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A Study on the Interaction Between Scientific Research and Professional Accounting Practice

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Abstract
The aim of this study was to analyze the interaction between scientific research and professional accounting practice. In this exploratory study, as it examines a theme that has been little explored in Brazil, a quantitative approach was adopted and a survey was used as the data collection technique, supported by a research instrument with questions on aspects like: interest in and use of research; study and development of themes; means to disseminate the research; and causes of the gap between research and practice. Considering the objectives, it is classified as descriptive, since it was described how this interaction occurs. Data were analyze through factor analysis in R, resuming them in factors for further analysis, validated through the Kaiser-Meyer-Olkin (KMO) test and Bartlett's sphericity yet. In conclusion, due to their different characteristics, it is natural that some distancing exists between research and accounting practice. This can be minimized though, among other factors, through professionals' great interest in knowing and applying the research results in practice, and also by confirming that the most researched themes in accountancy are the themes of greatest interest in accounting professionals' opinion. These results suggest that greater attention is due to the interaction and communication between the academy and accounting professionals, with a view to greater efficacy.

Keywords: Scientific Research; Accounting Practice; Accounting Professional.

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1. INTRODUCTION

The development and dissemination of scientific research in Accountancy in Brazil are relatively recent, but have been enhanced in recent years, mainly due to the increased number of Master's and Doctoral programs, journals and scientific congresses in the area.

The interaction between knowledge production in accountancy and professionals' application of this knowledge gains relevance to the extent that the feeling exists that different issues accountants face in daily practice can be solved based on accounting researchers' studies, arousing questions on the applicability of research and its contribution to professional accounting practice.

According to Moehrle (2009), the impact of the academy's collective ideas on the efficiency and efficacy of professional practice has hardly been acknowledge. If awareness is raised on the effects of scientific accounting research on professional practice though, this impact can be more widely acknowledged and can contribute for entrepreneurs to feel more willing to invest in graduate education.

Further communication between practice and scientific research permits responding to professionals' needs and enhance the application of research, making it more interesting to users, which can encourage investments and partnerships between companies and the academy (LEISENRING; JOHNSON, 1994; DIAMOND, 2005; MOEHRLE, 2009).

The preceding elements motivate the development of this research, which aims to answer the following question: How do accounting professionals assess the interaction between scientific research and professional practice? This theme is examined from the viewpoint of accounting professionals in Rio Grande do Sul. In this study, neither the methodological characteristics nor the quality of scientific production in the area are considered, nor does the study intend to analyze bibliographic references or researchers' productivity standards. The intent is to analyze existing interaction between academic research and professional accounting practice, from the perspective of accounting professionals in Rio Grande do Sul.

The researchers hope the results can contribute to the debate about the importance of accountancy research and to the design of graduate programs' research areas, with a view to a better alignment between the needs demanded in professional practice.

2. THEORETICAL FRAMEWORK

2.1 Accounting research in the international sphere

The discussion about the practical application of scientific research results and professionals' interest in knowing and using these results have served as themes for reflection for different international authors, including Edwards and Emanuel (1990), Leisenring and Johnson (1994), for whom research has become increasingly complex due to the growing use of sophisticated mathematical and statistical methods, and is sometimes considered irrelevant in the eyes of professionals. The authors alert, however, that accounting practitioners are expected to display a desirable technical knowledge level in order to be apt to understand research results. Structural issues in undergraduate Accountancy teaching certainly influence the extent of students' approximation with scientific research.

In this same line of reasoning, Diamond (2005) questions: "(a) are Accounting professionals receptive to academic research?; and (b) do research results change practice?". Mitchell (2002), in turn, mentions that companies' information needs are increasingly specific, in function of the greater rivalry, competition and other consequences of globalization. Thus, with a view to attending to Accounting professionals' needs, accounting research should become more attractive to them. This is not about demanding that research exclusively attends to needs found in practice, but about the fact that researching and publishing for other researchers only is hardly beneficial for the discipline as a whole, in the academic sense as well as in professional practice.

Mitchell (2002) refers to findings by Baxter (1988) and Flinte (1988) about the little relevance of Accounting research for practice, in line with study results by authors like Otley (1985), Choudhury

(1986) and Edwards and Emmanuel (1990), who address the distancing between research and the practical application of its results, as well as between Accounting researchers and professionals' viewpoints on research topics. Mitchell (2002) considers that, in recent decades, a divorce has happened between accounting research and practice, even if the number of studies and researchers is increasing internationally.

Collis and Hussey (2006) consider that seeing to accounting practitioners' needs makes applied research more interesting, as it is used to apply their discoveries to a specific problem that exists. The authors, however, call attention to the fact that accomplishing basic research is fundamental for knowledge construction, to the extent that it aims to reach further understanding on general issues, without emphasis on its immediate application. They propose a balance between applied and basic research production, as this would not impair knowledge production and, at the same time, Accounting professionals' needs would gain further relevance in the academic world.

