Interconnection between Academics and Professionals on Fraud and Corruption Response Practices in the Public Sector

Interconexão Entre Acadêmicos e Profissionais Sobre as Práticas de Resposta à Fraude e à Corrupção no Setor Público

Interconexión entre académicos y profesionales sobre prácticas de respuesta al fraude y la corrupción en el sector público

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Abstract

This research analyzed the interconnection between academic approaches and management practices used by professionals in the Brazilian public sector regarding the concepts and actions to respond to fraud and corruption. Through two questionnaires, the level of importance attributed by the groups to anti-fraud practices was verified, distributed in stages defined based on the Fraud and Corruption Combat Framework (TCU, 2018). The results indicate that there is an interconnection between the groups at the level of 61.43%, with prevention being the stage with the greatest number of actions classified as important by the groups. Thus, since preventive actions are more related to the reduction of Opportunity, one of the edges of the Fraud Triangle (Cressey, 1953), the results reinforce the importance of preventive mechanisms in the proactive mitigation of corruption. In addition, only three practices were classified as very important by both, which indicates that organizational learning and organizational advancement also imply unlearning or improving the used approaches.
Keywords: Corruption; Public Administration; Anti-corruption measures

Resumo

Esta pesquisa analisou a interconexão entre as abordagens acadêmicas e as práticas de gestão utilizadas por profissionais no setor público brasileiro quanto às ações de resposta à fraude e corrupção. Por meio de dois questionários verificou-se a classificação de importância atribuída pelos grupos a práticas antifraude, distribuídas em etapas definidas com base no Referencial de Combate à Fraude e Corrupção (TCU, 2018). Os resultados indicam que há interconexão entre os grupos ao nível de 61,43%, sendo prevenção a etapa com maior quantidade de ações classificadas como importantes pelos grupos. Assim, estando as ações preventivas mais relacionadas à redução da Oportunidade, uma das arestas do Triângulo da Fraude (Cressey, 1953), os resultados reforçam a importância de mecanismos preventivos na mitigação proativa da corrupção. Além disso, apenas três práticas foram classificadas como muito importantes por ambos, o que indica que a aprendizagem organizacional e o avanço organizacional também implicam em desaprender ou aprimorar abordagens utilizadas.
Palavras-chave: Corrupção; Administração Pública; Medidas anticorrupção

Resumen

Esta investigación analizó la interconexión entre los enfoques académicos y las prácticas de gestión utilizadas por los profesionales del sector público brasileño en las acciones de respuesta al fraude y la corrupción. A través de dos cuestionarios, se verificó la calificación de importancia atribuida por los grupos a las prácticas antifraude, distribuida en etapas definidas en base al Marco de Combate de Fraude y Corrupción (TCU, 2018). Los resultados indican que existe una interconexión entre los grupos al nivel del

61,43%, siendo la prevención la etapa con mayor número de acciones clasificadas como importantes por los grupos. Así, con acciones preventivas más relacionadas con la reducción de Oportunidades, uno de los bordes del Triángulo del Fraude (Cressey, 1953), los resultados refuerzan la importancia de los mecanismos preventivos en la mitigación proactiva de la corrupción. Además, solo tres prácticas fueron clasificadas como muy importantes por ambos, lo que indica que el aprendizaje organizacional y el avance organizacional también implican desaprender o mejorar los enfoques utilizados.

Palabras clave: Corrupción; Administración Pública; Medidas anticorrupción

1 Introduction

Addressing the fraud theme is controversial and complex since its definition, through the temporal aspects – containing anachronisms – social, psychological, economic, patrimonial and legal, which requires an integrative approach of scientific knowledge to enable its study and analysis of the phenomenon. From different concepts in the literature, which vary from the author's time and theoretical orientation, the definition of fraud brings in common its characterization as an intentionally deceptive act that results in losses to another party, being potentially present where the flow of value generation meets the greed of the human being (Petrucelli, 2013).

According to the Association of Certified Fraud Examiners (ACFE), occupational fraud is the largest and most prevalent type of fraud, being divided into categories that aggregate common characteristics. These categories are: asset deviations, corruption and fraud in the financial statements.

In its corruption typology, the fraudulent act is the result of a systemic and synergistic process of coordinated actions at different levels of action (political, operational, management, etc.); which occur over time (Ashforth, Gioia, Robinson, & Treviño, 2008; Costa, 2011; Costa & Wood Jr, 2012); and which involves not only the individual who commits the offense, but also contextual, behavioral and environmental factors, both of difficult quantification (Wells, 2014).

To support this discussion in the academic context, several theories are used, among which the Fraud Triangle (Cressey, 1953), the Economic Theories of Crime and Rational Action (Becker, 1968) and the Theory of Opportunities (Cohen & Felson, 1979) stand out. In Brazil, several studies address the theme of corruption (Boll, 2010; Filgueiras, 2006; Filgueiras, 2009; Marani, Brito, Souza & Brito, 2018; Miranda, 2018; Oliveira Júnior, Costa & Mendes, 2014; Schramm, 2018; Sobral, 2014), however, the national literature is not homogeneous (Marani *et al.*, 2018).

With regard to professional practices within the Brazilian government, the direct internal performance of the administrative spheres combined with the coordination and actions of the internal supervisory entities result in practices and editing of management solutions and artifacts as proposals and bases for their actions to respond to fraud in the corruption typology.

Among these documents, the Reference for Combating Fraud and Corruption (TCU, 2018) was developed with the purpose of compiling the practical knowledge that has been applied by organizations and disseminating it to public managers from all spheres of government and other members of public organizations. The Framework distributes operational practices into five mechanisms to combat fraud and corruption: prevention, detection, investigation, correction and monitoring. Each mechanism thus has its own importance in the process of responding to the illicit within organizations.

Considering such approaches, it is important that there is a connection between the studies and proposals of the academia and the practices adopted by management and reflected in professional practices (Ashforth *et al.*, 2008). The existence of different studies and theories, however, is not enough if there are "gaps" in their understanding and application. Likewise, scientific advancement may be impaired by divergence of ideas and purposes.

Paradoxically, common sense positions academia and accounting professionals in seemingly unconverged areas in the production and interconnection of knowledge and its absorption and use in public sector practices. In this sense, it is necessary to understand how these approaches are interconnected and, thus, to contribute to their maximization in favor of actions to respond to corrupt practice in the public sector.

