

A study about Accounting Publications from a Semiotic Focus

Abstract

This paper was aimed at analyzing the contributions of semiotics teaching in Accounting. The actual development of semiotics as a modern science, which focuses on any language form, was only acknowledged between the 18th and 19th centuries. Since then, several authors have studied this theme, using semiotics as an instrument to analyze other sciences. Many authors classify Accounting, considered a science, as a language. Hence, it can be analyzed based on the premises of semiotics. In this study, bibliographic research and content analysis are used, the latter applied to the papers published about the theme in the following congresses: *Associação Brasileira de Custo, USP de Controladoria e Contabilidade* and *Encontros da ANPAD*. In addition, a search was undertaken in 22 international scientific Accounting journals. In conclusion, few theoretical contributions have been published in Brazilian congresses and in international scientific journals, but mainly practical contributions about the use of semiotics in Accounting.

Key words: Accounting; Semiotics; Discourse analysis.

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1. Introduction

According to Watzlawack, Beavin and Jackson (1971), the first axiom of communication affirms that it is impossible not to communicate. Each person, object, force or organization communicates continuously. This communication often takes places involuntarily because it goes beyond the limits of writing or speech and can assume other forms of expression. A historical conditioning has aroused the impression that the sole forms of knowledge about the world are those disseminated by language, in its verbal, oral and/or written manifestation (Santaella, 1983). Saussure (2006) sustains this understanding when discussing the prestige of written in comparison with spoken language. One of the explanations for this phenomenon is the impression the graphical images of words cause, as a solid and permanent object, which is more adequate than the sound of speech to constitute language over time.

All things communicate somehow, whether through sound, color, mode or performance, establishing a sense, a meaning. The consequence of this elementary fact – that the world has meaning – is that each person or organization's behavior (including the absence of behavior) is a potential source of communication (Volli, 2004). In this context, the premises of semiotics can be applied and thus contribute to any and all sciences, but mainly to those that use their own jargon, like Accounting for example. "Semiotics has a double relation with sciences: it is at the same time a science among the sciences and an instrument of sciences" (Morris, 1976, p. 10).

In this perspective, this study was aimed at analyzing the contributions of using semiotics knowledge in the elaboration of scientific studies in Accounting. It is relevant to the extent that it identifies the existing lack of studies that use semiotic theory or practice in Accounting, a very relevant theme due to this science's potential as a support instrument for the advancement of other sciences.

The paper starts with this introduction, followed by a literature review about semiotics and its connection with Accounting. Next, the study method is presented. Then, the research results are described and interpreted. Finally, some final considerations about the theme are presented, as well as the bibliographic references used.

2. Semiotics and its Link with Accounting

In this chapter, a literature review about Semiotics is presented, aimed at understanding its relation with Accounting.

The word semiotics comes from the Greek root *semeion*, which means sign. In the historical roots of sciences, a distinction is due between the development of semiotics itself and semiotic trends *avant la lettre*, that is, before its more complete development. Semiotics itself was inaugurated by philosophers like John Locke (1632-1704) and Johann Heinrich Lambert (1728-1777). Semiotics *avant la lettre*, on the other hand, comprises all research about the nature of signs, signification and communication in the history of sciences. These studies started with the origins of philosophy (Nöth, 1995). This phase of semiotics *avant la lettre* was present in very ancient reflections, focused on signs and language itself. Ever since the pre-Socratics Plato and Aristotle, the Stoics, Augustine and Scholastica herself, comprising all of modern philosophy, as from Descartes (Nöth, 1995; Volli, 2000). A double relation exists between the signs and science. The signs and science are closely connected, as science simultaneously offers man more reliable signs and expresses its own results in a system of signs (Morris, 1994).

The actual development of semiotics as modern science was only acknowledged between the 18th and 19th centuries. The first to discuss it were the linguist Ferdinand de Saussure and the philosopher, mathematician and logician Charles Sanders Peirce. Thus, current semiotics followed two different branches: (a) the structural branch, deriving from de Saussure; (b) interpretive semiotics, deriving from the philosopher Peirce. Since these authors' contributions, different experts have worked to develop and improve the established ideas and concepts, particularly in the work by: Louis Hjelmslev, Claude Lévi-Strauss, Algirras J. Greimas and Umberto Eco, to name but a few (Nöth, 1995).