Luft and Shields (2002) mention that Accounting research will be more interesting and useful if it addresses the identity of the discipline less, but uses a range of theoretical structures from social sciences to provide more comprehensive explanations for Accounting practice. They consider the need for a practical approach of the problems Accounting professionals face as an Accounting research focus, but also addressing social science theories, with the possibility of analyses from other perspectives.

Accounting information should be elaborated in a form that is understandable for information users, comprising, among others, employees, stockholders, managers and directors (IUDÍCIBUS, 2008). According to Mitchell (2002), the main destinations of the appointed studies are: (a) other researchers; (b) directly to accounting professionals, which generally does not happen; and (c) indirectly to professionals through the education process. In questioning the reason for this reality of the relation between Accounting research and practice, Edwards and Emmanuel (1990) appoint researchers' preferential focus, who are generally adverse to technical issues, which probably represent professionals' most immediate interests.

Leisenring and Johnson (1994) mention the fact that common communication media in the business context, like journals, tend to prioritize methodological rigor and are little concerned with the application and practical use of research. Studies presenting solutions to problems found in practice are generally considered of little interest in the academy as, in most cases, these themes have been frequently studied and their methods have been perfectly understood in the academy. But when these methods are applied in practice, often, different problems are met that hamper their development.

Donovan (2005) suggests interaction between Accounting researchers and professionals in the accomplishment of research projects and publications, so as to study themes of interest to Accounting professionals. In this context, the studies could be directly applied to the solution of problems faced in practice. Accounting professionals would present their "real" problems regarding Accounting issues, and researchers could help to solve them. This would be a partnership that could benefit Accounting researchers and professionals.

2.2 Accounting research in Brazil

In an analysis of the tradition, number and availability of accounting research groups and centers in Brazil, Ribeiro Filho, Lopes and Pederneiras (2004) find that Accounting research is a very recent phenomenon. Theóphilo and Iudícibus (2005, p.1) argue: "although still limited, studies focusing on scientific production in Accounting in Brazil have been more frequent in recent years."

The implementation of the first *stricto sensu* graduate Accountancy programs in Brazil took place in the 1970's. The pioneer was the Master's Program at the University of São Paulo School of Economics, Business Administration and Accountancy-FEA/USP, in 1970. In 1978, the Doctoral Program in Accountancy was set up at FEA/USP, as a pioneer and the only Doctoral program for almost thirty years. Also, in 1978, the Graduate Accountancy Program was put in practice at Pontifícia Universidade Católica de São Paulo, with strong support from FEA/USP faculty members. In the same decade, the Master's Program in Accountancy was created at Fundação Getúlio Vargas, in Rio de Janeiro, restructured in 1991 and transferred to Universidade Estadual do Rio de Janeiro (CHIROTTO et al., 2007).

Today, 18 academic and professional Master's programs in Accountancy exist. Half of these were created in the last five years. Even if timidly, this represents an evolution in the number of studies in this area (ANPCONT, 2009). The increased number of Master's and Doctoral programs resulted in growing research in Accountancy. These study results are presented to anyone interested in congresses and through publications in scientific journals. It is straightforward that, the more developed the research groups and centers are that exist in accounting, they more they will be able to contribute to the construction and development of theories and to professional practice. It should be reminded, however, that the fact that accounting research in Brazil is maturing does not impede its use by Accounting professionals in practice.

Concerning the classification of the theme areas under analysis, some studies have been developed in Brazil that involve different databases (accounting journals and congresses), which contributes to the wider range of accounting research dissemination vehicles in the country. Picture 1 displays studies that presents the most studied themes in Accountancy:

a) Riccio, Carastan and Sakata (1999)	Find a trend towards management accounting, financial accounting and auditing research. Examined 365 academic accounting texts produced at Brazilian colleges between 1962 and 1999, including Master's theses and Doctoral dissertations generated in official "stricto sensu" graduate accounting programs. Financial accounting displays a concentration of scientific productions between 1985 and 1990, and a significant decrease between 1991 and 1999. Similarly, management accounting research is more numerous until 1991, followed by a downward trend.
b) Oliveira (2002)	Analyzed Brazilian accounting journals and presented the most influential paper themes, as follows: 1) Management Accounting; 2) Financial Accounting; 3) Accounting Theory; 4) Accounting Education and Research; 5) Cost Accounting; 6) Professional Practice; 7) Public Accounting; 8) International Accounting, with hardly expressive percentages for other themes.
c) Cardoso Neto, Riccio and Sakata (2005)	Publications are examined in six international journals classified under concept "A" by Capes, in order to identify the most studied themes between 1999 and 2003. The most studied themes are a) Management Accounting and Cost Accounting, which together represent 53.3% of the analysis sample; b) Capital Market Accounting or Financial Accounting, corresponding to 6.7% of the total sample; and, c) Public Accounting, with 8.3% of the total, concentrated in two of the six journals under analysis.
d) Coelho and Silva (2007)	Present a study in which Accountancy publications at the National Graduation Programs and Research Encounter in Administration (EnANPAD), between 2001 and 2006, totaling 336 papers. The study reveals that, over the years, the number of papers about Management Accounting continues increasing, while that of Accounting for External Users has dropped in the last three years.