To verify the issue empirically, this research aims to analyze the interconnection between academic approaches and management practices used by professionals in the Brazilian public sector regarding the concepts and actions to respond to fraud and corruption. In this sense, the examination is conducted through the analysis of two interest groups – academic and professional – focusing on actions to curb or responses (deterrence, prevention and punishment) given to the occurrence of corruption.

In this sense, this research presents contributions on the subject by making comparative analysis that broaden and deepen the debate and understanding of how fraud is treated by groups that seek to define and study responses to the phenomenon.

In addition, there are integration gaps that can minimize the divergences and provide for the expansion of the dialogue between the two aspects of knowledge construction and application. Thus, investigating thinking about fraud, indicating elements and problems in the debate and intellectual production today, can constitute an important starting point for the study of political and social relations associated with the theme in Brazil (Rangel & Tonon, 2017), since through awareness and adequate adjustment of systems

to times of change it is possible to start creating a more efficiently managed government (Petrucelli & Peters, 2017).

2 Theoretical Framework

2.1 Fraud and its typologies

The phenomenon of fraud is not exclusively related to a particular people, culture or social segment. It is, in fact, a dynamic phenomenon that can be perceived in institutions around the world, whether public or private, endangering the financial well-being of all. Its definition, also dynamic, involves different perceptions, which deal with aspects such as intention, object and benefit acquired by the fraudster.

Emphasizing that fraudulent acts were often called white-collar crimes, which contrasted with more violent crimes, Weisenborn and Norris (1997) define fraud as the act of intentionally misrepresenting facts with the intention of gaining an unfair advantage over another person or organization.

More broadly, Hemraj (2004) describes fraud as a deliberate mistake made by one or more individuals to obtain illicit material gain, with the aim of misappropriating an entity's assets, distorting financial performance, or to gain unfair advantage. Such definition covers not only white-collar crime, but also crimes such as forgery and embezzlement.

The realization of the gain by the fraudster, however, would not be a conditioning factor for the occurrence of fraud, with intention being the most influential factor. In this sense, fraud is also defined as the deliberate deception planned and executed with the intention of depriving another of ownership or rights, directly or indirectly, regardless of whether the perpetrator benefits from their actions (KPMG, 2004). According to Petrucelli (2013), fraud originates from greed and self-interest, being exacerbated by the complexities of today's business environment.

A similar definition is used by the Committee of Sponsoring Organizations of the Treadway Commission (COSO), which considers fraud as any intentional act or omission for the purpose of deceiving others, resulting in the victim's loss and/or gain by the perpetrator (COSO, 2016). Within the scope of the legal entity, as presented by Santos (2016), fraud may occur against or in favor of it. The author explains that when in favor of the organization or senior management, it is corporate fraud, but when fraud is committed against the organization by its members, it is called occupational fraud, a typology that will be addressed in this research.

It should also be noted that four elements are necessary for the existence of a fraud: relevant misrepresentation, intention, trust and damage (Petrucelli & Peters, 2017). The latter is, in the case of public organizations, one of the most critical of the four criteria, since the damage is not always clear and the continuity of these entities makes it necessary to quantify and learn from the errors that have occurred. Thus, Petrucelli and Peters (2017) state that one way to avoid damage to public entities is to have well-established systems, with appropriate people in supervisory positions, providing brakes and counterweights.

2.2 Occupational Fraud

Understanding the differences in fraud typologies is important for the analysis of the theme, since it influences the definitions and categorizations that can be considered in the approach to the subject.

Regarding the classification of this type of fraud, this was the main objective of a large study carried out in 1993 by ACFE on cases of occupational fraud. The study resulted in the first Report to the Nation on Occupational Fraud and Abuse, a report published in 1996 with statistical data on the cost of occupational fraud, the authors, the victims and the various methods used to commit it. Since 1996, ACFE has launched editions of the report, the most recent version was published in 2020.

In order for fraud and occupational abuse to be classified according to the methods used to commit them, the ACFE developed a system known as fraud tree, which presents the majority of the most common fraud schemes and occupational abuse, if not all. According to the fraud tree, there are three main categories of occupational fraud:

    (a) Fraud in the financial statements, which involves the inclusion of incorrect or intentionally distorted information in the organization's financial statements, in order to deceive those who trust it;

    (b) Misappropriation of assets, through the theft or misuse of the organization's resources; and

    (c) Corruption, with abuse of power to achieve private benefits.

Among the three, the type of fraud that is usually associated by common sense with politicians, some other high-ranking public servants (or with specific powers) and large companies is corruption. Such a typology also represents one of the most significant fraud risks for various sectors and regions.

Regarding the Brazilian context, the Global Corruption Barometer (GBC) – Latin America and the Caribbean, a study carried out by Transparency International, indicates that 54% of Brazilian citizens have the perception that corruption has increased in the 12 months prior to the survey, and 90% of them consider that this illicit is a major problem in the country (Transparency, 2019).

Concomitantly with the increase in society's perception of corruption, the literature focused on the public administration scenario offers greater emphasis on the discussion of public corruption, even though there is a need to curb the three types of fraud, which makes this research give a greater focus to this type of fraud.

2.3 Corruption Response Definitions and Approaches

In the literature, discussions focused on the theme of corruption generally concern its definition, environmental and behavioral factors related to its occurrence and instruments to combat crime. From each of these aspects arise diverse academic approaches.

As for the first point, there is no definition or theory capable of conceptualizing the word "corruption" definitively, which makes many conducts considered corrupt. In this sense, it is necessary to be cautious and responsible in the use of the term, since the way in which corruption is defined influences the sense of what is desired to be measured, and on which data should be considered. Inadequate definitions can result in biased measures, misleading results and biased recommendations.

According to Miranda (2018), one of the first academic definitions of the term corruption was formulated in 1936 by political scientist V. O. Key, namely: "[corruption is] the abusive control of government power and resources in order to take personal or partisan advantage. Such profit (...) can be in the form of power or control within the political organization or in the form of political support by various individuals (...)" (Key, 1936, p. 5-6).

Huntington (1975) also presents a similar concept of corruption, still related to corruption in the public sector. The author explains that, like political organizations, political procedures also have a certain degree of autonomy. To the extent that political authorities can be overthrown by a few agents or influenced by a few dollars, it is that organizations and procedures lack autonomy. In this sense, Huntington (1975) considers as corrupt the organizations and political procedures that do not have autonomy.