De Saussure's structural current considers language through the distinction between the social and the individual. While the social rests in language, it is speech that contains the individual. Language (minus speech) "appears to the individual as a pre-existing system, a social institution that historically accumulates a range of values and about which, in principle, the individual has no influence as an individual" (Coelho 1990, p. 18). Therefore, language takes the form of a system of rules, set by a given society, while speech is a process that grants concrete existence to language. The latter is a system of signs that express ideas, for example: writing, the alphabet of the deaf, symbolic rites, forms of politeness and military signs. This definition of language places this branch in the field of semiotics, as it consists of a system of signs, belonging to a language. This theoretical perspective expresses the relation between language and speech.

Language and speech: each of these two terms obviously only derives its full definition from the dialectic process that joins both: there is no language without speech and no speech beyond language. (...) Language and speech therefore exist in a relation of mutual understanding; on the one hand, there is language as the collective sum of individual marks, which can only be incomplete at the level of each isolated individual; language only exists perfectly in the 'speaking mass' (Barthes, 2006, p.19).

The linguistic sign is defined by the union, not between a thing and a word, but between a concept and an acoustic image or, better, a signifier and a meaning. The acoustic image is not a material sound, a purely physical thing, but the mental impression this sound leaves behind, registered based on our meanings, so this image is sensorial (Saussure, 2006).

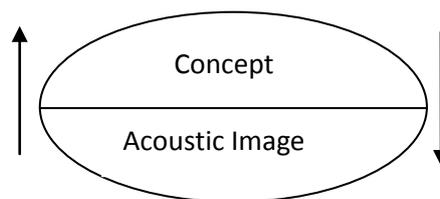


Figure 1. Sign

Source: Saussure (2006).

Thus, according to Saussure, the sign is a binary scheme, as an entity that consists of two parts. In line with another perspective, interpretive semiotics, the sign is a triad entity. According to Peirce (2008), a third element exists, which he called *interpreter*. This indicates that the sign relation should be understood as a triad, and not as binary in accordance with Saussure. Thus, according to Saussure, the sign concept corresponds to the relation between two elements and, according to Peirce, between three.

In line with Peirce, the sign can be defined as follows:

the process in which something functions as a sign can be called *semiosis*. (...) this process implies three (or four) factors: the one that acts as a sign, the one the sign alludes to, and the effect it produces in a given interpreter because of which the thing in question represents a sign to him (Morris, 1994, p. 27).

The composition of the sign would be defined as follows: the *sign vehicle*, the *designatum* and the *interpreter* (Morris, 1994). According to Eco (2009), Peirce's definition offers somewhat more; it does not require intentional emission and artificial production as necessary conditions to define the sign. Peirce's triad can also be applied to phenomena without a human issuer, but a necessarily human addressee.

Based on these initial concepts, the field of semiotics can be understood as any and all forms of language, in any and all forms of communication. According to Santaella (1983, p. 13), "Semiotics is the science that focuses on all possible languages, i.e., which is aimed at investigating how any and all phenomena are constituted as phenomena that produce sense and meaning". The importance of studying se-

miotics is based on the premise that, without information, no message is transmitted, which does not permit different subsequent actions, such as planning, reproduction, process and control (Santaella, 1983). Semiotics is the base to understand the main forms of human activity, as it offers a general language, applicable to any other form of communication and, consequently, applicable to the language of any and all sciences (Morris, 1994).

It should be clarified that, despite some similarities with semiotics, the theme “discourse analysis” establishes another perspective on communication. Like content analysis, discourse analysis works with linguistic units superior to the phrase (statements).

But as its objective exists in the same dimension as the purely linguistic dimension it consequently derives from – formulating the rules to link the phrases, that is, describe the units (the macro-units, which are the statements) and their distribution in detail – it is difficult to situate it as a continuity of (and even instead of) content analysis (Bardin, 2009, p. 46).

Therefore, in the case of discourse analysis, the analysis unit is the statement, and not the sign itself, like in the case of Semiotics.

The sense of the relation between Accounting and Semiotics is based on the perspective of looking at the first. In that sense, it is important to reconsider the understanding about Accounting that permits this relation. Accounting is a science that covers a systemized knowledge set, with its own principles and standards. Basically, its function is to register, classify, demonstrate, audit and analyze all changes in organizations’ equity, with a view to providing relevant information for decision-making by its managers, as well as by other organizational stakeholders (Franco, 1996). These accounting activities follow specific procedures that characterize and define it. In other words, it is shaped by its own language, a system of codes that responds to the specific particularities of accountancy. This is also the case when it uses numbers only. While the negative status of the number two is represented as “-2” in mathematical language, in Accounting, it is represented as “(2)”. Examples like this can illustrate differences between accounting and other languages, and also supports the understanding that Accounting can be classified as a language.

