting journals. In general, this analysis revealed a lack of evidence on the validity of the constructs used to measure abstract concepts, a difficulty to design internally valid experiments and an inability to express confidence in the applicability of research results to organizational environments, except in terms of faith. Regardless of the method used, conducting research of quality is not simple. Therefore, the aim of this part of the article is to alert future researchers to the challenges that the experimental designs require and call upon them to consider these aspects in a more robust way.

But, then, I also discussed the epistemological foundations of experimental research. I argued that the experimental designs used in these 17 articles adopt a positivist theoretical perspective that underestimates the social aspects of human experience. Thus, they are characterized by a behaviorist approach, by a reified notion of subjectivity, by a disregard of the cultural and historical specificities, and a commitment to the submission, instead of the emancipation of the people in relation to management control.

A good challenge to this second part of my argument would be that I am criticizing the articles analyzed for not being something they do not intend to be. However, none of these articles clearly articulates what they want in epistemological terms, or which are the foundations they rest on. This is symptomatic of the acceptance of the positivist assumptions in their main audience, which is the academic community of Brazilian accounting, but I believe that an explicit consideration of these aspects can also contribute to improve the quality of future research, and that an interparadigmatic debate, as I propose in this article, may help to increase the maturity of the community.

Another aspect that has not been taken into account in my analysis, for lack of evidence that would permit a better basis for discussions, are the conditions in which these studies are produced. Nevertheless, I think the lack of resources to conduct academic research in the Brazilian accounting area can partially answer the weaknesses identified, particularly in methodological terms. It should also be highlighted, once again, in accordance with Gall et al. (1996), that the conduct of experiments in behavioral and social sciences with the same level of rigor as the natural sciences is an ideal many regard as impractical.

I believe that, throughout the text, my highly skeptical stance on the use of experimental designs in accounting research has become clear. Thus, I do not feel free to submit a list of recommendations for future experiments, since I myself hardly employ such method. When the experimental research is starting to gain popularity, the main contribution which I hope to give the national academic community through this article is a call to reflexivity. If future researchers read the arguments herein, judge their relevance for their research and seek ways to minimize or avoid the problems I appoint, I will have fulfilled my goals more than satisfactorily.

Nevertheless, I believe that the incorporation of constructionist ideas would require greater engagement of researchers with participants of their research, trying to understand the contexts these participants come from and the mental processes they use. In this sense, Swieringa and Weick (1982) also suggest a greater interaction between researchers and participants in order to increase the capacity of experiments to foster learning about the events analyzed, and Kachelmeier and King (2002) encourage creativity in developing designs that integrate elements of different aspects of experimental research. However, this would go against the ambitions of “independence” and “objectivity” common to experimental designs, that is, to be more suited to constructionist assumptions, perhaps the experiments need to be less experimental. Whether experimental methods necessarily imply positivist premises or can be employed in other epistemological premises is a question that I leave open, due to the lack of an example in this sense between the articles analyzed.

A final consideration that I would like to reinforce is on the very understanding of accounting expressed in these articles. The uncritical reproduction of the discourse coming from standard-setters and regulators, that the sole purpose of accounting is to “provide useful information for making economic decisions,” not only underestimates the social and organizational roles of accounting, but also inhibits innovation in accounting research. If we are to increase the quality of Brazilian accounting research, something I intend to contribute to through this article, we need to see Accounting in a more elaborate way, considering many other aspects of its operation.

## 6. References

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