Brooks (1979), however, criticizes the use with maximum freedom of the term corruption for situations and practices extremely different from each other. Even if in some of these cases the use is correct, the author considered it valid to investigate the strategic nature of corruption itself and to discriminate in the use of the word.

Seeking to show how the economy applies to the study of corruption, Silva (1996) also analyzed some definitions used at the time and observed that three main aspects were involved: (i) a concept of bureaucracy and political agent; (ii) a notion of separation between public and private *RES*; and (iii) the idea of income transfer outside the rules of the economic game.

These approaches allow us to observe that, as noted by Avritzer, Bignotto, Guimaraes and Starling (2008), a recurrent practice in the studies of corruption is the focus on the behavior of State officials who deviate from their functions. However, as well as the definitions used, the other approaches to the theme were modified over time and started to include behavioral and environmental factors related to their occurrence.

In this sense, the research on corruption carried out in the 20st century is associated with two main research agendas. The first, from the 1950s, deals with the theme from a structural-functionalist perspective, based on modernization. Thus, the relationship between corruption and the political and economic development of countries and between capitalist countries, their costs and benefits was addressed. From 1990, however, the second approach arises, from an essentially economic perspective, whose concern was related to the costs and externalities generated in contexts of corruption (Filgueiras, 2006; Filgueiras, 2009; Oliveira Júnior *et al.*, 2014).

In this new perspective, rent-seeking is seen as the central concept for the study of corruption (Filgueiras, 2008a, 2008, 2009; Oliveira Júnior *et al.*, 2014). The rent-seeking allows the understanding of the causes of corruption by assuming it as a rent-seeking activity through opportunistic behavior and illegal actions aimed at providing cash transfers that serve private interests at the expense of the public interest (Oliveira Júnior *et al.*, 2014; Sobral, 2014).

From this perspective, different theories which aimed to understand corruption are highlighted, such as the Theory of Agency (Jensen & Meckling, 1976) and the Theory of Rational Action (Fishbein & Ajzen, 1975), which later evolves into the Theory of Planned Behavior (Ajzen, 1991). Such theories deal with the rationality of individuals in their choices through amoral judgments and individual interests, based on utilitarianism.

Among the models used in the discussion and evaluation of behavioral aspects related to the occurrence of fraud, the Cressey Triangle (1953) is one of the main ones, with great acceptance by the literature and by control bodies. According to this model, for a fraud to occur, there must be three factors: pressure, opportunity and rationalization.

Pressure, also known as motivation or incentive, is often a non-shareable financial problem. It is what first motivates the individual to the unlawful act. The opportunity, the second edge of the triangle, refers to the power and ability to commit the illicit. For Almeida and Alves (2015), the opportunity corresponds to

the capacity to commit fraud with a very low risk of being discovered. On the other hand, rationalization means that the individual formulates a morally acceptable justification before committing the illicit act.

In Brazil, NBC TA 240 (R1), which deals with the Auditor's Responsibility in relation to Fraud, presents the events or conditions that indicate an incentive or pressure for fraud to be perpetrated or offer an opportunity for it to occur as fraud risk factors (CFC, 2016). The Reference for Combating Fraud and Corruption, Applicable to Public Administration Bodies and Entities, also presents the theoretical model of the fraud triangle (TCU, 2018).

The national literature used the Cressey Triangle (1953) in different approaches. Applying it to the context of Accounting Science, Almeida and Alves (2015), for example, sought to verify how the accounting professional positions himself in relation to moral dilemmas, which involve illicit acts and the Cressey Triangle, in the exercise of his professional activity, in an environment of convergence to international accounting standards.

The results found by Almeida and Alves (2015) corroborated what was demonstrated in the Cressey Model, since they suggest that, within the proposed scenarios, accounting professionals take advantage of an eventual exchange of the audit firm to make adjustments that would benefit the Company's result (Opportunity), and justify this procedure, because it is a common practice in the market (Rationalization), trying to transform something unethical into something acceptable.

Machado and Gartner (2017), in turn, verified whether the Cressey fraud triangle (1953) together with the Agency Theory make it possible to investigate the occurrence of corporate fraud in Brazilian banking institutions. For the pressure dimension, the authors found that a performance below the expected in the previous period will pressure the manager to obtain better performances in later periods, and this will be reflected in the increased probability of this manager perpetrating corporate fraud.

For the opportunity dimension, Machado and Gartner (2017) confirm that weak corporate governance instruments positively impact the perpetration of fraud. As for the rationalization dimension, the demographic characteristics of managers were used to access their cognitive structure, and it was only confirmed that the predominance of the female gender in the executive board contributes to the reduction of the probability of occurrence of corporate fraud (Machado & Gartner, 2017).

As noted by Hencsey (2016), even after a series of discussions, derivations and extensions, the scheme designed by Cressey remains the preferred one to explain what leads people to commit misconduct, including by documents issued by regulatory and control bodies. Thus, when considering the occurrence of fraud as a process, the result of coordinated actions, the literature seeks to identify aspects common to fraudulent events in organizations, recognizing that a predictive and preventive approach requires the identification of the main aspects, variables and influencing factors.

2.4 Construction of Knowledge and Organizational Learning

The constant development of organizations causes the accounting professionals to pass through a continuous increase in their competencies and responsibilities, requiring a qualification with extensive and multidisciplinary knowledge. In this regard, Cardoso, Souza, and Almeida (2006) consider it imperative to discuss topics related to the characterization and adequacy of the accountancy professionals profile to be fully prepared to accomplish their mission and role in the context of the new constraints imposed on accountancy.

In this regard, as observed by Nascimento, Aragão, Gomes, and Casa Nova (2013), the university is expected to train professionals capable of providing the information that their users yearn for in a timely and justified manner. As Oliveira, Pizanni, and Faria (2015) emphasized, the construction of a proper knowledge network for the currently practicing accountant starts in the academic environment. However, this goes beyond the classroom, including research conducted by academia. In parallel, the dynamics of the organizational environment also causes the adaptation process of organizations as a strategy to obtain higher efficiency to have emphasized its importance (Torres, 2006).

