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ARTICLE

Establishing the Main Mechanisms for the Accounting Information Governance: Delphi Study with Accounting Experts

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ABSTRACT

This study aims to identify the main mechanisms of Accounting Information Governance. The Delphi method was applied in three stages with accounting experts to evaluate a set of mechanisms for managing accounting information. As a result, a ranking of priority mechanisms is presented, which indicates a list of necessary conditions for better data and information management. Such evidence could be useful for both the practice of accounting and for the training of future professionals who need to be able to face the challenges related to the impact of new technologies and the increasing volume of data and information. In terms of Information Governance, this study adds field evidence to the remaining gaps on this subject regarding the identification of the best mechanisms for using data and information and creating value.

KEYWORDS

Information governance, Accounting information, Mechanisms, Delphi

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Estabelecendo os principais mecanismos para a governança da informação contábil: um estudo Delphi com especialistas em contabilidade

RESUMO

Este estudo tem como objetivo identificar os principais mecanismos que podem ser utilizados para a Governança da Informação Contábil. Por meio da técnica Delphi, realizada em três etapas com especialistas em Contabilidade, avaliou-se um conjunto de mecanismos para governar a informação contábil. Como resultado, tem-se a apresentação de um *ranking* de mecanismos prioritários, que pode indicar uma lista de condições necessárias para uma melhor gestão dos dados e das informações. Tais evidências podem ser úteis tanto para a prática contábil quanto para a formação de futuros profissionais que precisam estar aptos aos desafios relacionados ao impacto de novas tecnologias e ao volume crescente de dados e de informações. No que tange à Governança da Informação, o estudo adiciona evidências do campo às lacunas que ainda existem nessa temática sobre a identificação de boas práticas para um melhor uso e criação de valor dos dados e das informações.

PALAVRAS-CHAVE

Governança da Informação, Informação Contábil, Mecanismos, Delphi

1. INTRODUCTION

Data and information are considered a critical and strategic resource for organizations (Ward & Carter, 2019). In accounting, some challenges related to the increasing volume of data and the impact of new technologies are highlighted. For example, the changes brought about by big data present new risks and opportunities to accounting professionals in all their subareas of activity (Huerta & Jensen, 2017). The relevance of these aspects is illustrated in the statement by Ibrahim et al. (2021, p.1), who indicated that, "data are the heart of accounting".

In this scenario, information governance (IG) emerges as a potential area for both research and accounting practice (Cockcroft & Russell, 2018; Coyne et al., 2018) for allowing better management of the information use, protecting it and maximizing its value inside and outside of the organization (Kooper et al., 2011). Managing data and information involves a set of practices (mechanisms) ranging from the establishment of decision-making rights and policies to specific procedures on information management (Faria et al., 2017; Mikalef et al., 2020; Tallon et al., 2013).

Such importance is reflected in demands for studies that address the implementation of effective governance mechanisms related not only to big data, but also to other elements such as business intelligence and analytics in accounting (Rikhardsson & Yigitbasioglu, 2018). However, little is known about how companies implement their information governance mechanisms (IGM) (Tallon et al., 2013). In addition, many companies are just beginning to adopt governance practices in data use, as revealed by the global information security survey carried out by PricewaterhouseCoopers (PWC, 2018).

Despite this, IG is related to some issues that are urgent for organizations regarding how to create value by leveraging data while avoiding problems arising from data generation, collection,

and processing (Vial, 2020). Accounting has been increasingly focused on data analysis and the generation of useful and relevant information for decision making (Coyne et al., 2018; Neely & Cook, 2011). The accounting data used in the various techniques related to the accounting function, such as in financial reporting, cost measurement, depreciation estimates, taxation, compliance, and management reports, among others, aim to meet the various needs of stakeholders and are highly dependent on efficient information management (Cockcroft & Russell, 2018; Coyne et al., 2018; Ibrahim et al., 2021; Rikhardsson & Yigitbasioglu, 2018). Thus, understanding useful and essential mechanisms for the governance of their information is relevant and has been demanding attention from this field (Coyne et al., 2018; Cockcroft & Russell, 2018; Ibrahim et al., 2021; Rikhardsson & Yigitbasioglu, 2018).

Given the context presented, this study aims to answer the following question: *What are the main information governance mechanisms that can be implemented to control the use and management of accounting information?* The objective is to identify the main mechanisms that can be used for accounting information governance (AIG). To this end, accounting experts were consulted through a ranking-type Delphi method. Over the course of three rounds, a consensus on the main accounting information governance mechanisms (AIGM) was sought to be established.

This research is justified by the need to identify governance structures that promote the expansion of ways of processing accounting data and that address the changes brought about by the current digital context in the accounting field (Coyne et al., 2018; Ibrahim et al., 2021; Rikhardsson & Yigitbasioglu, 2018). Thus, it was sought to reflect on potential practices that can ensure that accounting information is efficiently managed (Arnaboldi et al., 2017).

Such evidence extensively contributes to the knowledge on IG, presenting characteristics regarding the use of different IGM, which are seen as promising research areas (Abraham et al., 2019; Tallon et al., 2013). The formation of a theoretical framework on this subject in accounting also contributes to studies that indicate how to configure data governance in a specific environment (Abraham et al., 2019), besides corroborating with the issue highlighted by Coyne et al. (2018), who stated that the accounting roles tend to effectively contribute to IG.

2. LITERATURE REVIEW

2.1. Information Governance Mechanisms (IGM)

IG is a contemporary approach that involves an environment of opportunities, rules, and decision-making rights for information management (Kooper et al., 2011). It emerges to fulfill a gap that has not yet been addressed by the existing governance structures, allowing the management of the information flow in the entire organization (Faria et al., 2017; Mikalef et al., 2020).

IG also acts as an instrument to reduce information asymmetry problems, joining forces with information technology governance (ITG) – in which both instruments act as specific structures of corporate governance (Lajara & Maçada, 2013). According to Tallon et al. (2013), IG represents a set of practices for the creation, capture, evaluation, storage, use, control, access, archiving, and deletion of information throughout its lifecycle. It also involves policies, rules, standards, guidelines, procedures, and technologies that work through formal/hierarchical structures, decision-making rights, and responsibilities over information (Faria et al., 2017; Kooper et al., 2011). Besides involving ethics, culture, compliance, value, people, processes, and instruments that address the entire company (Faria et al., 2017).

The IG practices serve different purposes, being divided into procedural, structural, and relational mechanisms, which are consistent with the mechanisms of ITG (ITGM) (Abraham et al., 2019; Mikalef et al., 2020; Tallon et al., 2013; Weber et al., 2009). Tallon et al. (2013) pioneered the exploration of IG practices based on what has already been theorized on ITG.

The authors highlighted that the practices comprising ITG are applied to both to how physical IT is managed and to how information can be managed. When questioning 37 executives from 30 organizations from different sectors of the industry, the authors identified a set of the same procedural, structural, and relational practices, but focused on "managing or protecting the information artifact instead of just managing or protecting the physical artifacts of IT" (Tallon et al., 2013, p. 150).

Procedural practices encompass the information lifecycle based on the criteria of usefulness, including decision tasks and procedures for the necessary monitoring of IG (Abraham et al., 2019; Mikalef et al., 2020; Tallon et al., 2013). Structural practices encompass activities related to the roles of decision makers and the formal structures for IG (Abraham et al., 2019; Mikalef et al., 2020), and relational practices involve active participation and collaboration among stakeholders (Abraham et al., 2019).

Weber et al. (2009) highlighted the lack of a single approach to IG, whose mechanisms may have different degrees of maturity and sophistication, according to each organization (Tallon et al., 2013). As in the ITG perspective, in which specific characteristics may require different configurations, the complexity in determining which mechanisms should be implemented is also evident in IG (Lunardi et al., 2014). Such aspects reinforce the identification relevance of key elements that can be used for accounting information governance (AIG).

2.2. Accounting Information Governance Mechanisms (AIGM)

The discussion of IG in the accounting context is timely for allowing the management and information quality development (Lajara & Maçada, 2013). The identification of essential IGM can provide benefits to the accounting field, whose main objective is to provide useful and relevant information to stakeholders, contributing to the decision-making process (Coyne et al., 2018; Huerta & Jensen, 2017; Neely & Cook, 2011). AIG differs from the broader IG its interest is directed towards mechanisms essentially focused on the accounting context.