When discussing the theme, Hendriksen and Van Breda (1999, p. 29) affirm that “Accounting is a language. Many consider it as the language of business (...); accounting figures and classifications vary with regard to possible interpretations by the reader of financial statements”. Accounting basically uses its own language to transmit the registered facts to all users who are interested in this information (Anthony, Hawkins & Merchant, 1975; Ijiri, 1975; Belkaoui, 1995). When considering Accounting as the language of business, it could be related to Semiotics. As, according to Santaella (1983), Semiotics is a science that permits studying all languages, it could be of help in accounting research, with the relation between users and the normative system as an example of a possible research focus.

3. Methodological Considerations

This research is characterized as bibliographic, to the extent that articles published in congresses and international journals are analyzed. It was undertaken in two phases: first, publications in Brazilian congresses were reviewed, followed by those in international scientific journals. Figure 2 summarizes the congresses’ characteristics.

Event	Characteristics
Congresso Brasileiro de Custos (CBC)	Main corporate cost event in Brazil. Its first edition took place in 1994.
Encontro da Associação Nacional de Pós-Graduação e Pesquisa em Administração	Currently the largest Brazilian scientific and academic event in business administration. Its first edition took place in 1976.
Congresso USP de Controladoria e Contabilidade	Promotes debate on innovative ideas about Controllershship and Accounting theory and practice. Its first edition took place in 2001.

Figure 2. Summary of Congress characteristics

Source: Associação Brasileira de Custos (2009), Associação Nacional de Pós-Graduação e Pesquisa em Administração (2009), and Congresso da USP de Controladoria e Contabilidade (2009).

Evidence was collected from the electronic files of those congresses, in different periods, distributed as follows: from the 1st until the 15th edition, between 1994 and 2008, of the Congresso Brasileiro de Custos; from the 22nd until the 32nd edition, between 1998 and 2008, of the Encontro da Associação Nacional de Pós-Graduação e Pesquisa em Administração; and from the 1st until the 8th edition, between 2001 and 2008, of the Congresso da USP de Controladoria e Contabilidade. The electronic files were obtained from the respective websites or congress CD-ROMs. As regards the Encontro da Associação Nacional de Pós-Graduação e Pesquisa em Administração (EnAnpad), given the large number of theme areas, more specifically in Business Administration, the research was restricted to papers in the theme area Accounting, namely:

- Accounting and Management Control (CCG)
- Finance and Accounting (FIC)
- Accounting (COM)

All theme areas were used for the other congresses and its publications were reviewed.

To select the articles, they were analyzed based on the identification of words in the titles and respective abstract. The following words were investigated: (1) semiotics; or (2) discourse analysis. All papers that contained these words were recovered in full and analyzed to validate those that attended to the research focus. The selected validated files constituted the analysis corpus.

Then, a review was undertaken in international journals, based on the reference base EBSCOHost, which offers the database Business Source Complete for consultation. Only those papers the database indexed as scientific were considered valid, whose full text was available, had been published as from 1990, limited to the main specific journals on accounting (22). The following search terms were used: Semiotic, semiologic, sign, discourse analysis, language theory, in the fields: title, abstract and key words, combined with the terms accounting, accountancy and bookkeeping.

4. Results

4.1 Research Results in Brazilian Events

The search was aimed at identifying studies in which Semiotics knowledge was addressed as an instrument for analysis in accounting research. Thus, seven papers were identified, all of them in Portuguese, distributed across the different congresses, as presented in Tables 1 to 3.

Table 1

Publications on Semiotics in the Congresso Brasileiro de Custos

Year	Edition	Number of articles on semiotics	Total Number of Articles
1994	1	0	27
1995	2	0	88
1996	3	0	46
1997	4	0	51
1998	5	0	79
1999	6	0	120
2000	7	0	166
2001	8	1	157
2002	9	1	183
2003	10	0	140
2004	11	0	251
2005	12	0	350
2006	13	0	212
2007	14	0	238
2008	15	0	259
Total		2	2,367

Source: Associação Brasileira de Custos (2009).

In the different editions of the Congresso Brasileiro de Custos (Table 1), two papers were found that complied with the research criteria. They represent 0.08% of all congress papers, considering all 15 editions.

Table 2

Publications on Semiotics in the Congresso EnAnpad

Year	Edition	Number of Articles on Semiotics	Total Number of Articles
1998	2	0	12
1999	3	0	10
2000	4	0	21
2001	5	0	23
2002	6	1	47
2003	7	0	57
2004	8	0	70
2005	9	0	70
2006	10	0	71
2007	11	1	94
2008	12	0	70
Total		2	545

Source: Associação Nacional de Pós-Graduação e Pesquisa em Administração (2009).