This scenario of mutual adaptation causes the theme of Organizational Learning to gain visibility in the literature and the organizational field. Barbosa *et al*. (2003) explain that organizational learning is a constructive link between companies and people, thus contributing to enhanced performance, productiveness, and better working conditions. For Torres (2006), organizational learning is a field that studies the knowledge-building in a company through progressive adaptations of new ideas and exchange of experiences, instrumentalizing prescriptive actions, and practices that may attend to the needs of the current environment. This way, learning can assist the efficiency of organizations by transforming new knowledge into action.

Despite positivist views of learning, based on the belief that benefits will always come into the organization, Bastos, Gondim and Loiola (2004) point out that there is criticism done regarding this stance, whereby the "unlearning" is significant to overcome these negative aspects. Once the organization also learns what is wrong (Guimarães, 2004), misconduct may likewise result from the process. Therefore, unlearning former behaviors and approaches may be crucial for efficient organizational advancement.

That is to say that it is possible to analyze the profile of the needed and sufficient knowledge for resolutioning conflicts and organizational pressures from understanding the knowledge necessary for the accountancy professional and understanding knowledge construction on the organization's behalf.

Thus, organizational learning aligned with academic training can result in greater efficiency in public entities and accounting practice. In addition, when it comes to the interaction between the academic environment and the practical environment of professional performance, there is the possibility that, during the process of knowledge construction, it is necessary to unlearn previously constructed models. So that greater efficiency is obtained in the performance of both parts, as suggested by Bastos *et al.* (2004).

3 METHODOLOGICAL PROCEDURES

3.1 Population and Sample

To be able to study the interconnection between academia and professional practices related to actions to inhibit corruption in Brazil, it's required the multidisciplinary interlocution of areas such as accountancy, economics, administration, law, and political science (Abreu, 2011), which makes the objective measurement of the population that can be analyzed and involved in this type of study almost impossible.

Thus, considering the multiplicity and coverage of the population that is going to be analyzed, to capture elements of the representative groups of the two central extracts of the study, academics and professionals, the sample of this research focused on defining representatives of the study segments: both academic and professional areas.

To know the dimensions related to the academy, the representative group of this segment was composed of teachers and researchers who, even not directly linked to educational institutions, hold studies on the thematic of fraud. Due to the contribution of different areas of science to the analysis of the theme, as identified by Abreu (2011), this group was formed not only by accountancy academics but also by non-accountants, such as economists, administrators, and national political scientists. This definition aims to control the bias of the multiplicity of views on the theme since it captures the thematic multidisciplinarity, despite maintaining the focus on the area of knowledge of social sciences.

Following the same logic of controlled multidisciplinary representativeness, to compose the professional sphere, the study group was composed of accountants, auditors, and controllers, as well as professionals from areas related to them, from public entities of all spheres of government (federal, state or municipal). This group's choice is justified because they are relevant actors in the environment of the public organization, in addition to having a direct and daily relationship with the topic addressed, thanks to office duty (Perera, Freitas & Imoniana, 2014).

3.2 Constructs and conceptual model

To verify the central elements present in the managerial or professional approach on the subject of corruption and the measures adopted to inhibit it, the Referential was used for Combating Fraud and Corruption (TCU, 2018) as a central reference element. The choice of this Referential is based on the observation that other related documents, rules, and standards, such as the Public Integrity Guide (CGU, 2015) and ISO 37001 (ABNT, 2017), were consulted and used by TCU in its preparation process, which makes the document seen as comprehensive and aligned with the others.

From the examination of this Reference, it is noted that, as to its central composition, the following main elements are present to inhibit corruption: prevention, detection, investigation, correction, and monitoring (TCU, 2018). Each of the mechanisms has a set of components contributing to achieve its objective (Figure 1), and for each one of the components, the Referential associates a set of practices, which refer to the detailing of activities at their most operational level (TCU, 2018).

While considering the concomitant presence of the elements of prevention, detection, investigation, correction, and monitoring in the academic and professional approach, these were incorporated as central constructs[i] to be examined by the work. Regarding the concept, considering the heterogeneity of national academic descriptions, the ones described in the Referential are used in the study, namely: abuse of power, distortion or concealment of the truth, to deceive third parties and obtain an undue advantage for oneself or others (TCU, 2018).
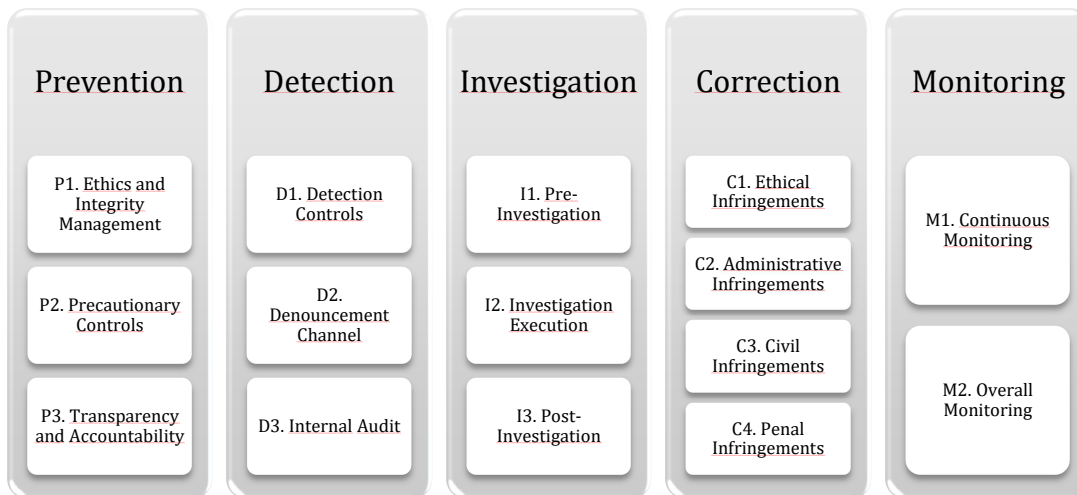
Figure 1 - Components of the mechanisms to inhibition of fraud
Source: TCU (2018)