Thus, some researchers are beginning to indicate the relevance and need for advances in aspects of IG for accounting (Arnaboldi et al., 2017; Coyne et al., 2018; Demarquet, 2016; Zhai & Wang, 2016). According to Zhai and Wang (2016), high-quality accounting information plays an important role in governance, as it helps to monitor opportunistic management behaviors, maximizing the interests of shareholders and strengthening the development of corporate governance. Thus, a better understanding of the "functions of accounting information governance" is required from researchers, given the accounting data relevance as an essential information resource (Zhai & Wang, 2016).

New information sources, such as those arising from the use of big data and social media, may involve accounting practices and impact the reliability of collected information, processing methodologies, use risks, and organizational adequacy (Arnaboldi et al., 2017). The increasing availability of new and non-traditional information intensifies the demand for reporting, exposing organizations to new risks and prompting greater attention to regulators (Coyne et al., 2018).

Therefore, a challenge for the practice of accounting is the management control mechanisms aimed at obtaining insights into the information value and ensuring that this information is managed and used in an appropriate and protected manner (Arnaboldi et al., 2017). In this

line, the investigation on the governance of resources of big data information in the accounting context and on changes in the decision-making process stands out (Arnaboldi et al., 2017). It is important to explore the risks that Big Data creates, to document policies of IG from the accounting practice, and to study the factors that lead to effective governance structures and policies (Coyne et al., 2018).

Bringing up aspects of accounting and financial routines, Demarquet (2016) discussed that the governance of corporate data provides greater precision in financial and management reporting; a faster financial close, with more reliable results; greater process transparency and clearly demonstrated compliance; and greater ease of use and speed in dealing with major changes, such as mergers and acquisitions. Such prerogatives, according to the author, although being essential to providing the best accounting-financial functions, are frequently not considered as important company assets.

One of the main accountants' concerns is related to the accounting information quality. Thus, to take into account mechanisms aimed at the governance of accounting information is relevant, since data are essential for the accounting function, which encompasses several attributions, such as the provision of financial reports, risk assessment, and management, performance measurement, the preparation of corporate budgets, and the application of various techniques in business activities (Ibrahim et al., 2021).

The study by Coyne et al. (2018) sought to provide a first step to encouraging the involvement of accountants in IG and a first attempt to formalize the knowledge necessary in a new field of the accounting profession. According to the authors, accounting professionals are valuable contributors to a more efficient management of corporate information - as business experts, they have unique expertise in business intelligence, internal control, and regulatory compliance. Accountants are familiar with many practices, especially those that involve managing financial reporting. However, additional practices are needed to address data volume`s unique risks, velocity, and variety of big data (Coyne et al., 2018).

Thus, the relevance of this subject is highlighted, as accountants have invested interest in the structures and policies of IG (Coyne et al., 2018). However, specific focus on the possibilities that IG can provide for accounting, on the ways for its operationalization, on its characteristics, and on potential mechanisms for AIG is needed.

3. METHOD

In order to identify the main mechanisms that can be used for accounting information governance (AIG), a quantitative and qualitative approach, conducted through a Delphi, was used, which allows the consolidation of an intuitive judgment from a experts group (Dalkey & Helmer, 1963). Delphi is useful in complex research questions that include the need to obtain order or assign importance to a set of items for research and/or practice (Worrel et al., 2013).

The decision of the method to be used in this study corroborates the approach by De Haes and Van Grembergen (2008), who investigated the best ITG practices at a time when this subject was still incipient for IT. Through the Delphi technique, the authors detected a practices set necessary for the ITG implementation. In the extensive literature on Accounting Information Systems (AIS), Worrel et al. (2013) indicated that Delphi has the potential to make significant contributions to the understanding of useful technologies and their influences on reporting, on governance aspects, risk, and control of organizations, and on the accounting processes.

Its essential characteristics are the participation and formation of a panel of experts on the subject; the anonymity of the responses, the performance of successive rounds, the iteration and feedback that allow the review of individual choices and justifications, and the indication of new ideas among panelists (Skinner et al., 2015). In this research, we chose to use the ranking-type Delphi, which evaluates a group consensus regarding the relative importance of a questions set (Paré et al., 2013; Schmidt, 1997).

According to the authors, ranking-type Delphi seeks to identify and classify key issues from the consensus creation. It is commonly used in business to guide management actions and research agendas, also standing out among information system researchers (Paré et al., 2013; Schmidt, 1997).

The ranking-type Delphi includes the three following steps: brainstorming, narrowing down, and ranking (Paré et al., 2013; Schmidt, 1997). According to Paré et al. (2013), brainstorming is the experts' input for the next steps, since it gives respondents the freedom to list the items that, in their view, are important for the area of interest under study. The responses are analyzed to obtain a final list, which is used to make the questionnaire for subsequent rounds (Paré et al., 2013; Worrel et al., 2013). The narrowing down step, in turn, involves the reduction of the list resulting from the previous step to a number that is manageable for ranking in the third stage. Finally, the ranking step aims to reach a consensus on the ranking of the selected items, which may involve several rounds of collection and analysis of the rankings of experts.

Changes in fundamental characteristics of the Delphi method may be necessary depending on the research question or a particular context (Hsu & Sandford, 2007; Paré et al., 2013; Skinner et al., 2015). In the case of this study, the brainstorming step was replaced by a structured questionnaire, which is an acceptable and common modification in Delphi studies (Hsu & Sandford, 2007; Paré et al., 2013). It is similarly feasible when there is a preexisting literature and the researcher is interested in leveraging or expanding the study field (Worrel et al., 2013). Thus, it is possible to modify the brainstorming step to allow the insertion of a list of factors arising from the theory or from previous research for narrowing down (Worrel et al., 2013).

Thus, the input instrument is a structured questionnaire derived from a systematic review of the literature on ITGM and IGM and from interviews with five accounting experts (two managers and three academics with more than 20 years of experience in the accounting area), who indicated the adaptation of these items to accounting (Figure 3). Therefore, in Step 1 it is sought to narrow (reduce) the list of mechanisms for the following ranking steps.

Hsu and Sandford (2007) pointed out that three iterations in most cases are sufficient to collect the necessary information and reach a consensus. However, if a given study follows all the methodological recommendations, it could involve up to six rounds of questionnaires and feedbacks, which would be time-consuming for the experts involved (Paré et al., 2013). As a result, researchers frequently modify the Delphi method, combining and even skipping steps (Paré et al., 2013). However, a panel may be over for reaching a pre-specified number of iterations and its continuation would overwhelm panelists (Paré et al., 2013; Schmidt, 1997; Worrel et al., 2013). In this study, Delphi was applied in three steps, as shown in Figure 1:

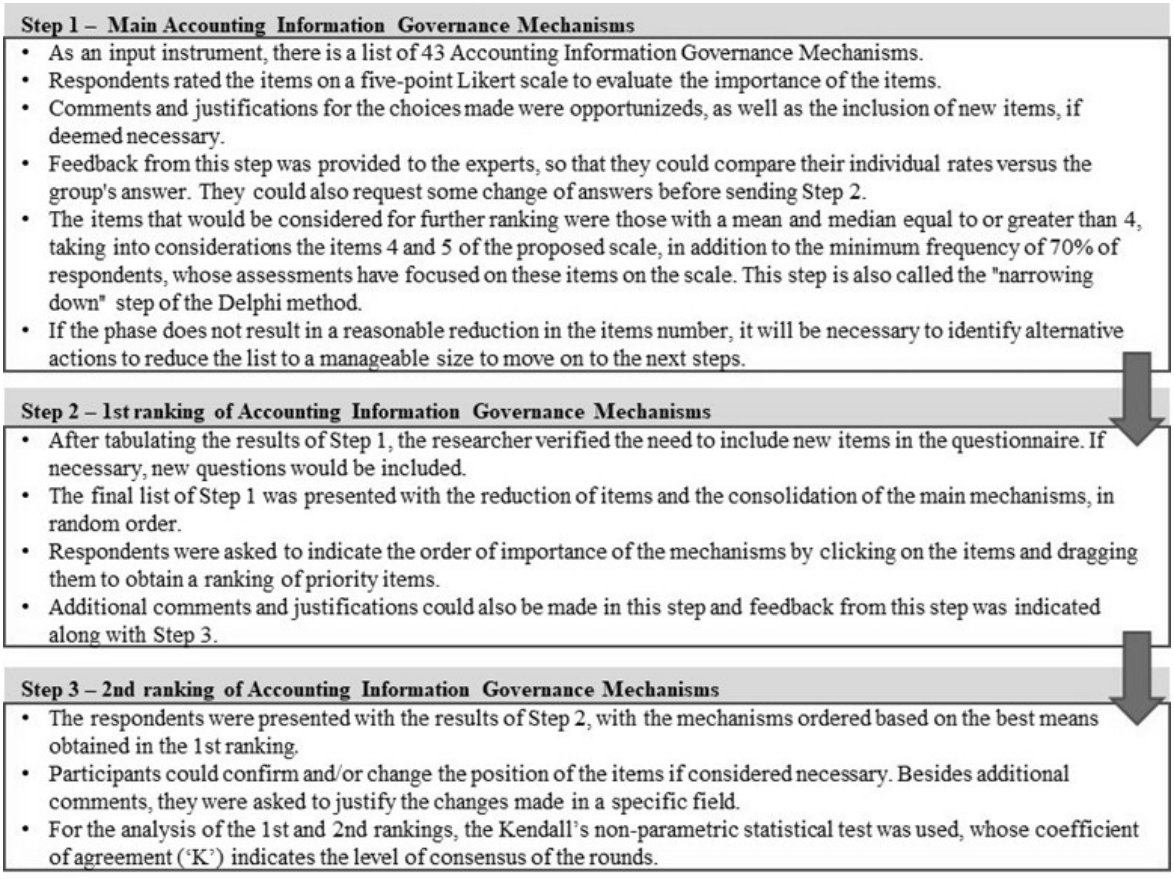

Figure 1. Delphi Systematization
Source: Prepared by the authors.