In the Congresso EnAnpad (Table 2), two articles were also found, equivalent to 0.37% of all congress articles, considering all 11 editions. Three articles were found that complied with the research cri-

teria, representing 0.37% of all articles published during the eight editions of the Congresso da USP de Controladoria e Contabilidade (Table 3).

Table 3

Publications on Semiotics Congresso USP Controladoria e Contabilidade

Year	Edition	Number of Articles on Semiotics	Total Number of Articles
2001	1	1	74
2002	2	0	85
2003	3	0	101
2004	4	2	100
2005	5	0	100
2006	6	0	150
2007	7	0	120
2008	8	0	84
Total		3	814

Source: Congresso da USP de Controladoria e Contabilidade (2009).

Despite the small share of the theme in the total number of papers presented during all congresses, it signals the emergence of this kind of research. Its hardly expressive role could mean a lack of recognition regarding its potential contribution to the scientific development of Accountancy. In addition, the area's traditional hermeticism and lack of knowledge about the instrument may have discouraged the inclusion of this perspective on Accounting.

In Figure 3, the titles of the seven papers found are displayed, classified by congress, year and edition.

Event	Year	Edition	Title
CBC	2001	8	A Phenomenological Look on the "res" of Accounting Logistics in the Identification of Costs
CBC	2002	9	The Education of Environmental Cost Accountants
EnAnpad	2002	6	Reflections about the Semiotic Dimension of Balance Sheet Analysis: A Contribution to the Optimization of Credit Decisions
EnAnpad	2007	11	Accounting Treatment of Carbon Credit Projects in Brazil: An Exploratory Research
USP	2001	1	Accounting Information and Social Order: A Contribution from Semiotic and Communication Theories
USP	2004	4	Measurement of Semiotics in the Coding of Financial Statements through Neural Networks
USP	2004	4	Social Accountability of Accounting for College Students

Figure 3. Article Titles

Source: Associação Brasileira de Custos (2009), Associação Nacional de Pós-Graduação e Pesquisa em Administração (2009), and Congresso da USP de Controladoria e Contabilidade (2009).

The information in Figure 3 reveals the range of topics addressed with help from semiotics or discourse analysis, in which no pattern can be highlighted.

In an analysis about the papers' contents, four of them were aimed at emphasizing the potential of semiotic theory as a tool to study the research/study topics, suggesting their use. In other words, they do not contribute with any practical applications or models. Practical applications were addressed in three papers: two of them used discourse analysis, one in Congresso EnAnpad and the other in the Congresso da USP; and the third used Semiotics, published in the Congresso da USP.

The dense contents and complex understanding about the particularities of semiotics could represent a barrier, hampering its applicability in Accountancy research. This difficulty could also derive from the researchers' own educational background, with a more quantitative than qualitative bias. These suppositions could be investigated in more specific studies.

4.1.1 The Authors of the Articles

Table 4 displays the authors' distribution per article, so as to reveal their participation in the development of the theme.

Table 4

Authors most present in the events, per article

Ranking	Author	Number of authorships	%	Accum.%
1	Masayuki Nakagawa	4	21.1	21.1
2	Antônio Manoel R. De Carvalho	2	10.5	31.6
3	José Maria dias Filho	2	10.5	42.1
4-14	Anísio Candido Pereira, Edgard Monforte Merlo, Horacio Accioly Junior, Ivan Ricardo Peleias, João Bosco Segreti, Luiz Panhoca, Marcelo Botelho da Costa Moraes, Marcelo Seido Nagano, Marcelo Theoto Rocha, Nelson Satio Bito e Olga Maria Panhoca da Silva	1	57.9 (5.2/ cada)	100
Total		19		

Source: Associação Brasileira de Custos (2009), Associação Nacional de Pós-Graduação e Pesquisa em Administração (2009), and Congresso da USP de Controladoria e Contabilidade (2009).

On average, each paper had 2.7 authors (Table 5). In 42.8% of the cases (equivalent to three articles), there were two authors per article. The other four papers had one, three, four and five authors, respectively.

Table 5

Number of authors per article

Number of Authors	Frequency	%	Accum. %
1	1	14.2	14.2
2	3	42.8	57.1
3	1	14.2	71.4
4	1	14.2	85.7
5	1	14.2	100.0
Total	7		

Source: Associação Brasileira de Custos (2009), Associação Nacional de Pós-Graduação e Pesquisa em Administração (2009), and Congresso da USP de Controladoria e Contabilidade (2009).