From the delimitation of the central construct to be examined, the aim was to outline a conceptual model that reflects the aspects of academia's interconnection and the profession. Figure 2 represents the interfaces of the interconnection and disconnection of efforts and actions of groups, academia, and professionals, considered in the conceptual model of the research.
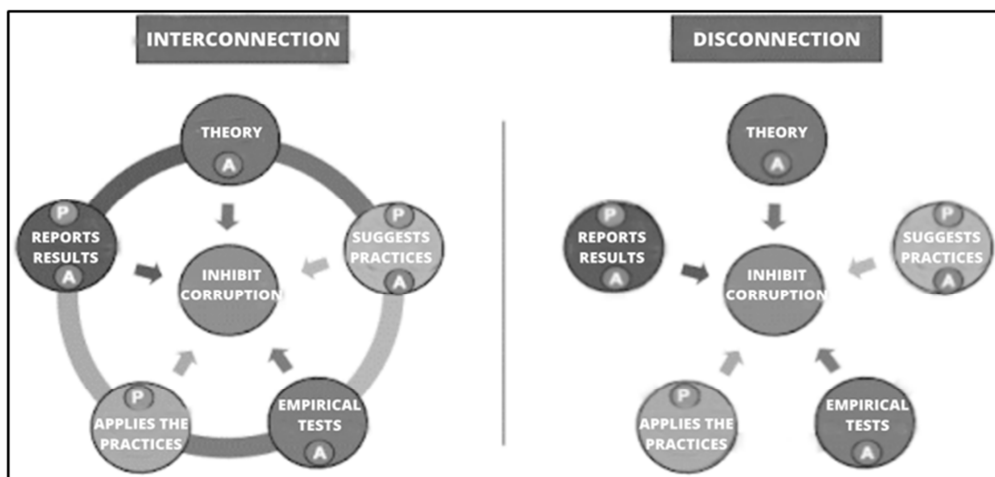
Figure 2 - Conceptual model of interconnection and disconnection of groups
Source: Authors' self-elaboration. Note: P = Professionals; A = Academics.

Briefly, as shown in Figure 2, the model proposes that, in its virtuous version, for the construction of knowledge and good practices, the theories proposed by the academy that deal with means of responding to the occurrence of corruption may suggest practices to be used and tested by other academics and by professionals working in the institutional environment. It is noteworthy that the organizations themselves can use anti-corruption measures that do not have a previous theoretical basis, but that can have their effectiveness verified by the students, generating their theoretical support or recommending their suppression.

After applying and testing possible actions to respond to corruption, the results found should be analyzed by the parts, so the academy can verify the need for maintenance or improvement of the systems, and theorganizations can reassess the practices used by them. Thus, there is a cycle of actions that contributes to the advancement of corruption in both academic and professional environments. The disconnection of the parts, in the event of gaps in this process or between the groups, would be detrimental to the growing spiral of inhibiting corruption.

3.3 Procedures and collecting instrument

The collection of information on professional practices and the views of the academy on the subject was conducted through the use of surveys, with the application of two structured electronic questionnaires, one per group analysis, structured considering the types, order, groups and phrasing of the questions, as

suggested by Marconi and Lakatos (2003). The questionnaires were then made available on the internet, with their access links shared by the authors' email and social networks.

Assertions distributed within the constructs prevention, detection, investigation, correction, and monitoring compiled 55 fraud inhibition practices identified from bibliographic research, particularly from the Reference for Combating Fraud and Corruption (TCU, 2018) as the core reference element. The data collection method was designed to allow the respondents to freely choose, among the practices presented, those they consider main ones. The designed data collection method allowed the respondents to freely choose, among the practices presented, those of which they consider main ones. While the questionnaire submitted to the professionals asked them to identify the practices used in the organizations, the one sent to the academics requested the identification of practices they viewed as important. They established this method to allow the measurement of the item's frequency.

On behalf of its dual characteristic, that is to say whether or not it is continuously or not continuously performed. The monitoring construct had a different presentation. It allowed the indication of only one response, enabling the comparison between groups for analyzing results.

Finally, the last part of the data collection sought to capture the vision of the groups regarding the efficiency of 15 other anti-fraud practices, no longer subdivided into constructs. But in relation to publications, models or other documents used as anti-fraud Structures or References and also to identify the primary sources of information on fraud used to disseminate the knowledge generated on the subject.

3.4 Procedures for results' consolidation

The questionnaires were segmented in their demographic and central aspect to enable the consolidation of the results obtained, being treated essentially by determining the frequency per item.

Initially, to estimate the reliability of the results obtained, Cronbach's Alpha (Cronbach, 1951) was used to measure the internal consistency of the questionnaires. As for the interpretation of the coefficient, considering that the values found generally vary between zero and 1, it is understood that the internal consistency of a questionnaire is higher the nearer the value of the statistic is to 1. (Matthiensen, 2011).

Hora, Monteiro and Arica (2010) state that although there is no consensus among researchers on the definition of minimum and maximum acceptable value, much of the literature uses the value of 0.70 as the minimum acceptable (below this, the internal consistency of the scale is considered low) and 0.95 as the maximum acceptable (above that, it is considered that there is duplication or redundancy in the items). In this sense, the values used as a parameter in this research were 0.70 and 0.95.

After validating and ascertaining the frequencies of items and groupings for the open responses, a group comparison process is initiated from the segmentation in each group' constructs to compile the practices imputed as used and/or important. For consolidation and measurement of practices, the aspects considered were the followings:

- for the academics' questionnaire, the higher the frequency of each item, the higher its importance for this group;
- for the professionals' questionnaire, the higher the occurrence of each item, the more it is used by the organizations and this group.

The frequency of the items was divided into percentages to determine the occurrence of each item as being lower or higher, enabling its classification. Thus, for the integration of the results, a nominal classification of response was used, which follows the pattern shown in Table 1, according to its percentage of occurrence (frequency).

Table 1
Classification of frequency of items

Classification	Percentage
Not importante	0.00%
Slightly importante	From 0.01% to 33%
Important	From 33.01% to 66%
Very importante	Above 66%

Source**:** Authors' self-elaboration.

The classifications attributed to the items of each construct were subsequently compared, providing the analysis of the interconnection of academic approaches and management practices used by professionals in the public sector in Brazil. Interconnection of approaches was attributed when the groups allocated equal ratings to the practices, and disconnection when the groups allocated different ratings.

As for disconnection, this typology was subdivided, in this research, into "minor" (type 1) or "major" (type 2). So that when the item presented a difference between percentages attributed by the groups higher than 33%, presenting very different frequency classifications, the disconnection was classified as type 2 (higher disconnection), as shown in Table 2.