In each round, specific procedures were performed to achieve the objective proposed in this study (Figure 1). It is noteworthy that the procedure elaborated for this study follows the literature on the technique (Dalkey & Helmer, 1963; Paré et al., 2013; Skinner et al., 2015).

The questionnaires were made available through the online platform SurveyMonkey, enabling participants to complete the steps by answering with convenience, according to their business schedules. The most appropriate analysis technique depends on the form of data collected, and that is why it is important to consider the involvement of qualitative and quantitative analyzes (Skinner et al., 2015). From descriptive statistics, central tendency measures (mode, mean, and median) are the most used in the method (Von der Gracht, 2012).

For the ranking step, in addition to the average items ranking, the percentage of experts who placed a given item in the top half of the list and the Kendall's 'W' coefficient of agreement were also included (Paré et al., 2013; Schmidt, 1997). The Kendall's W coefficient of agreement measures current agreement (the list ordered by average classifications) with a least squares solution, being the most popular method for this purpose mainly due to its simplicity of application (Schmidt, 1997).

This non-parametric statistic evaluates agreement among respondents, where 0.1 indicates weak agreement and 0.7 indicates strong agreement (Schmidt, 1997; Von der Gracht, 2012). A statistically significant W statistic suggests that the participants agree regarding the relative rankings of the items (Cegielski & Jones-Farmer, 2016). If the Kendall's W coefficient is below 0.7, the items must be listed in order of mean rating and sent back to the participants for evaluation and

review (Okoli & Pawlowski, 2004). Therefore, the calculation of the coefficient is crucial for the continuity of the ranking rounds. These measures are intended to indicate group consensus - a key component of the analysis and interpretation data Delphi (Von der Gracht, 2012).

In order to increase research quality, some recommendations for the validity and reliability of the method were attempted to be followed. One of them was to conduct a pre-test of the questionnaire's instructions, and to conduct subsequent data collection and analysis with five doctoral students specializing in accounting and information systems in order to enable some sensitive adjustments to the texts of the questions and facilitate comprehension. This procedure did not consider any inclusion or exclusion of AIGM, whose elements are actually derived from a previous stage of research. Although being recommended, few IS studies validated the instrument and performed a pilot the method (Paré et al., 2013; Skinner et al., 2015).

Other recommendations indicated by Paré et al. (2013) were adopted in this study in order to mature the IS field and increase rigor in papers that use Delphi: (i) to provide detailed information on the participating experts to allow better judgments on their credibility; (ii) to randomly order the items in the first round and then order the items by average ranking in the following rounds during the ranking step; (iii) to provide opportunities for experts to comment, justify, and add something in the rounds for a better understanding of the logic used by them; and (iv) to specify and apply a clear stopping rule and justify any changes in the ranking-type Delphi method.

3.1. Profile of participating experts

Regarding the selection of individuals, there is no exact criteria listed in the literature (Hsu & Sandford, 2007), nor exact criteria for an ideal number of subjects (Paré et al., 2013). For Skinner et al. (2015), the panel usually has from 10 to 30 experts. The review by Worrel et al. (2013) on Delphi studies published in Accounting Information System (AIS) and Management Information System (MIS) journals revealed that most studies used from 10 to 30 expert participants. Following these recommendations, we sought to form a panel with at least from 20 to 30 participants.

In addition to experience and knowledge on the subject, training in the study field, as well as individual willingness to participate, including willingness to participate in multiple rounds, were considered (Paré et al., 2013). To this end, individuals with notorious knowledge were considered, who had, in addition to experience and proven academic degrees, connections to academic and professional institutions and interface both with professional practice in organizations and with the teaching of accounting sciences, in the same way as performed by Miranda et al. (2014). The experts were selected using the accessibility technique. After the researcher contacted each participant (in person, by phone, or digitally), the formal invitation with the link to access the questionnaire was sent by email.

Data collection took place between September 4 and October 16, 2018. It is noteworthy that all ethical procedures, including the consent form and other clarifications related to the participation of experts in the study (e.g., use of data for the research, confidentiality, and anonymity) were followed to carry out this research. Figure 2 shows the experts distribution by accounting area and by the size of the company they work for.

Description of Study Participants

Expert	Area of activity in Accounting	Company size	Experience in the accounting area (years)	Expert	Area of activity in Accounting	Company size	Experience in the accounting area (years)
E1	Financial	Large	10	E20	Tax	Medium	15
E2	Controllership	Medium	14	E21	Audit	Large	9
E3	Tax	Large	5	E22	Financial	Large	12
E4	Controllership	Medium	25	E23	Tax	Large	15
E5	Accounting/Consulting office	Small	8.5	E24	Accounting/Consulting office	Small	15
E6	Accounting/Consulting office	Small	10	E25	Audit	Small	19
E7	Financial	Large	30	E26	Financial	Large	12
E8	Financial	Small	30	E27	Accounting/Consulting office	Small	10
E9	Controllership	Medium	15	E28	Audit	Large	14
E10	Audit	Medium	11	E29	Controllership	Medium	21
E11	Audit	Large	15	E30	Accounting/Consulting office	Small	20
E12	Tax	Large	15	E31	Financial	Medium	18
E13	Tax	Medium	15	E32	Accounting/Consulting office	Small	35
E14	Finance	Large	25	E33	Accounting/Consulting office	Medium	36
E15	Audit	Large	7	E34	Audit	Large	20
E16	Controllership	Large	15	E35	Financial	Small	12
E17	Tax	Large	8	E36	Controllership	Small	15
E18	Tax	Large	11	E37	Tax	Large	15
E19	Controllership	Small	20	E38	Finance	Medium	12

Summary by area of activity, company size, and gender of participants

Area of activity in Accounting	Number of participants	Percentage
Controllership and managerial	7	18.42%
Financial (corporate)	7	18.42%
Tax	8	21.05%
Audit	7	18.42%
Accounting/Consulting office	7	18.42%
Finance	2	5.26%
Total	38	100%

Company size	Number of participants	Percentage
Large	17	44.74%
Medium	10	26.32%
Small	11	28.95%
Total	38	100%

Gender	Number of participants	Percentage
Female	19	50.00%
Male	19	50.00%
Total	38	100%

Figure 2. Profile of participating experts
Source: Prepared by the authors.

Initially, the panel consisted of 38 experts from Brazil, all accountants, among which 80% had more than 10 years of experience in the accounting and most of them were postgraduates. According to data in Figure 2, the representativeness of experts from the classic areas of accounting working in large, medium, and small companies is observed. Furthermore, there was equity in relation to the gender of the participants. During the Delphi study, two experts dropped out, one of whom declined to proceed during the second round and the other in the third round.

Paré et al. (2013) highlighted that experts must represent a breadth of perspectives to ensure a broad knowledge base and the validity of results. In this context, the professionals' experiences participating in the research represent approaches that do not overlap each other and provide complementary and important views on the different practices for an efficient management of accounting information.

4. RESULTS

Initially, the rounds results (steps) of the Delphi study are presented, followed by the discussion on the main Accounting Information Governance Mechanisms (AIGM) that comprise the ranking obtained.

4.1. Step 1

In the first study step, the procedures described in Figure 1 were performed. The initial instrument for data collection presented to the experts shown in Figure 3.