A more specific analysis about the article contents revealed two articles, published in the Congresso da USP, elaborated by nine authors in total. Seven authors were responsible for the two papers published in EnAnpad, and only three for the two papers found in the Congresso ABC. It should be highlighted, however, that the Congresso da ABC was the sole event without any practical application of the theory.

4.1.2 References

Publications that were not relevant for the research theme were not calculated. Traditional Accounting publications that support the classification of Accounting as a language were considered though.

Table 6

Studies most used as references

	Publication	Citations	%	Accum. %
1	HENDRIKSEN, Eldon S., BREDA, Michael F. Van. Teoria da Contabilidade. São Paulo: Atlas, 1999.	12	16.2	16.2
2	FINANCIAL ACCOUNTING STANDARDS BOARD. Statement of Financial Accounting Concepts nº 2, Qualitative Characteristics of Accounting Information, May 1980.	7	9.4	25.6
3	DIAS FILHO, J. M. Características qualitativas da informação contábil: O problema da compreensibilidade à luz da teoria semiótica e da comunicação. Dissertação de Mestrado, USP, 2001.	6	8.1	33.7
4	IUDÍCIBUS, Sérgio de. Teoria da Contabilidade. 5 Ed. São Paulo: Atlas, 1997.	5	6.7	40.5
5	PRETTO, Clea B.M. E NAKAGAWA, Masayuki. Semiótica e contabilidade: uma perspectiva interdisciplinar. São Leopoldo - RS 2000.	3	4.0	44.5
6	MORRIS, Charles W. Fundamentos da Teoria dos Signos. Rio de Janeiro: Eldorado Tijuca, 1976.	2	2.7	47.3
7	SANTAELLA, Lúcia. O que é semiótica. São Paulo: Brasiliense, 1983.	2	2.7	50.0
8	MARCHESE, Amauri B. Comunicação: fator estratégico na gestão empresarial. Revista ESPM, 2000.	2	2.7	52.7
9	CARVALHO, Antônio M. R. e NAKAGAWA, Masayuki. Um olhar fenomenológico sobre a "res" da logística contábil na identificação dos custos. In VII congresso Brasileiro de Custos - ABCustos Outubro: 2001.	2	2.7	55.4
10	ETHERIDGE, Harian Lynn. An examination of Semiotic Theories of Accounting Accruals. Unpublished Ph.D. Dissertation, Louisiana State University, 1991.	2	2.7	58.1
11	BELKAOUI, Ahmed Riahi. The linguistic shaping of accounting. Quorum Books, Westport, Connecticut: London, 1995.	2	2.7	60.8
12	CROPLEY, D. H. Towards formulating a semiotic theory of measurement information. Measurement, 1998.	2	2.7	63.5
13	DUNN. C. L.; GRABSKI, S. V. Perceived semantic expressiveness of accounting systems and task accuracy effects. International Journal of Accounting Information Systems. N. 1, p. 79-87, 2000.	2	2.7	66.2
14	PANHOCA, L.; ACCIOLY JR, H.; SILVA, O.M.P.; NAKAGAWA, M. A representação dos signos "contabilidade, custos e investimento": um enfoque da semiótica. In Anais VIII Congresso Del Instituto Internacional de Custos. Punta Del Este, Uruguay: Nov. 2003.	2	2.7	68.9
15	REINERT, M. Alceste, une méthodologie d'analyse des données textuelles et une application. Bulletin de méthodologie sociologique, (28) p. 24-54, 1996.	2	2.7	71.6
16	NAKAGAWA, Masayuki; PRETTO, Clea Beatriz Macagnan. An interdisciplinary view of accountancy in Brazil, In: Asian-Pacific Conference on International Accounting Issues, 12th. Anais. China, 2000	2	2.7	74.3
17	MOST, K.S. Accounting Theory. 2ª ed. Columbus, Ohio: Grid, 1982.	2	2.7	77.0
	Total	57		

Source: Associação Brasileira de Custos (2009), Associação Nacional de Pós-Graduação e Pesquisa em Administração (2009), and Congresso da USP de Controladoria e Contabilidade (2009).

The data were collected after equalizing the references, respecting the issue and year of the publications, due to the range of reference forms. Another important aspect of data treatment is that the references listed but not cited in the articles were not considered, in the belief that they were not used in the

study. The most cited publication in all articles is the book *Teoria da Contabilidade*, written by Eldon S. Hendriksen and Michael F. Van Breda, which was cited twelve times. Second ranks FASB standard 2. Third, cited six times, comes the Master's thesis by José Maria Dias Filho, entitled "Qualitative characteristics of accounting information: the understandability problem in the light of semiotics and communication theory". Fourth is the book *Teoria da Contabilidade*, by Sérgio de Iudícibus. In the fifth place comes the paper "Semiotics and accounting: an interdisciplinary perspective", by Pretto and Nakagawa (2000). The book *Foundations of the Theory of Signs*, by Charles W. Morris, the first book in the list that specifically addresses the theme Semiotics, only ranks sixth.