Table 2
Classification of the comparison of the views of the groups regarding the practices

Group 1	Group 2	Classification
Not important	Not important	Interconnection
Slightly important	Slightly important	
Important	Important	
Very important	Very important	
Not important	Slightly important	Disconnection type 1 (Lower disconnection)
Slightly important	Important	
Important	Very important	
Not important	Important	Disconnection type 2 (Higher disconnection)
Not important	Very important	
Slightly important	Very important	

Source: Authors' self-elaboration.

Finally, after surveying the classifications assigned, the percentage of interconnection or disconnection found between the groups was obtained and, finally, integrated into the classification model in Table 3, again dividing the results into four parts.

Table 3
Final classification of interconnection or disconnection

Classification		Percentage
Interconnection	Disconnection	
Non-existent	Non-existent	0.00%
Low	Low	From 0.01% to 33%
Moderate	Moderate	From 33.01% to 66%
High	High	Above 66%

Source**:** Authors' self-elaboration.

Then in this final step, the connection or disconnection found by comparing the classifications attributed by the groups were classified according to the percentage obtained, allowing the discussion of the results. However, considering that no research in the literature substantiates such classification, it is pointed out that a change in the distribution may influence the presentation and analysis of the results.

4 Presentation and Analysis of Results

The survey instrument presented to the professionals received 77 responses, while the one directed to the academics received 81 responses. However, it is to be noted that the responses received were evaluated in order to identify the need to exclude responses from the sample, having as principal points of analysis the validity of the respondents' profile, the validity of the responses received (avoiding duplicate responses, for example) and other factors that could affect the results. Thus, the final value of the sample was defined only after the validation of the responses and the analysis of the internal consistency by means of Cronbach's Alpha (Cronbach, 1951).

After the internal consistency analysis, which resulted in excluding 28.4% of the instruments, 62 questionnaires from professionals (80.5% of the whole group) and 51 questionnaires from academics (62.9% of the whole group) remained valid, and this was the sample analyzed by the research. As for the internal validity procedures of the instrument, Cronbach's Alpha values are presented in Table 4 and applied to the multiple-choice constructs, which excludes Monitoring.

Table 4
Results of Cronbach's Alpha

Construct	Value of α	
	Professionals	Academics
Prevention	0.94	0.92
Detection and Investigation	0.91	0.91
Monitoring	-	-
Correction	0.70	0.83
Efficient Actions	0.85	0.83

Source**:** Authors' self-elaboration.

Hence, all constructs presented coefficients between the minimum and maximum acceptable for this study, that is, values of 0.70 and 0.95 (Hora, Monteiro, & Arica, 2010), indicating internal consistency and reliability of both questionnaires.

4.1 Exam of the respondents profile

The analysis of the respondents profile from both groups was important for the understanding of factors that may influence the responses obtained for the constructs, and then contribute for a better discussion and interpretation of results and their limitations.

For being a multidisciplinary theme, the respondents from both groups are from different areas of knowledge. Among the two groups, the respondents are mostly from the accounting area, where 60.8% in the academics group and 51% in the professionals group. This finding may be due to the wider dissemination of the collection instrument between the peers in the accounting area, the researcher's environment and not necessarily for the largest number of scholars or working professionals in the country. The caveat regarding a possible bias of the locus of application may be emphasized to make it possible an adequate beacon to analyze the results reached and their scope.

As for the academics, they were, mostly, university professors (80.4%). As for the time of professional practice, most of the respondents from both groups stated that they had more than 10 years of practice. However, when compared, the quantity of academics in this tenure track is higher, which can indicate that these respondents have more experience and knowledge of the importance and efficiency of measures to prevent corruption when compared to those who have a short time to exercise.

The longest time found for academics may result from the fact that more than 80% of the respondents are university professors, which may give them stability in their academic career when they teach in public institutions, making their time of execution in the same position longer. Similarly, the fact that most respondents work in universities may be impacted on the divergence found for the level of education of the groups. While 62.9% of professionals reported having a specialization as the highest level of completed education, the academics are mostly, masters (50.98%) and PhDs (31.37%), which may come from the need for a title of master or PhD degree to a teaching position in the university.

The last question of section 02, sought, finally, to identify the geographic coverage of responses. For the professionals questionnaire, valid responses were obtained from 18 states in Brazil and the Federal District. The Northeast and Southeast regions were responsible for the highest percentages of responses, concentrating 35.5% and 29% of the total, respectively. In relation to the questionnaire directed at the academics, responses were received from 10 Brazilian states, being Northeast and Southeast, for this group also, being the regions with the highest percentage of respondents, with 80.4% e 13.7% the total received, respectively.

Obtaining a majority of responses coming from Northeast for both groups is considered important, since the North and and Northeast regions have the highest GCIs - General Corruption Index by Brazilian state (Azevedo, Oliveira, Buch, Nascimento, & Silva, 2018).

Thus, the average profile of the group of academics is that of respondents from the Northeast, whose main area of education is accounting, with a master's degree being the highest level of education completed. Moreover, most of the respondents in this group are university professors, who have been teaching for more than 10 years and whose main area of teaching or research is accounting.

As for the average profile of professionals, it was identified that they are from the Northeast, auditors, inserted in the direct administration or in municipalities, with more than 10 years of experience. These respondents also have accounting as their principal area of education, but specialization is the respondents highest level of education.