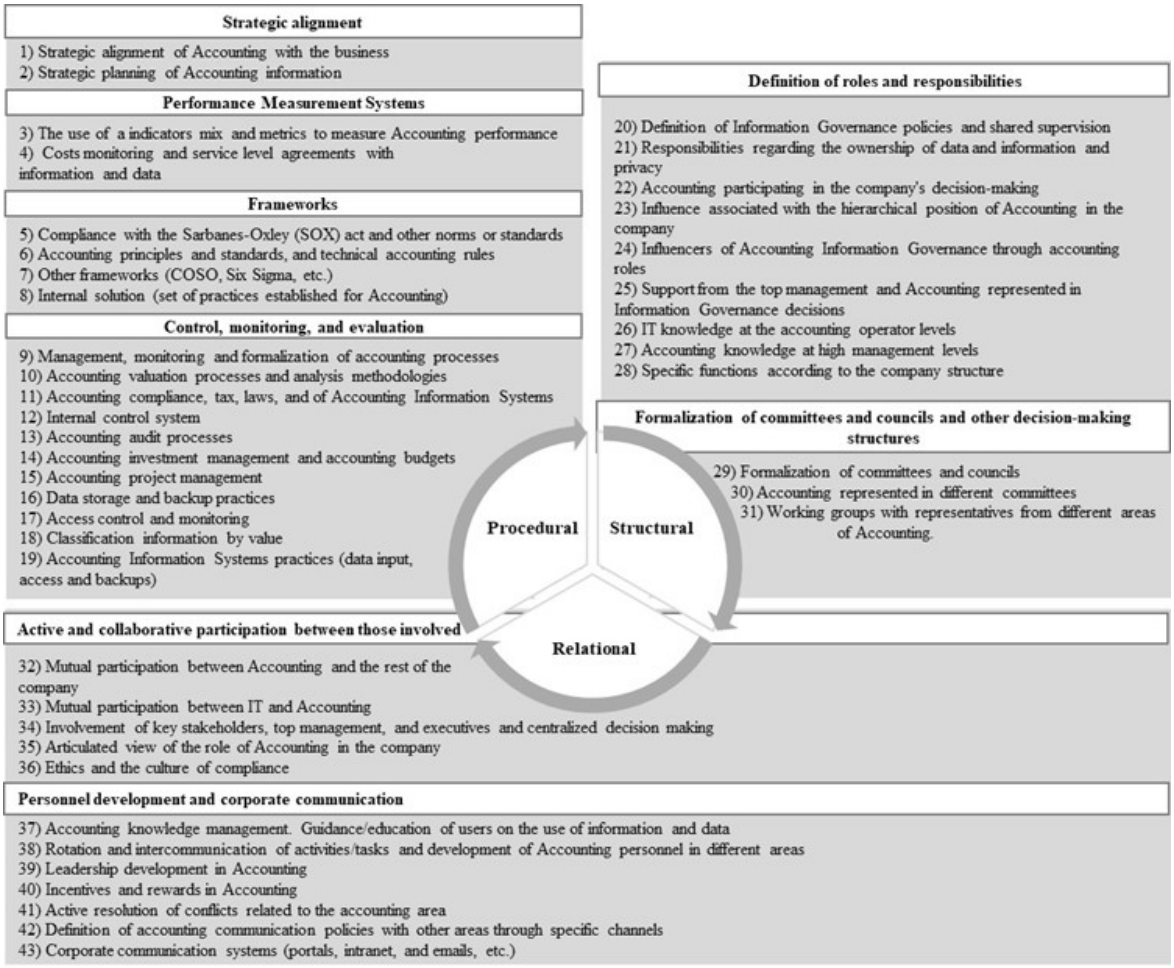

Figure 3. Accounting Information Governance Mechanisms Initial List
Source: Prepared by the authors.

The initial instrument for data collection was a questionnaire with 43 AIGM, which reflected the same typology of ITG and IG practices (Procedural, Structural, and Relational), and included the identification of subcategories, forming subgroups in each of the typologies according to definitions from the literature (Abraham et al., 2019; De Haes & Van Grembergen, 2009; Tallon et al., 2013; Weill & Ross, 2004). The items presented are elements adapted for accounting, aimed at managing accounting information, and aligned with its purpose of providing useful information for decision making (Coyne et al., 2018; Neely & Cook, 2011). The richness of practices addressed in the accounting context not only emerged from the use and support of the IG literature, but also from ITG, whose mechanisms are widespread and can be used to discover practices to manage information (Tallon et al., 2013; Weber et al., 2009).

In this first stage, respondents were asked to evaluate the relevance of the AIGM by using a 5-point Likert scale, as suggested in the use of the Delphi technique (Hsu & Sandford, 2007; Skinner et al., 2015; Von der Gracht, 2012). The Likert scale used comprised five points, ranging from '1-Strongly Disagree' to '5-Strongly Agree', as well as a sixth option ("Not Applicable") if the item did not apply to the management of the accounting information. According to Von der Gracht (2012), the Likert scale is particularly significant and useful in longer lists, enabling the identification of items that are more important and allowing a greater appropriation of them, especially when there is a high degree of uncertainty.

For the analysis of the expert's answers in step 1, we considered the mean and median of the items, based on the literature that deals with the method, which emphasizes the use of such core tendency measurements in order to effectively present information about the judgment of the expert group (Hsu & Sandford, 2007; Skinner et al., 2015; Von der Gracht, 2012). Besides, we considered a minimum frequency of respondents who marked the options "in agreement" (Partially/Totally Agree), based on the percentage of specialists who placed the items at the paramount tier, that is, in the highest scores of the scale (Paré et al., 2013; Schmidt, 1997). Thus, the procedures adopted for evaluating consider the literature on the method, with regards to the analysis Likert scale associated with the average scores and the frequency of respondents (Hsu & Sandford, 2007; Skinner et al., 2015; Von der Gracht, 2012). Details on the evaluation of step 1 are explained in Figure 1.

In addition, experts were given the opportunity to make recommendations and add, change, and/or delete some of the mechanisms. Figure 4 shows the consolidation of the group's responses on the importance of the mechanisms.

This step was answered by 38 experts. The incidence of means greater than 4 (considering the Likert5-point scale used) was observed for all items in the questionnaire, which obtained very similar scores, indicating sensitive differences between the mechanisms (Figure 4). Furthermore, at least 80% of the experts partially or totally agreed (4 and 5 points on the scale) regarding the relevance of the presented mechanisms. The high agreement on the importance of the items indicates that the experts validated the AIGM list, making it possible to infer that such a set is important in considering good accounting information control practices. Thus, the high averages in this first stage demonstrate the consistency of the mechanisms listed for the accounting area.

The Delphi technique is relevant for this research not only for formation of a ranking of priority elements in Stages 2 and 3, but also to obtain evidence on how the experts essentially evaluate the importance of the AIGM presented, as this research is of exploratory nature. The comprehension of how the group of experts understands the subject under analysis is something desired in the initial rounds of Delphi studies (brainstorming and/or reduction step) (Paré et al., 2013). It should be noted that there is no validated instrument in the literature of list of practices for Accounting Information Governance. This reinforces the relevance of understanding how the discussion of these elements would unfold.

Regarding the feedback process to participants, no feedback was received for changes in this step. This procedure intended to provide opportunities for peer reviews and results evaluations, allowing the expert panel to have a structured debate on the merits of the alternatives (Paré et al., 2013; Worrel et al., 2013).

The high averages made it difficult to naturally reduce the final list in this first stage. For experts, the broad set of AIGM is relevant and consistent. In this reduction step, it is recommended to proceed to the next step when having a list of 20 items (Paré et al., 2013; Schmidt, 1997), as the large number of questions involved hampers the classification for respondents (Schmidt, 1997). Thus, the researcher needs to identify alternative actions to reduce the list to a manageable size (Skinner et al., 2015). In addition, according to Schmidt (1997), if list is not reduced to a reasonable size, the researcher must consider discretionary criteria that would allow the research to continue, which is the norm for Delphi studies.

