

The influence of the anonymous whistleblowing channel on accounting fraud detection in organizations

A influência do canal de denúncia anônima na detecção de fraudes contábeis em organizações

Gilson Rodrigues da Silva^a; Rossana Guerra de Sousa^b

^aUniversidade Federal Rural de Pernambuco

^bUniversidade Federal da Paraíba

Keywords

Anonymous whistleblowing channel.
Accounting fraud.
Internal control.
Integrity program.
Compliance.

Abstract

This study aims to analyze the influence of internally operated Anonymous Whistleblowing Channels on employees' decision in communicating cases of accounting fraud. An experiment was conducted with 191 individuals in accounting related functions from for-profit Brazilian companies under two types of employment contract (tenured and nontenured ones). The participants were divided into two groups. For the treatment group, 'presence' and 'type' of the internal channel of anonymous whistleblowing was manipulated. The experiment was applied by electronic questionnaire and the results analyzed with nonparametric tests of median comparison. The results indicate that the existence of an internally operated Anonymous Whistleblowing Channel increases tenured employee's intention in reporting the accounting fraud. However, the propensity to expose illegal or unethical accounting practices is not affected regarding nontenured employees.

Palavras-chave

Canal de denúncia interna.
Fraudes contábeis.
Controle Interno.
Programa de Integridade.
Compliance.

Resumo

Este estudo tem por objetivo analisar a influência da presença de canais de denúncias anônimos, operados internamente, na decisão dos colaboradores das organizações em comunicar casos de fraudes contábeis. Foi conduzido um experimento de campo com 191 indivíduos que atuam com a função contabilidade em empresas brasileiras com fins lucrativos, em um dos dois vínculos de trabalho 'efetivo e precário'. Os participantes foram distribuídos em dois grupos. Para o grupo de tratamento foi manipulado a presença e a forma do canal interno de denúncia anônimo. O experimento foi aplicado por questionário eletrônico e os resultados foram analisados com testes não paramétricos de comparações de médias. Os resultados indicam que a presença de um canal de denúncia anônimo operado internamente aumenta a intenção dos colaboradores com vínculo efetivo em relatar uma fraude contábil. Contudo a propensão dos indivíduos com vínculo precário em denunciar não é afetada.

Article information

Received: July 11, 2017

Accepted: September 02, 2017

Copyright © 2017 FEA-RP/USP. Todos os direitos reservados

1 INTRODUCTION

The impacts caused by accounting frauds on economy and society, highlighting the cases of Enron e WorldCom, in the 2000's, bring clarification on fraud matters, in addition to questions related to control and its requisites for efficacy in combating this kind of criminal offense. In Brazil, cases of accounting fraud, as the Panamericano Bank in 2010, Gol Linhas Aéreas (Gol Airlines), recognized as accounting fraud by the auditing company Deloitte in 2016, and Orthodox International in 2017, indicate that the theme is still relevant.

According to the Association of Certified Fraud Examiners - ACFE (2016), losses regarding fraudulent acts, in global terms, are estimated to be around US\$ 6.3 billion, representing some 5% entities' revenue. These effects, both on organizations and on economy, make the control mechanisms improvement preponderant, with emphasis on dissemination of compliance programs, as well as on one of their pillars, the whistleblowing channel (PwC, 2016), which is relevant in this scenario, whether for regulation order matters or behavioral issues.

Corresponding author: Phone (81) 3320-6000

E-mail: gilson-rodrigues02@hotmail.com (G. R. Silva); rossanagsousa@yahoo.com.br (R. G. Sousa)

Universidade Federal Rural de Pernambuco (Federal Rural University of Pernambuco). Recife - PE, 52.171-900, Brazil.

With regard to regulatory aspects, whistleblowing channels are highlighted by laws as Sarbanes-Oxley Act - SOX (2002), which stimulated the creation of anonymous whistleblowing channels in companies, and by Dodd Frank Act (2010), which added financial rewards for denunciation of questionable acts, in relation to accounting, auditing, operational and management activities. The regulators reinforce the relevance of a system of denunciations and protection for retaliation against the informer in order to provide greater effectiveness in verifying fraudulent acts.