Picture 1: Studies about the most Studied Themes in Accounting

Source: Elaborated based on Riccio, Carastan and Sakata (1999); Oliveira (2002); Cardoso Neto, Riccio and Sakata (2005) and Coelho and Silva (2007).

It should be mentioned that, as from 2009, the Accountancy area gained a new division at the Annual Encounter of National Graduation Programs and Research in Administration (EnANPAD). In total, seven new theme areas were created, including: Accounting and Corporate Governance; Accounting and Socio-environmental Accountability; Financial Accounting; Governmental Accounting and Third sector; International Accounting; Controllership and Management Accounting; and Free Themes.

2.3 Congress Publications

A survey was developed, considering the titles, abstract and keywords of the papers included in the 2008 Annals of the USP Controllership and Accounting Congress, EnANPAD (Accountancy area) and Congress of the National Association of Graduate Accountancy Programs – ANPCONT, all of which received CAPES concept "A", with a view to identifying the themes with the largest number of approved

papers at the respective events. Themes specifically classified in the finance area were not considered in the survey, as these have their own theme area. The same is true for specific themes in Accounting education and research (in congresses where these also have a specific theme area).

Table 1 displays the most frequent themes at the three events (Accounting area) in 2008.

Table 1: Summary of most studied Accountancy Themes

Most studied themes	USP	ANPCONT	ANPAD	TOTAL
Accounting Disclosure	9	2	7	18
Performance assessment	8	–	6	14
Accounting/Economic-Financial analysis	–	2	10	12
International Accounting	7	–	–	7
Earnings Management	–	3	5	8
Socio-environmental/financial performance management	–	2	–	2
ERP system	–	2	–	2
Others	25	24	39	88
Total	49	35	67	151

Source: Annals of USP, ANPCONT and ANPAD Congresses (2008).

The most studied themes at the three events were: (a) Accounting Disclosure, totaling 18 papers; (b) Performance Assessment, with 14 papers; and (c) Economic-financial accounting analysis, with 12 papers. The themes Earnings Management and International Accounting can also be highlighted.

Through a bibliographic and documentary research, using the content analysis technique, Oliveira (2002) classified the themes studied per theme area, dividing them into macro-themes. In the thematic classification that author presented, the centralization of research in the macro-theme "Management Accounting" is noteworthy, which covers the themes: Cost Analysis, Business Budget, Strategic Cost Management, Management Information Systems, Financial Administration, Transfer Price, Performance Assessment, Standards, Quantitative Methods Applied to Accounting, Opportunity Cost, Financial Statement Analysis, Sales Pricing and Controllership.

Besides Management Accounting, the following themes stood out: a) Financial Accounting (addressing themes like accounting disclosure, accounting and tax standards, etc.); b) Accounting Theory (in which topics like theoretical, conceptual and doctrine aspects related to accounting are studied, etc.); and c) International Accounting (addressing aspects like the harmonization of standards and principles, economic globalization, etc.).

2.4 Communication Channels between Accounting Researchers and Professionals

The dissemination of scientific research in accounting is a fundamental factor to permit its use, whether in professional practice, education, or even by other researchers. Some of the existing scientific research disclosure means are virtual and printed scientific journals, congresses, theses, dissertations, books etc. Both virtual and printed scientific journals, due to their systematic organization and selection of topics and quality of the published material, play a relevant role among communication channels between accounting research and practice.

Scientific journals generally present state-of-the-art research themes, disseminating research results presented at scientific events in accounting. Although easy access is offered, as journals are available on websites or sent directly to anyone interested, Accounting professionals may not be using theme, whether in function of possible difficulties to understand the presented results; due to the professionals' view that there is no clear possibility to actually apply these results in practice; or also due to their lack of familiarity with the scientific publications.

In Mitchell's study (2002), the importance of publishing research and studies directly for professionals is highlighted, involving themes of interest to Accounting professionals, besides using common communication means in the area. The author cites an example that happened in the United Kingdom, where large and widely circulating journals in the market started to publish researchers' study results, generally applied research involving technical topics. Consequently, professionals started to apply the suggested innovations in practice. These communication means were not usual in the academic context though, granting little visibility and popularity to researchers who published in these journals.

According to Hawkes et al. (2003), researchers need to make efforts to get their study results published in journals Accounting professionals use, which circulate widely among Accounting practitioners, also using a language that enhances professionals' understanding. Cooperation between professionals and academics would allow both groups to better understand the reason for the gap the abovementioned authors have mentioned.