Item	Accounting Information Governance Mechanism	Mean	Median	Mode	Frequency of answers on scales 4 and 5	Typologies	Subgroups
1	Internal control system	4.95	5.00	5.00	100%	Procedural	Control, monitoring, and evaluation
2	Accounting compliance, tax, laws, and of Accounting Information Systems	4.92	5.00	5.00	97%	Procedural	Control, monitoring, and evaluation
3	Ethics and the culture of compliance	4.92	5.00	5.00	100%	Relational	Active and collaborative participation between those involved
4	Data storage and backup practices	4.87	5.00	5.00	97%	Procedural	Control, monitoring, and evaluation
5	Access control and monitoring	4.87	5.00	5.00	97%	Procedural	Control, monitoring, and evaluation
6	Strategic planning of accounting information	4.86	5.00	5.00	97%	Procedural	Strategic alignment
7	Support from the top management and Accounting represented in Information Governance decisions	4.84	5.00	5.00	97%	Structural	Definition of roles and responsibilities
8	Management, monitoring and formalization of accounting processes	4.84	5.00	5.00	100%	Procedural	Control, monitoring, and evaluation
9	Specific functions according to the company structure	4.82	5.00	5.00	95%	Structural	Definition of roles and responsibilities
10	Mutual participation between IT and Accounting.	4.82	5.00	5.00	95%	Relational	Active and collaborative participation between those involved
11	Responsibilities regarding the ownership of data and information and privacy.	4.82	5.00	5.00	97%	Structural	Definition of roles and responsibilities
12	Accounting knowledge management. Guidance/education of users on the use of information and data	4.82	5.00	5.00	97%	Relational	Personnel development and communication
13	Strategic alignment of Accounting with the business	4.82	5.00	5.00	100%	Procedural	Strategic alignment
14	Articulated view of the role of Accounting in the company	4.79	5.00	5.00	92%	Relational	Active and collaborative participation between those involved
15	Mutual participation between Accounting and the rest of the company	4.79	5.00	5.00	95%	Relational	Active and collaborative participation between those involved
16	Accounting principles and standards, and technical Accounting rules	4.79	5.00	5.00	97%	Procedural	Frameworks
17	Leadership development in Accounting	4.74	5.00	5.00	95%	Relational	Personnel development and communication
18	Accounting participating in the company's decision-making.	4.71	5.00	5.00	89%	Structural	Definition of roles and responsibilities
19	Accounting project management	4.71	5.00	5.00	92%	Procedural	Control, monitoring, and evaluation
20	Influencers of Accounting Information Governance through accounting roles	4.71	5.00	5.00	92%	Structural	Definition of roles and responsibilities
21	Accounting investment management and accounting budgets	4.71	5.00	5.00	95%	Procedural	Control, monitoring, and evaluation
22	Compliance with the Sarbanes-Oxley (SOX) act and other norms or standards.	4.69	5.00	5.00	92%	Procedural	Frameworks
23	The use of a indicators mix and metrics to measure Accounting performance	4.68	5.00	5.00	100%	Procedural	Performance Measurement Systems
24	Active resolution of conflicts related to the accounting area	4.66	5.00	5.00	92%	Relational	Personnel development and communication
25	Working groups with representatives from different areas of Accounting.	4.66	5.00	5.00	95%	Structural	Formalization of committees and councils and other decision-making structures
26	Corporate communication systems (portals, intranet, and emails, etc.)	4.65	5.00	5.00	89%	Relational	Personnel development and communication
27	Definition of Information Governance policies and shared supervision	4.63	5.00	5.00	95%	Structural	Definition of roles and responsibilities
28	Accounting Information Systems practices (data input, access and backups)	4.61	5.00	5.00	89%	Procedural	Control, monitoring, and evaluation
29	IT knowledge at the accounting operator levels	4.58	5.00	5.00	89%	Structural	Definition of roles and responsibilities
30	Definition of accounting communication policies with other areas through specific channels	4.58	5.00	5.00	89%	Relational	Personnel development and communication
31	Accounting valuation processes and analysis methodologies	4.58	5.00	5.00	92%	Procedural	Control, monitoring, and evaluation
32	Accounting knowledge at high management levels.	4.58	5.00	5.00	95%	Structural	Definition of roles and responsibilities
33	Costs monitoring and service level agreements with information and data	4.57	5.00	5.00	92%	Procedural	Performance Measurement Systems
34	Accounting audit processes	4.55	5.00	5.00	89%	Procedural	Control, monitoring, and evaluation
35	Incentives and rewards in Accounting	4.51	5.00	5.00	89%	Relational	Personnel development and communication
36	Influence associated with the hierarchical position of Accounting in the company	4.50	5.00	5.00	82%	Structural	Definition of roles and responsibilities
37	Internal solution (set of practices established for Accounting)	4.50	5.00	5.00	87%	Procedural	Frameworks
38	Formalization of committees and councils	4.50	5.00	5.00	89%	Structural	Formalization of committees and councils and other decision-making structures
39	Classification of information by value	4.50	5.00	5.00	92%	Procedural	Control, monitoring, and evaluation
40	Involvement of key stakeholders, top management, and executives and centralized decision making	4.42	5.00	5.00	84%	Relational	Active and collaborative participation between those involved
41	Accounting represented in the different committees	4.39	5.00	5.00	82%	Structural	Formalization of committees and councils and other decision-making structures
42	Rotation and intercommunication of activities/tasks and development of Accounting personnel in different areas	4.37	5.00	5.00	89%	Relational	Personnel development and communication
43	Other frameworks (COSO, Six Sigma, etc.)	4.36	4.50	5.00	82%	Procedural	Frameworks

Figure 4. Results from Step 1
Source: Prepared by the authors.

Consequently, the decision to reduce the set of items from the median of the means (Md = 4.69) was made taking into consideration the 22 items with the highest scores for the next steps of the Delphi. This decision sought a central point in the items in order to prioritize the purity and neutrality of data, as well as to decrease the influence of the researchers in the study, taking into account the basic literature on the method, since discretionarily, in this case, is inherent to the technique (Paré et al., 2013; Schmidt, 1997; Skinner et al., 2015). This decision is also based on the fact that measures of central tendency (mean, median, and mode) are among the main statistics used in Delphi studies to present the judgments of the expert group (Hsu & Sandford, 2007; Skinner et al., 2015; von der Gracht, 2012).

4.2. Step 2

In the second step, the experts received the questionnaire with the items presented at random and were asked to indicate the order of importance of the mechanisms, as described in Figure 1. Through the requests made through various channels established between the researcher and the participants by e-mail, WhatsApp, or through chat services on platforms such as Facebook and Linkedin, the answers of 37 experts were obtained in this second round.

To obtain ranking 1, the means, modes, and medians of each item were analyzed. The Kendall 'W' coefficient (W = 0.117) was calculated using the IBM SPSS Statistics software (version 25), indicating a weak agreement (low consensus) among the respondents (Schmidt, 1997). The test resulted in an adequate level of significance (p-value lower than 0.05), allowing the inference that the experts did not choose the positions of the items at random.

Low consensus may be acceptable for a first ranking, given the different opinions that may exist among the participants, as well as the diversity and quantity of items to be ordered. According to Paré et al. (2013), reaching consensus may involve several steps of collection and analysis of experts' rankings, which is one of the main determinants for the continuity of the rounds (Skinner et al., 2015).

4.3. Step 3

For the last Delphi study step, the procedures described in Figure 1 were also performed. One of the difficulties in implementing the Delphi technique is to maintain the engagement of participants in successive rounds (Paré et al., 2013). Thus, the requests for individual answers, the deadlines established in each round, and the contact with each expert were aspects of attention to minimize eventual dropouts.

In the third round, answers were obtained from 36 experts, who were asked to evaluate the order resulting from the previous round and whether it represented their individual opinion. If so, the option "yes, I agree" should be selected, and in case of disagreement, the expert could adjust the order of the items upon justification for doing so. The results of the final ranking are shown in Figure 5.

According to Figure 5, the 1st item is the one whose positions given by the experts allowed us to define it as the most important mechanism for accounting, with this same criteria being used for the other items. It was noticed that the means were more distributed regarding the position of the mechanisms. Furthermore, the calculation of the Kendall's coefficient of agreement (W = 0.839) indicated a strong consensus among experts (Schmidt, 1997). The test also resulted in an adequate significance level.