Various references on accounting theory used in the texts, including different classics, underline that they treat Accounting as the language of business. As it can be considered as such, it turns into the focus of Semiotics.

In all articles, 74 citations were identified. Fifty-seven of these are listed in Table 6, corresponding to 77% of all citations. The profile of these articles reveals a lack of references to more consistent and solid publications that specifically address the theme Semiotics. In general, the papers contained an incipient bibliography on the theme.

4.1.3 Authors

Table 7 shows the distribution of citations in the papers to evidence the authors' participation and relevance in the development of the theme. When adding up all articles, 97 citations of authors were identified. The 58 listed in Table 7 represent 59.7% of the total. A lack of conceptualized authors and pillars of Semiotics theory can be inferred. The sole author with a specific semiotic focus and three or more citations is Lúcia Santaella. As observed, in most articles, the consulted authors' main ideas are reinforced, instead of offering new theoretical or practical contributions to continue building on the theme.

Table 7

Citations of authors

	Reference – Author	Number of citations	%	Accum. %
1	HENDRIKSEN, E.S.	12	12.3	12.3
2	VAN BREDA, M.F.	12	12.3	24.7
3	NAKAGAWA, M.	10	10.3	35.0
4	DIAS FILHO, J.M.	7	7.2	42.2
5	IUDÍCIBUS, S.	6	6.1	48.4
6	PRETTO, C.B.M.	5	5.1	53.6
7	BELKAOUI, A.R.	3	3.0	56.7
8	SANTAELLA, L.	3	3.0	59.7
	Total	58		

Source: Associação Brasileira de Custos (2009), Associação Nacional de Pós-Graduação e Pesquisa em Administração (2009), and Congresso da USP de Controladoria e Contabilidade (2009).

4.2 Research Results in International Journals

First, the semiotics approach was analyzed in the international journals available in the reference base EBSCOHost, in the fields of Business Administration, Economics and Accounting, as shown in Table 8. In this analysis, only scientific papers were considered, that is, other types of literature were discarded.

The presence of the term *semiotic* in the article title was considered as evidence for the use of this theory. This research was one way to show how the theory was approached in journals in the respective areas of social sciences. As observed, in Business Administration journals, the approach of the theme is more significant, with ten papers. In Economics, then, only four papers were found. In Accounting journals, no paper was found that complied with the criterion used, indicating lack of interest in the theme.

Table 8

Approach of Semiotics in Business Administration, Semiotics and Accounting

	In the publication title	Number of Articles
1 st	Management	10
2 nd	Economic	4
3 rd	Accounting	0
	Total	14

Source: EBSCOHost (2009).

Then, using the same reference base, 22 specific international Accounting journals were analyzed. The presence of one of the terms (*semiotic, semiologic, sign, discourse analysis, language theory* in one of the fields – title, abstract and key words of the papers, combined with the terms *accounting, accountancy and bookkeeping*) was considered evidence of the use of this theory. In this analysis, only scientific articles were considered, that is, other types of literature were discarded. The analysis period varied according to the availability of the journal in the database, between 1990 and 2009.