Ott (2008) appoints that research results are disseminated at scientific events and in journals (although a relatively small number), and mentions that most Accounting professionals are left at the margins of this process, as they do not participate in these events, nor do they receive the journals. According to the author, it is possible that a flaw is occurring when informing professionals about the events and publication of journals as well, highlighting that this issue can be solved easily.

The presented approaches indicate that the factors that may be contributing to further distancing between these classes (accounting practitioners and academics) may derive from different causes but, probably, both are responsible for this reality. It should be mentioned, however, that other factors exist, which are not addressed in this study but interfere directly in the interaction between accounting research and practice, like the structure of Accounting teaching for example, in which the reading of scientific research is still hardly encouraged.

The analysis of whether existing accounting congresses indicate a target public (National Association of Graduate Programs and Research in Administration – EnANPAD; National Association of Graduate Programs in Accountancy - ANPCONT, USP Controllership and Accounting Congress; and Brazilian Cost Accounting Congress - CBC) reveals that only the website of the USP Controllership and Accountancy Congress (2009) makes any reference in this respect, mentioning; "Promoting the debate of innovative ideas about Controllership and Accountancy in theory and practice". This can be considered the only mention that suggests an approach between accounting practice and research. As for the public participating in the event, the same website mentions: "The USP Congress has received faculty members, researchers, professionals and students from all Brazilian regions, who are interested in the dissemination and assessment of their scientific studies". Participants enrolled as "professionals" may mostly be graduate students who are presenting research in this condition, properly funded by their employers.

The ANPCONT congress is an important academic-scientific event, which the National Association of Graduate Programs in Accountancy organizes at the national level. On the website of the Congress (2009), it is mentioned that: "This event enhances interaction among the academic community, researchers, faculty members and students, representing a means to disseminate technical-scientific production in Accountancy". The intent is disclosed to approach academic studies and applications in companies, as "[...] the ANPCONT Congress is an event that aims to establish a link between academic studies and applications in organizations, allowing participants to get to know the different foci of Accountancy research in further depth." No information about the target public was found on the EnANPAD website, nor even a direction towards the practical sphere.

When specifying Accounting professionals' interest in participating in accounting congresses, it is not expected that this fact will result in their actual participation. The idea is to call attention to the fact that, in general, the event websites do not manifest the intent to count on the presence and participation of Accounting practitioners.

Thus, it can be inferred that the distancing between these two accounting classes (researchers and professionals) can derive, among other aspects: a) from a lack of information and effective communication

media for both; b) both classes' resistance against sharing existing information channels to disseminate the results (researchers) and use information in practice (professionals); and c) accounting professionals' possible lack of preparation to understand academic research.

Laffin (2000) also expresses his concern with this theme, mentioning that actions are needed to enhance research dissemination opportunities based on course conclusion monographs. This can take different forms, like seminars, symposia, panels, among others, to disseminate the studies and disclose their value, contribution and ways to encourage research. More than reflecting on the procedures adopted in scientific initiation, it should be evidenced through actions that research results in the knowledge construction and that, when socialized and remodeled, these interfere in the construction of citizenship.

The education process could be one of the most effective routes to make Accounting professionals use research results in practice. This process may not be that benefit, however, if it takes a long time for students to enter the job market as, if information use gets delayed, this can compromise the effectiveness of this communication form. In addition, further encouragement may be needed to read scientific research. The ideal would be for students to be active in the market as well, working in the accounting area when the information arrives, and to have contact with scientific research results as early as during their undergraduate program. Thus, the application of this knowledge could be immediate.

Another route to inform professionals, students and researchers about the results of studies and techniques applicable in accounting practice are books. A long time goes by between the research process, development and publication of books, which can also delay the use of this information.

Besides, the research process is dynamic. Hence, several results or different or even contradictory techniques concerning a given theme can be presented in research within a short period, which would demand a communication channel between practice and research that incorporates the dynamic nature of information.

Independently of the efficiency of each academic accounting research dissemination means, however, when disseminating productions to Accounting professionals, they need to be interested in one or more of these communication forms.

3. METHODOLOGICAL PROCEDURES

3.1 Research design

The aim of this study was to analyze the interaction between scientific research and professional accounting practice. Considering its objective, this is an exploratory study, as no studies were found that addressed this theme and its results are described with a view to the readers' understanding (BEUREN, 2006).

Regarding the approach of the research problem, a quantitative approach was adopted, as the respondents' perceptions were statistically treated for further analysis; and the technical procedure used was a survey, which is a way to obtain information directly from the target public. According to Gil (2002), a survey is characterized by the direct questioning of people whose behavior towards a research problem one wants to get to know, so as to obtain possible conclusions through quantitative analysis.