Ranking	Accounting Information Governance Mechanism	Mean	Typologies	Subgroups
1°	Ethics and the culture of compliance	2,19	Relational	Active and collaborative participation between those
2°	Strategic alignment of Accounting with the business	2,56	Procedural	Strategic alignment
3°	Accounting compliance, tax, laws, and of Accounting Information Systems	3,56	Procedural	Control, monitoring, and evaluation
4°	Accounting knowledge management. Guidance/education of users on the use of information and data	4,61	Relational	Personnel development and communication
5°	Support from the top management and Accounting represented in Information Governance decisions	5,69	Structural	Definition of roles and responsibilities
6°	Strategic planning of accounting information	6,78	Procedural	Strategic alignment
7°	Internal control system	7,17	Procedural	Control, monitoring, and evaluation
8°	Accounting participating in the company's decision-making.	8,58	Structural	Definition of roles and responsibilities
9°	Leadership development in Accounting	9,33	Relational	Personnel development and communication
10°	Mutual participation between Accounting and the rest of the company	9,44	Relational	Active and collaborative participation between those
11°	Management, monitoring and formalization of accounting processes	10,92	Procedural	Control, monitoring, and evaluation
12°	Influencers of Accounting Information Governance through accounting roles	11,94	Structural	Definition of roles and responsibilities
13°	Access control and monitoring	13,28	Procedural	Control, monitoring, and evaluation
14°	Articulated view of the role of Accounting in the company	14,00	Relational	Active and collaborative participation between those
15°	Specific functions according to the company structure	14,06	Structural	Definition of roles and responsibilities
16°	Accounting principles and standards, and technical Accounting rules	15,72	Procedural	Frameworks
17°	Compliance with the Sarbanes-Oxley (SOX) act and other norms or standards.	16,72	Procedural	Frameworks
18°	Accounting project management	17,08	Procedural	Control, monitoring, and evaluation
19°	Mutual participation between IT and Accounting.	18,64	Relational	Active and collaborative participation between those
20°	Responsibilities regarding the ownership of data and information and privacy.	19,58	Structural	Definition of roles and responsibilities
21°	Accounting investment management and accounting budgets	20,22	Procedural	Control, monitoring, and evaluation
22°	Data storage and backup practices	20,92	Procedural	Control, monitoring, and evaluation

Legend

Incates changes between pairs of mechanisms, in relation to ranking 1.

Figure 5. Final ranking
Source: Prepared by the authors.

The items marked in Figure 5 are the mechanisms that presented a variation in position in relation to the previous round (ranking 1). For example, in Step 2 the mechanism 'Leadership Development' occupied position 10 and the item 'Mutual participation between Accounting and the rest of the company' occupied position 9. The same occurred with the other two marked pairs, which only changed from one position to another. Such changes are unrepresentative. However, it is important to discuss the final mechanisms ranking.

The ranking obtained can be seen as a minimum baseline, i.e., a necessary set of practices to implement IG in the Accounting, as did De Haes and Van Grembergen (2008) on ITG practices. The mix of mechanisms presented indicated that these different practices (Procedural, Structural, and Relational) are fundamental in accounting and should be chosen and used according to the approach for IG of given organization (Abraham et al., 2019).

Finally, it was not necessary to include new mechanisms according to the comments and justifications made by the experts in the 3 rounds. The experts' observations were mostly directed towards 1) the reinforcement of the importance of the items, indicating a reflection on the information in the accounting context; 2) the relationship of mechanisms with the business environment and the needs of companies, as well as the dependence of items on their size and organizational reality; and 3) concerns about future perspectives of accounting functions.

One of the Delphi method strategies is precisely to value the indications made by the panelists, as well as to identify new ideas and opinions on the subject. Thus, the relevance of both the submissions and returns performed by the experts, as well as the individual answers analysis, feedbacks, and group results are highlighted. Such evidence provides researchers with the ability to judge causality, which is crucial to the development of the theory under study (Worrel et al., 2013).

4.4. Ranking of Mechanisms for Accounting Information Governance

The ranking presented allows for a greater understanding of the overall classification obtained. Thus, the description of the mechanisms is presented, including the experts' comments regarding their evaluation in relation to the respective items.

4.4.1. Top 5 mechanisms for Accounting Information Governance

Initially, the **top five AIGM in the ranking** are highlighted (Figure 6). Subsequently, the other AIGM are discussed based on the mechanism's typologies (Procedural, Structural, and Relational) and their subgroups.

Ranking	Accounting Information Governance Mechanism		
1st	Ethics and the culture of compliance.	Relational	Active and collaborative participation between those involved
2nd	Strategic alignment of Accounting with the business.	Procedural	Strategic alignment
3rd	Accounting compliance, tax, laws, and of Accounting Information Systems	Procedural	Control, monitoring, and evaluation
4th	Accounting knowledge management. Guidance/education of users on the use of information and data.	Relational	Personnel development and communication
5th	Support from top management and Accounting represented in Information Governance decisions.	Structural	Definition of roles and responsibilities

Figure 6. Top 5 AIGM
Source: Prepared by the authors.

'Ethics and culture of compliance' is a key element for AIG according to accountants, as *"the lack of professional ethics can cause the loss of all efforts to generate complete and useful accounting information"* (E31). The ethical awareness and the promotion of a compliance culture frequently integrate the scope of IG in the literature for helping companies to achieve an effective level of governance (Faria et al., 2017). These elements can be pursued by a business strategy that guides information policies and all the elements necessary for their implementation, thus supporting the prevention and detection of conducts that may damage the governance (Ward & Carter, 2019).

The **'Strategic alignment of accounting with the business'** may promote a better accounting and corporate information management, as accounting represents *"a powerful tool for analysis and decision-making"* (E38). A consistent information management strategy must translate and sustain the business strategy, recognizing the data importance to the organization and codifying it into practices and guidelines that support its operations (Vial, 2020; Ward & Carter, 2019), ensuring the integration of accounting with business processes to achieve strategic organizational results, as in ITG (Weill & Ross, 2004). Although this item is seen as primordial, the information still lacks alignment with the business needs, *"[...] especially in small and medium-sized companies, there is, without a doubt, a great distance"* (E19).

The relevance of **'Accounting compliance, tax, laws, and of accounting information systems'** for AIG is highlighted by E8, who mention that accounting "*[...] needs to be sure that the information generated is fully complying with the rules"*. For E23, "*Accounting needs to ensure compliance in the organization"*. The compliance monitoring enables to track and enforce diverse regulatory requirements and organizational policies, standards, and procedures, among others (Abraham et al., 2019). On the other hand, the use of this mechanism by IG may accelerate compliance with regulatory aspects, reducing the penalties risk in case of non-compliance (Tallon et al., 2013).

'Accounting knowledge management. Guidance/education of user on the use of information and data' reflects the importance of cares regarding the process of preparing information (E30, E32, and E38). Efforts to educate and train people who deal with data include guidance on risks and costs related to the use and storage of data (Coyne et al., 2018; Tallon et al., 2013). The development of skills and training of personnel is highlighted (E10), as *"besides the technical knowledge that accounting requires, it is essential to have skills to make judgments when recording operations/transactions"* (E9). For E5, there is still a lack of knowledge in the company's internal accounting departments, as *"[…] involvement in other administrative activities shifts the focus of professionals"*.

'Support from top management and accounting represented in IG decisions' is shown as a priority mechanism, denoting that this support is necessary to control information, as well as the involvement and monitoring in the support of the decision-making process and on IG. This fact is reinforced by E5, who stated that *"[…] in foreign companies, nothing is done without the presence of accounting"*. The senior management plays a significant role in IG decisions, as it assigns responsibilities and obligations and monitors the IG development (Mikalef et al., 2020). Changes will hardly occur without the necessary support and participation in the implementation of the AIGM.

These items are presented as the minimum set of AIGM necessary to control accounting information. In general, the results of the research reveal the important informational needs of accounting professionals, who seek to meet and be aligned with the informational demands of other stakeholders (both internal and external to the organization), thus effectively contributing to IG (Coyne et al., 2018).

4.4.2. Other mechanisms that comprise the ranking of Accounting Information Governance

The other mechanisms comprising the ranking are shown in Figure 7, followed by their respective typologies, which reflect the purpose and characteristics of the item according to the initial list.