4.2 Analysis of Central Constructs

From 70 practices distributed between the stages Prevention, Detection and Investigation and Correction, as well as those presented in the last question of the form, which captured the reception of the respondents, regarding the efficiency of the measures, 43 (61.43%) obtained the same classification of importance by both groups, indicating that there is a median connection for most of the actions used to curb the fraud presented. These results are observed with details in Figure 3, which presents the percentages of connection and disconnection between the groups obtained for each of the analyzed constructs.
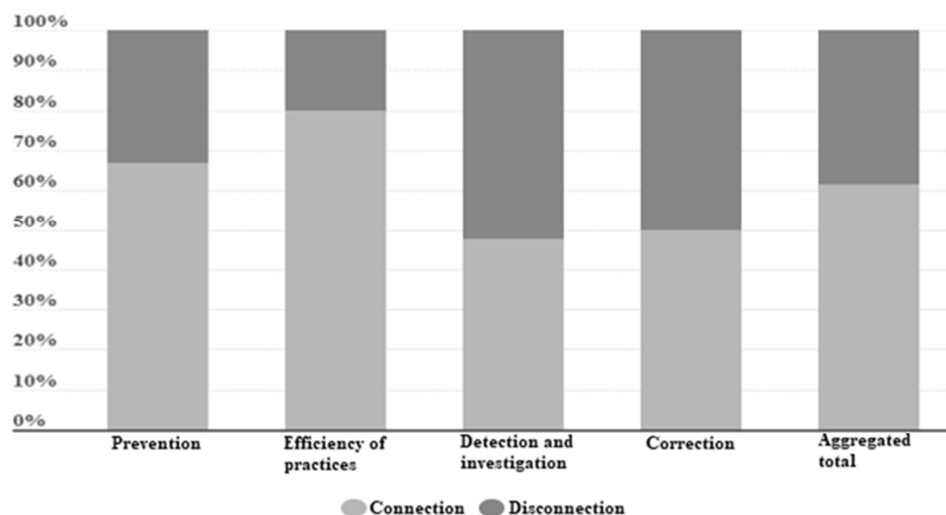
Figure 3 - Percentages of connection and disconnection between the groups regarding the classification of the practices presented
Source**:** Authors' self-elaboration.

The figure 3 allows observing that the minimum percentage of connection between the groups is about 50% for all constructs. Among the central constructs analyzed, Prevention was the one that presented the highest level of connection, with 66% of the practices presenting the same classification by the groups. Such results may stem from the fact that, for being an initial stage and previous to the occurrence of the corrupt act, greater efforts can be made by the organizations for this stage, with the goal of avoiding it.

When classifying the preventive practices in a more homogeneous manner, the results also corroborate Mendes, Oleiro e Quintana (2008), regarding the idea that the brazilian society has started to organize and, as a consequence, demand greater transparency and accountability (one of the components of the prevention element) in the management of the *res publica*.

Additionally, the preventive practices are the most related to the reduction of the opportunity of occurrence of corruption, that refers to one of the factors presented by Cressey (1953) as necessary for the existence of the illicit. Then, the results support the need for the use of corruption prevention mechanisms that can proactively mitigate opportunism risks (Albrecht, Albrecht, Albrecht, & Zimbelman, 2009; Lorente, 2016).

The question that checked the effectiveness of the practices indicated by norms and the literature, complementary information, also indicate a large number of interconnected classifications. Among all the practices presented, those inserted in this construct were the ones that indicated the highest interconnection between the groups, with 80% of connections. This result indicates that the academic's perception of the fraud response practices presented has a high connection with the professionals' perception of these practices.

The stages Detection and Investigation and Correction, presented the lowest levels of interconnection between the groups, with 50% of the practices with the same classification in both constructs. Such stages are posterior to the occurrence of corruption and, therefore, tend to receive less attention than that offered to the Prevention stage, which may result in less use of such measures by organizations.

Furthermore, detective, investigative and corrective practices tend to be the responsibility of other agencies, such as the CGU. On this point, Vieira e Barreto (2019), states that, in the investigation phase, the division of responsibilities among the various public bureaucracies promotes the overlapping responsibilities. Machado and Paschoal (2016) also points out that, in Brazil, the system of accountability for acts of corruption lacks greater intra- and inter-institutional coordination.

Among the measures that presented connections for the Detection and Investigation stages, most of them were related to the fraud of Detection. Thus, the results indicate that, in relation to this stage, the groups presented greater disconnection for the classification of investigative practices. The Monitoring stage, in turn, presented a high disconnection between the groups. Figure 4 presents the percentages of responses obtained for this stage, according to the groups.
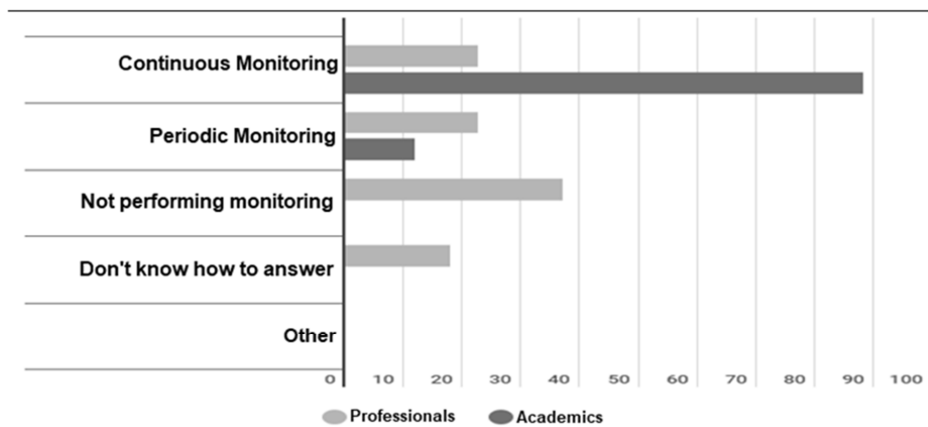
Figure 4 - Results obtained for the monitoring stage
Source: Authors' self-elaboration.

The results indicate that all academics consider that monitoring should be done continuously, so 88.2% confirm that this monitoring should be done continuously. Such results, are in line with the importance given by TCU (2018) to the practice, once, according to the organization, if performed continuously, the monitoring allows the need for adjustments to be identified and remedied, so that failures in the practices performed by the organization or in the internal controls don't be exploited by a fraudster or a corrupt person.

However, less than half (45.2%) of the professionals, state that this stage is held out in the organizations they work for, being the continuous monitoring practiced in only 22.6% of them. In addition, 37.1% of professionals state that monitoring is not performed in their organizations. In this sense, the results indicate that, despite being a stage considered very important by the academics, the monitoring is not effectively executed within the organizations.

The implementation of this type of monitoring requires the continuous action of different sectors of the organization which is not always possible in all public administration agencies, and may result in the low frequency of use of these practices by the organizations. However, considering that the continuous monitoring enables the continuous evaluation of internal process and controls through reports that are generated in an automated way, the non-use of this procediment may harm the identification of rule violations.

Finally, it is emphasized that the interconnection identified for the groups also takes into account the classification of practices as not very important or not very efficient for both, which indicates that even if they are used by the organizations and even indicated by references, norms or literature, they are not necessarily the best and most effective.