3.2 Population and sample

The study population comprised accounting professionals registered at the Rio Grande do Sul Regional Accounting Council, based on a list of 7,198 professionals the Council provided, who received the research instruments. In return, 328 properly completed instruments were received, which constituted the study sample.

3.3 Data collection

The data collection instrument was elaborated based on the theoretical framework, containing 38 questions that addressed the following aspects: a) interest in and use of the research; b) study and development of accounting themes; c) research dissemination means; and, d) causes of the gap between

accounting research and practice. Then, the instrument was submitted to validation by two accounting researchers and to a pretest, involving three accountants and three accounting researchers. To further the respondents' understanding, a scale ranging from 0 to 10 was adopted in the questionnaire, which is of common use, and thus facilitates answers and offers greater flexibility to the respondents. The link to access the instrument (questionnaire) was forwarded to the accountants by e-mail.

3.4 Data analysis

The number of answers received permitted statistical data analysis (Factor Analysis), which enhances more comprehensive result regarding the study variables. Factor analysis techniques can attend to two objectives: (a) identification of structure through data summary – Factor Analysis with R; and/or (b) data reduction –Factor Analysis with Q (cluster analysis) (HAIR JUNIOR et al., 2009). In this study, Factor Analysis with R was used.

The factor analysis with R was validated through the following tests: (a) Kaiser-Meyer-Olkin (KMO), where the main component analysis is classified according to the test score. If below 0.5, the sample is considered unacceptable; between 0.5 and 0.6 bad; between 0.6 and 0.7 reasonable; between 07 and 0.8 average; between 0.8 and 0.9 good; and between 0.9 and 1 very good; and (b) Bartlett's sphericity test, in which, according to Pereira (2006), the null hypothesis should be rejected. This hypothesis indicates that no correlation exists between the initial variables at a given significance level.

The number of factors considered in the analysis was defined through the latent root criterion. This method only considers factors with latent roots higher than 1 (one) as significant. The latent root criterion accepts that any individual component value should explain the variance of at least one variable, which is thus maintained for analysis (HAIR JUNIOR et al., 2009).

The communalities represent the variance estimates in which each variable is explained by the produced factors (HAIR JUNIOR et al., 2009). Communalities higher than 0.50 are considered significant, as this value indicates that the factors generated in the factorial matrix statistically explain 50% of the variance that exists in the variable in question.

4. DATA ANALYSIS AND RESULTS

Using factor analysis with R, the produced factors were identified, in view of the questions used in the data collection instrument and the obtained answers. The result of the KMO test was factor 0.836, indicating that the main components analysis is considered good. The KMO test results are displayed in Figure 1.

KMO and Bartett's Test		
Kaiser - Meyer - Olkin Measure of Sampling Adequacy.		0,836
Bartlett's Test of Sphericity	Approx Chi-Square	4789,315
	DF	703,000
	Sig.	0,000

Figure 1: Result of KMO and Bartlett tests for the 38 variables

Source: Research data using SPSS 15.0

Also, Bartlett's sphericity test was applied, with statistically significant results, with a chi-square coefficient of 4789.315 and 703 degrees of freedom. Based on the presented data, factor analysis with R can be used, as data can be correlated and the null hypothesis is rejected, with significance set at 0.01.

Another relevant test for the analysis is the scree plot. Through this test, it was verified that the 11 factors that explain 63.48% of the initial variance are represented by eigenvalues higher than one unit (1). Scree plot analysis is graphically displayed in Figure 2.

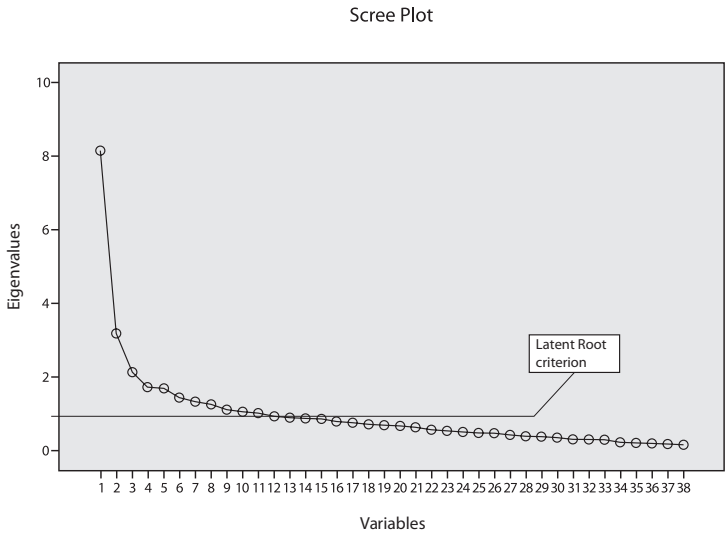

Figure 2: Scree Plot test criterion and latent root for 38 variables

Source: Research data using SPSS 15.0.