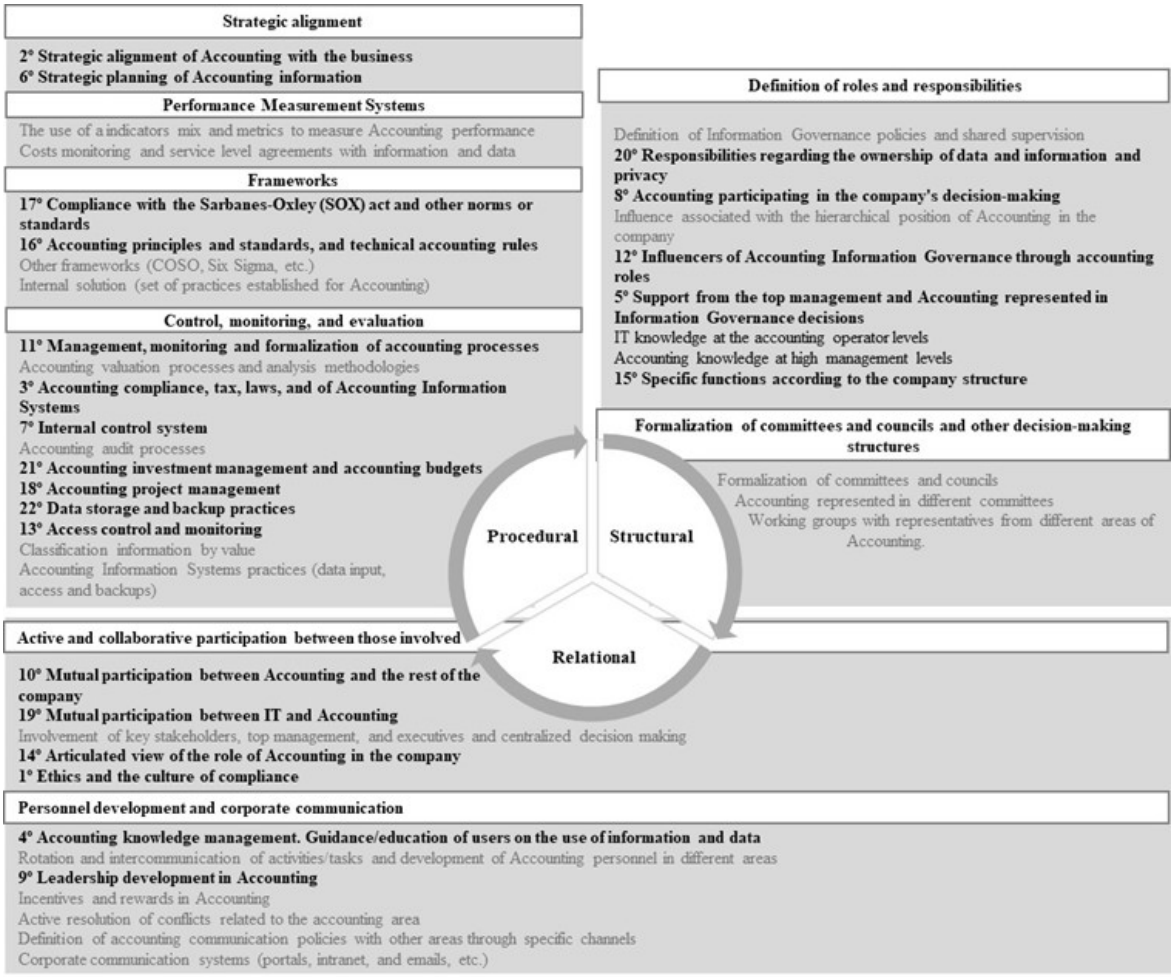

Figure 7. Initial list and AIGM ranking
Source: Prepared by the authors.

Thus, Figure 7 illustrates the ranking of the AIGM versus the other elements presented to the experts at the beginning of the study, highlighting their respective subgroups and typologies. The Procedural, Structural, and Relational mechanisms represent the central dimension of IG (Abraham et al., 2019). The ranking shows a greater representation of the procedural mechanisms, whose items involve strategic decision-making, monitoring, and the evaluation of IG guided by procedures and by the way organizations perform IG (De Haes & Van Grembergen, 2009; Mikalef et al., 2020; Tallon et al., 2013).

4.4.2.1. Procedural mechanisms

Among the procedural mechanisms, the **'Strategic planning of accounting information' (6th place in the ranking)** can help in the **'Strategic alignment of accounting with the business'** by expanding the provision of useful information in decision-making (E32, E27), such as the Strategic Planning in IS, which helps to align IT with corporate strategies, supporting senior management and providing involvement in decisions and strategies related to IT (Lunardi et al., 2014). The data strategy must be based on strategic business objectives, guiding principles, and the achievement of short- and long-term objectives in IG (Abraham et al., 2019). However, *"[…] there is a significant challenge in practice"* (E22), especially *"[…] in small- and medium-sized companies, where accounting is frequently outsourced and no type of alignment is perceived"* (E26).

The **'Accounting Principles and Standards, and Technical Accounting rules' (16th place in the ranking)** are relevant frameworks that, according to E34, *"[…] allow a substantially higher quality of information"*, providing greater information governance. This fact is supported by Zhai and Wang (2016), who highlighted that accounting standards and their related rules and principles improve the accounting information quality and ensure the provision of useful accounting information, assisting in the decision-making process. These are good practices that allow companies to make their decisions based on verifiable economic transactions that meet the needs of various users, such as investors, shareholders, the government, customers, and other stakeholders (Cockcroft & Russell, 2018; Ibrahim et al., 2021).

The **'Compliance with the Sarbanes-Oxley (SOX) act and other norms or standards' (17th)** is similar, which requires information to be managed throughout its lifecycle to achieve a solid IG and an adequate level of compliance (Ward & Carter, 2019). However, the application of these frameworks should be weighed, as *"[…] the Sarbanes-Oxley act is robust and difficult to apply to medium and small entities, being necessary to adapt these frameworks of good practices for governance according to the size of each company"* (E6). Regardless of the company size, this mechanism becomes even more relevant in companies that do not access external auditing, for example, ensuring greater information integrity (E26).

An effective **'Internal Control System' (7th)** helps in informational control, as *"[…] monitoring the controls for an adequate work ensures efficiency and security in the information generated, which support users' decision-making"* (E9). According to E22, *"[…] efficient internal controls are useful further the simple accounting information generation. Controls affect the business and should be the central point of action of the accounting departments"*. For Coyne et al. (2018), the internal control (as well as regulatory compliance) is an important element for a more efficient information management, whose accounting expertise tends to contribute to advances in this regard.

This evidence corroborates the importance of **'Management, monitoring, and formalization of accounting processes' (11th)**, since well-established, standardized, and documented processes are necessary to obtain correct and timely information. This is a mechanism that *"[…] helps in the future traceability of the current business management"* (E17); *"[…] ensures the standardization and continuity of processes in case of staff turnover"* (E35); and allows procedures and work instructions to be well documented in the accounting (E6 and E17). Processes for developing and maintaining rules for data lifecycle management; for policy alignment and validation; performance measurement, and for solving problems on IG aim at achieving the governance of information resources and related activities (Abraham et al., 2019; Weber et al., 2009).

The **'Access control and monitoring' (13th)** is relevant and basic for any IS (E26, E32). These are essential practices for IG, as they aim to protect data against misuse through requirements to monitor access to information (Tallon et al., 2013), similarly to **'Data storage and backup practices' (22nd)**, which includes retention practices to protect data and information, ensuring that they are organized and cataloged according to the company's standard (Coyne et al., 2018; Tallon et al., 2013). According to E17, *"[…] security in data storage is extremely important for the accounting area due to constant inspections"* and to maintain the data accessible and organized (E32). This allows addressing the risks of irrecoverability and unauthorized access (Coyne et al., 2018; Tallon et al., 2013).

The **'Accounting project management' (18th)** may encompass issues related to the sector computerization and compliance with a new bookkeeping or tax obligation, among others. This AIGM allows *"measuring the 'additional' need for resources (financial and personnel), that is, everything that would be necessary to be performed, besides the 'routines' of the sector"* (E35). Along with the

'Accounting investment management and accounting budgets' (21st), these mechanisms guide the company's investment capacity and decisions on resources to be allocated to the demands of the area (E35). Thus, they allow the organization to analyze estimated benefits and costs to better manage investments in projects and prioritize the right investments (Lunardi et al., 2014). These mechanisms are relevant due to the need for accounting processes automation arising from regulatory bodies, *"[…] as the tax authorities are increasingly automated and integrated, and companies need to be aligned with this context"* (E4).

4.4.2.2. Structural mechanisms

Regarding Structural mechanisms, the **'Accounting participating in the company's decision-making' (8th)** highlights the importance of participation and monitoring of accounting in relation to the decisions of the company as a whole. This involvement is necessary for AIG especially when it involves changes that impact information management, as accounting *"[…] plays an important role in providing managers and directors with data, information, and the requirements of current legislation, so that decision-making is assertive, contributing to the growth of the business"* (E10). The mechanism **'Influencers of Accounting Information Governance through accounting roles' (12th)** is similar, which indicates an important and necessary condition that arises from the accountant's role to influence IG issues in the company. Accounting should be part of future conversations on IG, contributing to decision-making processes and assisting in critical thinking (Arnaboldi et al., 2017).

'Specific functions according to the company's structure' (15th) includes the controller or Chief Financial Officer (CFO), the chief accountant (accounting manager), and even positions related to the tax or managerial areas, among others. According to E24, *"[…] the segregation and existence of such functions generates many gains for the company, such as speed in processes and internal intelligence"*. However, the specific context of the company, as well as the dependence on its management model, rule the application of this mechanism (E32). The roles assignment and responsibilities are, in fact, configurations unique to each company (Weber et al., 2009). Even so, these functions are becoming more strategic by supporting and executing the main transformation programs within the organization, identifying areas for improvement, simplifying internal processes, and refining accounting and information technology applications to be more efficient (Demarquet, 2016).