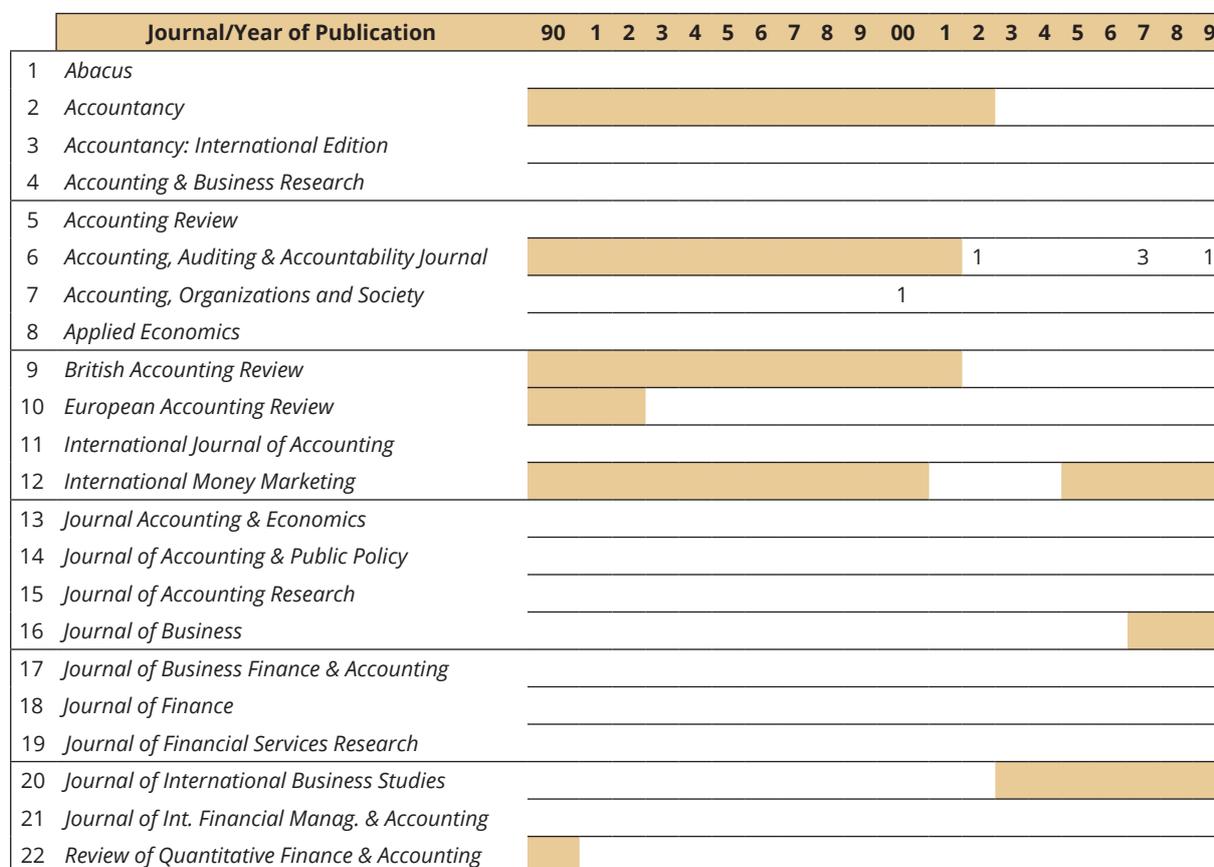


Figure 4. International journals analyzed

Source: EBSCOHost (2009).

A concentration of publications on the research theme is perceived in *Accounting, Auditing & Accountability Journal*. This journal seems to acknowledge the relevance of the theme by including it more than once in its publications. Besides the papers found in that journal, one further article was found in *Accounting, Organization and Society*. Hence, no other article was found in the other journals, over a period of more than 20 years considered in the review. This ratifies the result obtained from the analysis of Brazilian congresses and evidences that very few studies combine Semiotics with Accounting. More specific studies could shed light on the reasons for this limited exploration of the theme.

A more in-depth analysis of the papers found is displayed in Figure 5, listing all authors, year of publication and research description. Out of six papers found, four used discourse analysis and only two Semiotics. Few articles were found in the international references, proving that few accounting studies are equipped by Semiotics theory.

Authors	Year Publ	Research Description
Macintosh; Shearer; Thornton; Welker*	2000	The study investigates the ontological status of the information contained in the financial statements through two independent branches: Baudrillard's order of simulacra and Financial Accounting Theory.
Macintosh; Baker**	2002	The study adopted a literary theory perspective to describe financial statements and information as texts instead of economic goods, and thus available for analysis from the viewpoint of the linguistic theory of Semiotics.
Ferguson**	2007	The aim is to highlight John B. Thompson's approach as a useful method to solve gaps in existing Accounting research to analyze accounting "texts".
Haslam; Roper**	2007	The aim in this paper is to reply to Ferguson's paper <i>Analyzing accounting discourse: avoiding the "fallacy of internalism"</i> .
Llewellyn; Milne**	2007	The aim in this paper is to introduce Accounting coding as a discourse, to explain the idea of coding and locate the notion of a coded discourse. Taking into account the relation between the coded discourse and practice can add up to the general understanding of discourse/practice in organizational studies.
Hudaib; Haniffa**	2009	To explore the construction of meanings for independent auditors in an oil-rich autocratic state.

Figure 5. Authors, Year and Research Description

* *Accounting Organizations and Society*;

** *Accounting, Auditing & Accountability Journal*.

Source: EBSCOHost (2009).

In Figure 6, the results of each paper are presented. Another aspect evidenced in this second part of the research is the dissemination of accounting themes in which theory applied, proving the flexibility of Semiotics to address a wide range of themes present in different sciences that use language to support information transmission.