In Figure 2, the factors considered for analysis are displayed above the line, totaling 11. By rotating the original matrix, comprising the answers obtained through the data collection instrument, existing significant correlations could be verified. The variables presented in each of the 11 factors were analyzed, and then named according to their characteristics. Thus, some questions (variables) used in the original questionnaire were ignored for analysis purposes, as they showed little relevance in data analysis.

Correlations were checked according to orientations by Hair Junior at al. (2009, p.107). Thus, first, the first variable should be analyzed in the first factor, moving horizontally from left to right, seeking the highest value for that variable in any factor and following this same logic for the other variables. Then, each factor should be observed. Starting with the first factor, on the first line, it is analyzed what variable shows the highest correlation level, moving from top to bottom.

Five of the factors appointed by applying the technique showed no significant coefficients (higher than 0.5), which were 5, 6, 9, 10 and 11. In addition, the variables: Q1, Q2, Q6, Q7, Q9, Q14, Q15, Q18, Q19, Q20, Q24, Q25, Q27, Q28, Q30, Q31 and Q32 showed no high correlation with any of the 11 factors. Therefore, these variables were not considered for analysis purposes.

As mentioned, variables without high correlation levels with any of the factors were eliminated. Picture 2 displays each of the factors with the variables that showed high correlation coefficients, and the respective question they represent in the analysis. It should be mentioned that factors 5, 6, 9, 10 and 11 showed no significant correlations with any of the variables and, therefore, are not included in Picture 2.

1 – Communication with research	Q3 – If you hold a degree, what level; Q8 – I frequently read papers published in scientific accounting journals; Q 12 – I talk to accounting researchers at least once per year; Q 13 – I have intensely participated in accounting congresses; Q 16 - The research results I most use are related to the following themes: Management Accounting; Q 17 – Accounting and Capital Market; Q 21 Social and Environmental Accounting; Q 26 - I found out about the modifications in accounting through the following means: Master's program; Q 29 - Congresses; Q 34 Printed journals; Q 35 – I am fully aware that the following congresses are held every year: Anpad; Q 36 - Anpcont; Q 37 – Brazilian Cost Accounting Congress; Q 38 - Anpec.
2 – Interest and Application: Tax Accounting	Q 11 – I frequently apply the results of accounting research published in scientific journals; Q 22 – The research results I most use are related to the following themes: Tax Accounting.

3 – Graduated Professional	Q 5 – I work at (office, company, consulting) Q 23 - I found out about the modifications in accounting through the following means: undergraduate program.
4 – Comprehension difficulty	Q 10 – Scientific papers published in accounting journals are difficult to understand.
7 – Time since graduation	Q 4 – Graduated since: (less than 5 years; between 5 and 10 years; between 10 and 15 years; more than 15 years)
8 – Legislation	Q 33 – I found out about the modifications in accounting through the following means: Legislation

Picture 2: Composition of Factors

Source: Results of Rotated Matrix.

Based on the interpretation of the results presented in Picture 2, the factors could be named according to the characteristics of each, observing the component questions of each and, mainly, the question with the highest correlation coefficient.

With a view to a better understanding of each factor's composition, and also of the names' definition, next, factors are presented individually, as well as their component variables, the names of each of the factors and the justification for their definition.

a) FACTOR 1 – "Communication with Research" – The choice of the name is justified by the large number of elements checking the level of proximity with research, like, for example: education level: graduate degree, frequent reading of journal articles, contact with researchers, etc.

b) FACTOR 2 - "Interest and application: Tax Accounting" – The choice of the name was due to the highlight of the tax accounting variable, besides the variable that checks the frequent application level of the research results published in the journals.

c) FACTOR 3 - "Graduated Professional" – The name "Graduated Professional" was defined based on the variables that indicate the level of agreement/disagreement that undergraduate education is the main way to get updated knowledge on accounting issues, besides checking the professional activity sector in the accounting area.

d) FACTOR 4 – "Level of Understanding" – Factor 4 presents only one significant variable. In this factor, it is perceived that checking the extent of comprehension difficulties is the main element, justifying the definition of its name.

e) FACTOR 7 – "Time since Graduation" – This factor also presents only one significant variable, time since graduation, which justifies the choice of the name.

f) FACTOR 8 – "Legislation" – In factor 8, the only significant variable is the one that checks the usage level of legislation as the most used way to get updated knowledge on accounting issues, justifying the choice of its name.

4.1 Interpretation of Factor Analysis Results

Next, the interpretations of the factor analysis results are presents, including the positioning percentages for each of the variables constituting the factors, as well as reflections based on data analysis.

a) DATA ANALYSIS OF FACTOR 1 – "Communication with Research" – The first information obtained through the analysis of data for factor 1 indicates variations in the respondents' education level, with 4% accounting technicians, 31% B.Sc. graduates in Accountancy, 31% MBA or Specialization and 23% M.Sc. or Ph.D. These data reveal that 64% of the respondents affirm that they hold a graduate degree, which may suggest further contact with research.