The **'Responsibilities regarding the ownership of data and information and privacy' (20th)** was highlighted by E32, who indicated that *"[…] all data must have a person in charge within the organization"*. These practices aim to create rights and responsibilities not only regarding ownership, but also regarding data administration, representing a relevant step in the implementation of a IG program (Tallon et al., 2013). Thus, the Structural mechanisms in the ranking highlight aspects of defining rights and responsibilities through roles, formal positions, and allocation of decision-making power (Abraham et al., 2019; De Haes & Van Grembergen, 2009; Tallon et al., 2013). These aspects determine the formal governance structure, which defines and enables the effectiveness of IG policies and other practices in the organization (Faria et al., 2017).

4.4.2.3. Relational mechanisms

Regarding the Relationals mechanisms, the **'Mutual participation between Accounting and the rest of the company' (10th)**, according to E22, is *"[…] a primary need to be satisfied"*. This mechanism promotes the knowledge on the business as a whole, involving other areas, as *"[…] Accounting is part of a company, and it is necessary to know it to perform accounting actions"* (E32). This participation is necessary as accounting professionals have a strong ability to identify the information and control needs of internal and external decision makers, playing a significant role in IG (Coyne et al., 2018).

The **'Mutual participation between IT and Accounting' (19th)** is relevant as there must be synergy between these areas within the business (E17 and E32). Thus, they must work together (E7). On the other hand, E22 noted that perhaps it is a goal that is still far from being reached. Accounting professionals, together with IT professionals, work both in the design and maintenance of IS, being valuable contributors to governance structures (Coyne et al., 2018). These areas have fundamental roles in information processing and contribute to business growth by delivering value on technology and information (Arnaboldi et al., 2017; Coyne et al., 2018; Faria et al., 2017).

The **'Articulated view of the role played by Accounting in the company' (14th)** helps to understand the role of accounting governance in the company. For E25, this is a *"[…] broad and very important item that should be at the top of the ranking, along with the Strategic Alignment of Accounting with the business"*. These mechanisms highlight that, in fact, IG presents itself as a necessary approach for accounting, as well as illustrating the participation of accounting professionals in discussions about AIGM (Coyne et al., 2018). In addition, it can promote a shared vision for the use of IG policies within the company as a relational item (Tallon et al., 2013).

The **'Leadership development in Accounting' (9th)** is defined as a priority for specialists both due to its importance, as *"[…] Accounting is everywhere. Within an organization, people working in this area must have a systemic vision and an independent leadership posture"* (E10), or due to the need to develop accounting practices, since professionals working in the area are frequently seen as retracted and with communication difficulties (E5). In short, the relational mechanisms seek to promote communication, development, and interaction with the other sector of a company, encompassing the formalization of links between employees in the technical and business areas and the establishment of effective communication and collaboration channels (De Haes & Van Grembergen, 2009; Mikalef et al., 2020; Tallon et al., 2013).

A mix of mechanism types occupied the positions of the ranking, indicating that such a set of these different practices (Process, Structure, and Relational items) is fundamental for AIGM. The experts' comments regarding the size and other organizational characteristics give rise to the need to investigate these elements in the business context. In line with Tallon et al. (2013), the IGM have variations in terms of maturity and sophistication depending on the organization and the context in which it operates (Tallon et al., 2013).

5. CONCLUSIONS

This study achieved its objective by identifying the main mechanisms that can be used for AIG. Through the application of a ranking-type Delphi with accounting experts who participated in all steps of the study, a list of 22 AIGM was obtained, which resulted from the group's consensus on the priority elements. In accounting, it is important to understand which evidence has been presented regarding the governance of its information, since many companies adopt

new technologies without establishing any form of governance to support such investments in strategic results (Mikalef et al., 2020).

Based on individual evaluations on the relevance of the mechanisms for accounting information (Step 1) and on the classification regarding their importance (Step 2 - ranking 1; and Step 3 - final ranking), it was possible to obtain a consolidated result on the experts' opinion. For this, the means, modes, and medians of the answers were analyzed, in addition to the calculation of the Kendall's W coefficient, whose evidence reflects the ranking obtained. Moreover, a high degree of agreement among experts was observed in all final positions of these items, ranging from 70% to 85% in relation to the total number of participants.

As a contribution, the ranking guided by consultation with professionals in the field indicates which mechanisms can be useful for Accounting Information Governance. The mechanisms 'Ethics and the culture of compliance'; 'Strategic alignment of Accounting with the business'; 'Accounting compliance, tax, laws, and of Accounting Information Systems'; 'Accounting knowledge management. Guidance/education of user in the use of data and information'; and 'Support from top management and Accounting represented in IG decisions', were the 5 most relevant items for the implementation and improvement of AIG in the organizational practice.

The results represent a set of different mechanisms (Procedural, Structural, and Relation) legitimized by professionals, being fundamental for AIG (n = 22). In addition to the ranking, the validation of the broad set of AIGM (n = 43) is highlighted. Such evidence is relevant for a better use and management of accounting information and may also help to create value for information resources (Coyne et al., 2018; Kooper et al., 2011). In addition to identifying the main mechanisms, it is important to understand what reasons led a given mechanism to become a priority, as shown in the research results.

Among the most important mechanisms for accounting specialists, practices related to data access, storage, and backup stand out, as well as responsibilities regarding data and information ownership, which are fundamental to IG (Tallon et al., 2013). Other mechanisms that make up the ranking are good practices for the control and use of accounting information, which show that IG is a necessary approach for accounting, corroborating other studies that have indicated this gap (Cockcroft & Russell, 2018; Coyne et al., 2018; Rikhardsson & Yigitbasioglu, 2018).

Thus, these findings advance the understanding of accounting information governance mechanisms to be used that have the potential for promoting greater information governance in the current digital context, which is impacted by several technological changes (Arnaboldi et al., 2017; Cockcroft & Russell, 2018; Coyne et al., 2018; Rikhardsson & Yigitbasioglu, 2018).

The study sought to follow a path hitherto unknown by accountants when using the IG approach as a theoretical lens for understanding accounting information control practices, whose results advance the dialogue on the subject. For IG, this research provides additional answers on the use of useful mechanisms to manage the information artifact in a specific context (Abraham et al., 2019; Tallon et al., 2013), also contributing to the development of a central body of knowledge related to IG to understand different mechanisms to be implemented. These mechanisms are perceived as promising areas of research.

Additionally, this paper contributes to the application of the ranking-type Delphi in the context of accounting, taking into account the strict considerations addressed in the literature (Paré et al., 2013; Skinner et al., 2015; Worrel et al., 2013). Thus, this research serves as a guide to good practices, aiming at describing a clearer research approach and considering that there are still several topics for improvement in the application of the ranking-type Delphi (Paré et al., 2013).

The study was limited to the understanding of experts regarding a set of AIGM. However, it is possible to explore how these items are operationalized in the accounting practice. A limitation of the research that may have biased the results is the large amount of AIGM used in Delphi. Some participants reported complexities for classifying the mechanisms, given the importance of the entire set of items for accounting. However, we sought not only to obtain the main items, but also to understand how the mechanisms would be seen by experts and if they could still indicate other items. In addition, depending on the nature of the business, different AIGM configurations can be developed, as each mechanism is intended for one or more governance objectives, presenting different intensities regarding their benefits (Lunardi et al., 2014).

Ultimately, the research results are not intended to be exhaustive, enabling the discovery of other fundamental AIGM, which are used in organizational practice. Further analysis of mechanisms that were not prioritized in the Delphi study, investigating them in different professional contexts, is suggested.

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AUTHOR'S CONTRIBUTION

CO: Contributes to the conceptualization process, literature review, methodology choice, data collection and analysis, formal analysis of the study stages and management of the software used, in addition to participating in the chapters writing process and project administration. AB: Contributed to the conceptualization process, literature review, methodology choice, data collection and analysis, formal analysis of the study stages, text writing, in addition to supervising the research project administration. FM: Contributed to the data collection and analysis process, formal analysis of the study stages, methodology choice, text writing and review, validation and results discussion, and illustrations elaboration. AM: Contributed to the investigation process, literature review, methodology choice, validation and results discussion, text writing and review.

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CONFLICTS OF INTEREST

The authors expressly declare that there are no conflicts of interest.