Authors	Year Publ	Research Results
Macintosh; Shearer; Thornton; Welker*	2000	Concludes that current Accounting no longer refers to any objective reality, but instead encompasses a "hyper-reality" of self-referential models.
Macintosh; Baker**	2002	Concluded by highlighting a new form of preparing financial statements, based on Mikhail Bakhtin's notion of heteroglossia.
Ferguson**	2007	Concludes that Gallhofer et al. infers about the production of letters without considering any formal production or reception analysis, or without paying sufficient attention to the social and historical context.
Haslam; Roper**	2007	The text defends Gallhofer et al. in his choice to promote critical discourse analysis, respecting the Accounting and finance focus.
Llewellyn; Milne**	2007	Identifies some topics that need future empirical research.
Hudaib; Haniffa**	2009	Through discourse analysis, the study shows that this construction is established upon appearance and reality through social interactions, classified in three types: micro, meso and macro.

Figure 6. Authors, Year and Research Results

* *Accounting Organizations and Society*;

** *Accounting, Auditing & Accountability Journal*.

Source: EBSCOHost (2009).

Departing from the premise that Accounting can be understood as the language of business (Hendriksen; Van Breda, 1999; Anthony et al., 1975; Ijiri, 1975; Belkaoui, 1995), organizational communication would be established based on the same language. Decision-making by managers would be mediated by defining signs. The wealth of this communication is supposedly related to the quality of texts Accounting produces.

In the development of Accounting and Business Administration research, using quantitative evidence and considering Brazilian and international publications, statistical techniques have been used that permit the achievement of an explanatory level. When observing research development with qualitative evidence, the situation is different, as the maximum level achieved in explanatory or descriptive. In that context, Semiotics, acknowledged as the science of signs or the theory of languages, could contribute to research development accompanied by a more solid analysis of qualitative evidence. Semiotic theory has permitted research advances in knowledge areas like Medicine, Communication, Law, among others. For Accounting, Semiotics could contribute to a critical analysis of bookkeeping, allowing for reflections that entail a new role for accounting professionals. These professionals face the challenge of offering something more than what technology permits in terms of accounting products, allowing managers or stakeholders to make decisions more efficiently.

The small number of studies that consider the study of semiotics, as observed in Table 8 and Figure 4, shows the little importance Accountancy attributes to this theme. This conduct might indicate that the influence accounting exerts on external or internal users has not been a priority, at least not in research in the area. This is totally at odds with the consulted authors, who signal that the role of Accounting is to provide its users with relevant information (Franco, 1996).

5. Conclusions

As verified, the theoretical base of Semiotics with regard to its use in Accounting is still incipient. In Brazil, there is no significant number of Accounting studies from a semiotic focus, in view of the few papers found in the annals of the investigated congresses.

Similarly, on an international scale, few studies have been published about the theme in the journals reviewed. In a comparison between Accounting and Business Administration and Economic studies,

less (although also limited) Accounting publications from a semiotic focus are observed. In international research, except for two journals, no studies were found in any other Accounting publication, which evidences that emphasis on the theme is lacking at the international level as well.

Another relevant aspect found in Brazilian congress articles is that these lack references and studies in more consistent and robust publications on the theme Semiotics. In fact, classical authors like Charles Sanders Peirce, Ferdinand de Saussure, Louis Hjelmslev, Claude Lévi-Strauss, Algirras J. Greimas, Thomas A. Sebeok, Jean Baudrillard, Winfried Nöth, Charles Morris, Umberto Eco and Roland Barthes are hardly cited, resulting in fragile theoretical references on Semiotics in almost all papers.

Semiotics shows to be a very complex theme, with several papers attempting to cover many solutions and treating Semiotics as a panacea for Accounting's communication problems. This does not necessarily guarantee that the application of Semiotics solves problems, like the reader's understanding for example. Its utility could be much more oriented towards an analysis technique than a solution to the problem.

Study limitations include the fact that only three Brazilian congresses were considered in the review, as the theme may have been addressed during other congresses that were left out of this research. Similarly, the review did not extend to Brazilian scientific journals and international congresses. In the article search, the review was limited to the search options the congress websites and databases used on EBSCOHost made available, an aspect that justifies that need to distinguish between the paper collection procedures used for the congresses and journals.

The lack of studies that use the semiotic approach in Accounting opens plenty of room for further research, which uses the potential of this theory in sciences that need support from communication to promote the efficacy of their actions. A wide range of accounting subthemes could fit into such studies.

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