Table 2 displays the positioning percentages for each value between 0 and 10, considering the constituent variables of factor 1.

Table 2: Positioning Percentages for Factor 1

Variables	**% of Answers**												
	Tec.		Acc.		Spec./ MBA		M.Sc. /						
Ph.D.			31%		41%		23%						
	0	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**0 to 4**	**6 to 10**
Q 8 - I frequently read papers published in scientific accounting journals	9	1	5	4	3	15	4	12	21	7	19	22	63
Q 12 - I talk to accounting researchers at least once per year;	31	6	6	3	3	8	2	4	6	5	26	49	43
Q 13 - I have intensely participated in accounting congresses;	38	6	7	7	3	10	3	7	5	4	10	61	29
Q 16 - The research results I most use are related to the following themes: Management Accounting	21	2	6	6	2	15	3	10	17	5	13	37	48
Q 17 - The research results I most use are related to the following themes: Accounting and Capital Market	10	1	2	2	3	12	5	9	23	13	20	18	70
Q 21 - The research results I most use are related to the following themes: Social and Environmental Accounting	35	4	9	8	5	14	5	5	7	3	5	61	25
Q 26 - I found out about the modifications in accounting through the following means: Master's program	60	2	3	0	1	5	1	2	5	6	15	66	29
Q 29 - I found out about the modifications in accounting through the following means: Congresses	31	3	5	3	3	9	8	5	16	6	11	45	46
Q 34 - I found out about the modifications in accounting through the following means: Printed journals	52	3	3	2	10	8	2	2	3	4	20	70	31
Q 35 - I am fully aware that the following congresses are held every year: Anpad	55	3	4	1	2	10	2	2	2	3	16	65	25
Q 36 - I am fully aware that the following congresses are held every year: Anpcont	50	2	4	2	2	8	2	2	5	3	20	60	32
Q 37 - I am fully aware that the following congresses are held every year: Brazilian Cost Accounting Congress	56	2	2	2	2	8	3	1	5	3	16	64	28
Q 38 - I am fully aware that the following congresses are held every year: Anpec	66	3	3	2	3	9	2	3	3	1	5	77	14

Source: Research Data.

The analysis of results for factor 1 – Communication with Research reveals that 63% of the respondents affirm (between levels 6 and 10) the frequent reading of accounting journals. In additions, answers (between 6 and 10) regarding interest and application: management accounting" correspond to 48%; against 70% for "accounting and capital market". Regarding the use of "congresses" as a means to get updated knowledge on Accounting issues, however, 45% of answers correspond to levels between 0 and 4, against 46% for levels between 6 and 10. All other assertions received higher answer percentages between 0 and 4, indicating that the respondents do not agree.

b) DATA ANALYSIS OF FACTOR 2 – "Interest and application: Tax Accounting" – The positioning percentages for the component variables of factor 2 are displayed in Table 3.

Table 3: Positioning Percentages for Factor 2

Variables	% Answers												
	0	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**0 to 4**	**6 to 10**
Q 11 - I frequently apply the results of accounting research published in scientific journals	20	3	10	10	4	21	8	5	10	3	6	47	32
Q 22 - The research results I most use are related to the following themes: Tax Accounting	10	2	2	3	3	10	4	7	17	13	29	20	70

Source: Research Data.

Table 3 reveals the respondents' great interest in knowing and using research on tax accounting (70% for levels 6 to 10). Regarding the variable that checks the application level of accounting research results, the highest percentage (47%) refers to levels 0 to 4, signaling the respondents' low application level of research results.

c) DATA ANALYSIS OF FACTOR 3 - "Graduated Professional" – The response percentages for variables Q5 and Q23 are presented in Table 4.

Table 4: Positioning Percentages for Factor 3

Variables	% Answers												
	Off.		Cons.		Comp.								
Q 5 - I work at (office, company, consulting)	32%		10%		58%								
	0	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**0 to 4**	**6 to 10**
Q 23 - I found out about the modifications in accounting through the following means: undergraduate program	23	2	5	3	2	15	8	8	14	7	13	35	50

Source: Research Data.

Most respondents are professionals working in companies (58%), followed by those working in offices (32%). Regarding the variable that checks the agreement level about undergraduate education being the most used means to gain knowledge on the changes that have taken place in accounting, the highest positioning percentage figures between 6 and 10 (50%).

d) DATA ANALYSIS OF FACTOR 4 – "Comprehension Difficulty" –Table 5 displays the positioning percentages for the component variables in factor 5.

Table 5: Positioning Percentages for Factor 4

Variables	% Answers												
	0	1	2	3	4	5	6	7	8	9	10	0 to 4	6 to 10
Q 10 - Scientific papers published in accounting journals are difficult to understand	23	2	10	9	6	16	8	9	9	2	6	50	34

Source: Research Data.