Such interconnection of the groups regarding the existence of not very important practices corroborates Barros *et al* (2002) conception that "unlearning" conducts and approaches may result in efficient organizational advancement.

4.3 Analysis of Complementary Results

In a complementary form, the questionnaire searched to verify the main publications, models or other documents used or indicated by the groups practical anti-fraud frameworks or benchmarks, to verify the main sources of communication between the academy and the organizations, in addition to capture the efficiency attributed by them to the different anti-fraud measures presented.

The results indicate that the professionals point, mainly, to the use of codes of ethics and conduct (20 responses) as practical anti-fraud references within the organization. Furthermore, the professionals also point to the use of laws and norms, beyond the books, articles of COSO and their own Reference to fight fraud and corruption.

Similarly, the documents most indicated by the academics were the codes of ethics and conduct, laws, norms, regulations and publication of the control agency. However, the largest number of responses not consistent with the question (21 responses) in addition to the 18 responses of the type "do not know" or which did not present any response, indicate that the academics, in their majority, are unaware of documents that can be used as anti-fraud structures or references.

As to the codes of ethics the results confirm the importance attributed by the literature to instruments, which highlights their elaboration as one of the necessary stages for the implementation of any compliance program (Schramm, 2017) and by other regulations, such as the Decree 1,171/1994. Thus, even if the codes of ethics and conduct are not sufficient for the non-occurrence of illicit acts, such documents are important means of prevention and necessary for the implementation of any "compliance culture", also as a preventive measure.

Identifying laws, norms and regulations as anti-fraud references, these results attribute the idea of normative conformity and indicate that the respondents don't know or don't follow other frameworks and references pointed out by agencies such as the CGU and TCU. Furthermore, the results may be related to the profile of respondents, once part of them has law as their area of education.

Regarding the sources used to capture the informations related to fraud produced by the academy, the professionals point to mass communication (as newspapers, magazines, TV, radio, internet) and articles published in journals and congress channels as the main, 43.55% and 41.94% of the responses were attributed to them, respectively. Similarly, the academics identified mass communication as the main means of communication to the professional environment (34%). However, the second group pointed to the publication of articles as the means least efficient for this exchange of information, appearing in only 18% of the responses.

5 Conclusions

Considering the need for harmonious and integrated action between academy and professional class in questions related to the prevention and response to fraud and corruption, the research aimed to analyze the interconnection between the academic approaches and management practices used by professionals in the Brazilian public sector regarding the concepts and actions of response to fraud and corruption.

Through two surveys, the results obtained indicate that the approaches of the analyzed groups in relation to the practical actions of response to fraud are connected at the level of 61.43%, once 43 measures presented obtained the same classification of importance by both groups. Such result indicates that according to the stratification used, that there is a median connection for the actions used to restrain the fraud presented.

The highest number of connections was obtained for the attribution of efficiency to the practices presented, followed by the importance ratings given to the practices in the Prevention stage. As for disconnection, the Monitoring construct was the one that presented the greatest divergence between the groups.

It is emphasized, however, that the interconnection identified for the groups does not necessarily mean that the practices are the best and most effective. Such a caveat is necessary because the connection also takes into consideration the classification of 12 of these practices as Not Very Important or Effective by both groups, even though they are used by the organizations and even indicated by references, norms, or literature.

The interconnection of the groups regarding the existence of practices of Low Importance corroborates the concept that "unlearning" old behaviors and approaches may result in efficient organizational advancement. Moreover, the identification of only three practices as Very Important by both groups indicates the need of analysis regarding the need for improvement or revision of such measures, taking into account the characteristics of the various Brazilian public institutions.

In this sense, considering the homogeneity in the approach of the theme, the research contributes to the literature by identifying how academics and professionals of the public sector in Brazil classify the practices of fraud and corruption restraint, and by identifying the existing interconnection between the groups. Thus, the comparative analysis broadens and deepens the discussion about the approach of fraud by the groups that search to define and study responses to the phenomenon.

Through this identification, it is possible to direct joint actions that help to build mens of responding to illicit activities, to reevaluate the practices used by organizations and to improve the systems, contributing to the advancement of corruption mitigation.

Additionally, it presents the gaps of integration that can minimize the divergences and provide the expansion of the dialogue between the two aspects of construction and application of knowledge. Thus, investigating the thought regarding fraud, indicating elements and problematics in the debate and intellectual production today, can be an important starting point for the study of political and social relations associated with the theme in Brazil (Rangel & Tonon, 2017), since through awareness and the proper adjustment of systems to changing times is that the creation of a more efficiently managed government can be initiated (Petrucelli & Peters, 2017).

The verification of interconnection between the groups, as proposed through the conceptual model, ratifies that the knowledge built and the theories proposed by the academy, when connected to the professional performance in the institutional environment, favor the restraint of fraud and corruption, generating support or recommending suppression.

The results also suggest the need for a bigger dissemination, by organizations, of the documents to be used as anti-fraud and corruption frameworks and benchmarks, in order to provide high visibility of the elements and approaches to response to corruption.

It's emphasized that the study has limitations, among which is the fact that the consolidation treatment of the results, essentially by means of determining the frequency of the items, as well as the classification of frequencies and the assignment and classification of interconnection or disconnection are

not based on research that substantiate such classifications, which means that a change in the distribution may influence the presentation and analysis of the results. In addition, the size of the sample and its composition is also a limiting factor, since, especially among academics, it can be considered not very homogeneous, with more than 80% consisting only of university professors, and less than 20% equivalent to students and researchers in the study area.

Furthermore, this research was limited to verify the visions of the groups, without considering other exogenous factors, such as environmental, social, economic or regional aspects, and others. In this sense, considering that such variables can influence the occurrence of fraud and the perception of the subjects, it is suggested that studies which consider other determinants, besides using a more expressive and homogeneous sample, be carried out, deepening in specific constructs.

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NOTES

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[i] Concepts or theoretical constructions elaborated based on basic data, originating from observable phenomenons, which help in the analysis of research or science. According to Martins (2005), constructs can be described as operationalizations of abstractions that social scientists consider in their theories. The author explains that to empirically explore a theoretical concept, the researcher needs to translate the generic assertion of the concept into a relationship with the real world, based on observable and measurable variables and phenomenons.