In the analysis of factor 4 results, the highest percentage of answers ranges between 0 and 4, which means that most of the professionals believe that scientific papers are not difficult to understand.

e) DATA ANALYSIS OF FACTOR 7 – "Time since Graduation" – Table 6 is presented to disclose the positioning percentages for variable Q4, which is part of factor 7.

Table 6: Positioning Percentages for Factor 7

Variáveis	% Answers			
	Up to 5	5 to 10	10 to 15	15 +
Q4 - Graduated since: (less than 5 years; between 5 and 10 years; between 10 and 15 years; more than 15 years)	18	42	33	7

Source: Research Data.

As perceived, 75% of the respondents had graduated more than five years earlier but less than 15 years, in accordance with Table 20.

f) DATA ANALYSIS OF FACTOR 8 – "Legislation" – The positioning percentages for variable Q33, which is part of factor 8, are displayed in Table 7.

Table 7: Positioning Percentages for Factor 8

Variables	% Answers												
	0	1	2	3	4	5	6	7	8	9	10	0 to 4	6 to 10
Q 33 - I found out about the modifications in accounting through the following means: Legislation	7	1	2	2	2	11	6	5	19	15	3	14	48

Source: Research Data.

As perceived in Table 7, 75% of positioning ranges between levels 6 to 10. This result confirms what the respondents mostly affirmed about using legislation to gain knowledge on accounting changes.

4.2 Summary of Factor Analysis Interpretation

In summary, the interpretation of the factor analysis can be expressed as follows:

a) 64% of the respondents hold a graduate degree, indicating good levels of scientific knowledge;

b) 75% of the respondents have graduated more than five years but less than 15 years ago;

c) among the respondents, 63% affirm (higher than level 5) the frequent reading of accounting journals;

d) 43% of respondents indicating interest (higher than level 5) in research and use of the management accounting theme; against 70% for Accounting and Capital Market, as well as for tax accounting;

e) 46% of the respondents affirm (higher than level 5) using congresses to gain knowledge on accounting changes; 50% of the respondents affirm that they use "undergraduate education"; and 75% affirm using legislation for updates on accounting issues;

f) more (58%) respondents are active in companies than in offices (32%) and consulting services (10%);

g) some assertions obtained more answers between levels 0 and 4, i.e. representing the respondents' disagreement. These assertions suggest the following conclusions: (a) most respondents have no contact with Accounting researchers, not even once per year; (b) they do not participate intensely in Accounting congresses; (c) hardly use the following means: Master's program and printed journals to gain knowledge on accounting updates; (d) are unfamiliar with annual accounting congresses; (e) hardly apply accounting research results; and (f) affirm that research results are not difficult to understand.

5. CONCLUSION

The aim in this study was to examine the interaction between scientific research and accounting professionals' practice, using a data collection instrument (questionnaire), answered by 328 accounting professionals from Rio Grande do Sul.

In the factor analysis, six relevant factors were identified to analyze the results: a) Communication between accountants and researchers; b) Interest and application: tax accounting; c) Identification of characteristics; d) Graduated professional; e) Degree of understanding; f) Time since graduating; and g) Legislation.

Based on the data analysis, it could be concluded that most respondents hold a graduate degree; are more active in companies than in offices and consulting services; the majority affirms that journal reading is frequent; according to the respondents, the most interesting themes are: accounting and capital market, tax accounting and management accounting; and legislation is one of the most used means to gain knowledge on accounting updates. Also, little communication takes place between accounting professionals and researchers and little professional participation in scientific accounting events.

The factor analysis revealed minimal levels of scientific knowledge and application of scientific research in professional practice. A possible approximation between researchers and professionals can be envisaged though, as the latter express this interest and appoint Regional Accounting Councils as possible agents in this approach.

The research themes evidenced in the factor analysis as of great interest according to accounting professionals' opinion (accounting and capital market, tax accounting and management accounting) coincide with the most studied themes at accounting congresses, as well as with research on the theme, as presented in the theoretical framework. This fact represents an important element to reduce existing barriers between accounting research and practice.

These barriers mainly correspond to communication between the academy and professionals, revealing that reading papers and participating in scientific accounting events should be further encouraged. These represent fundamental steps to approach both groups. Accounting professionals, however, should have the knowledge needed for the perfect interpretation and understanding of scientific accounting research results, which already exists according to the professionals. Further interaction between academics and Accounting professionals can enhance the elaboration of important projects for Accounting, marked by the involvement of both, which will contribute to the development of the area and society in general.

This research offers the opportunity to proceed in this research direction, whether by replicating it in other states for the sake of result comparison or by involving other Accounting users and verifying how structural issues in the education system interfere in the interaction between accounting research and practice.

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