Additionally, Crime and Punishment (Becker, 1968) and Theory of Opportunities (Cohen & Felson, 1980) highlight the relevance of the whistle-blowing channel as an instrument that may act on the behavior of the potential fraudster, dissuading him/her from the act and reducing the occurrence of offenses.

The regulation of whistleblowing channels is still incipient in Brazil, regarding both institutional and protection aspects. In real estate market scope, it is regulated by CVM Instruction 509 (CVM, 2011), and in financial scope, by CMN Resolution 4567/2017. In the public area, there are rules of Federal¹ Executive Branch and in relation to the aspect of protection to the public service whistleblower, there is the Law of Access to Information (art. 126-A, Law no. 12,527/11²).

The whistleblowing channel appears as one of the efficient tools in receiving wrongdoing report, both in public sector and private sector, having corroborated 42% cases of frauds in organizations (PwC, 2016), besides being emphasized in literature of prevention, detection and dissuasion of offenses and questionable acts in organizations (Near & Miceli, 1995; Kaplan & Schultz, 2007; Near & Miceli, 2008; Park & Blenkinsopp, 2009; Kaplan et al., 2009; Gao et al., 2015; Johansson & Carey, 2016). However, in order to be effective, the whistleblowing channel needs an institutionalized system of receipt and protection to the whistleblower (Burket, 2000). This condition is independent of the type of structure, entities and bodies, or of the manner it is operationalized.

The form adopted by organizations for the whistleblowing channel may range from an operation that may be independent, externally operated by third parties, or internally developed, in the last case conducted by an organization's team or by an external team subordinate to the entity's administration (Burkert, 2000). However, when internally operated, it presents advantages of preservation of strategic information and more efficient action in the resolution of reported issues.

The whistleblowing channel was the anti-fraud tool with the highest implantation rate in organizations (8.9%) from 2010 to 2016 (ACFE, 2016). There is a tendency and need for encouragement to employees, in any occupational profile³ in order for them to relate these conducts as a way of controlling. Such importance is not reflected on the research on the subject, still incipient on the motivations of whistleblowing behavior in Brazil.

The Brazilian literature gathers some examples of studies involving the subject of accounting frauds whistleblowing in Brazil. Among them, Sousa et al. (2013) emphasized the whistleblowing internal actions of employees with accounting perception, as a mechanism to mitigate this type of fraud. In turn, Vasconcelos (2015) analyzed how the factors of ethical judgment, control locus, organizational climate and crime materiality influence the whistleblowing intention of internal auditors in Brazil. Lucena et al. (2015) discusses the tendency of accounting professionals to denounce questionable acts of their superiors and points to the relevance of factors such as severity of the act and personal cost as impacting on the accountant's decision to denounce the act.

Finally, regarding the whistleblowing channel, Silva, Melo and Sousa (2016) analyzed whether the provision of an anonymous whistleblowing channel would affect professionals' intention of communicating compliance issues in Brazil's scenario. The results indicated the channel availability non-interference with the participants' whistleblowing intention in general, and not even when segmented by public and private area.

Although the international literature shows the effect of the type of whistleblowing channel on the propensity to denounce of the employees of an organization (e.g. Brennan & Kelly, 2007; Kaplan et al., 2008; and Ahmad, Smith & Ismail, 2010), there is no news of similar studies in Brazil. The research in accounting has been still restricted when searching for methods that indicate or prevent unethical conduct that makes the occurrence of fraud possible (Curtis & Taylor, 2009).

¹It alters Joint Normative Instruction of Federal Prosecutor's Office and Office of the Comptroller General (01/2016 CGU/MP) and State-owned Companies Law (13,303/16).

²It alters the Statute of Public Servants of the Union (Law 8,112/90).

³The term occupational profile will be used from this point to designate the different types of relationships existing among the employees of an organization, whether they are tenured, for employees (referenced as professionals) or non-tenured, for those present in the organization, who interact in their environment but are not permanently connected with it, being outsourced employees or trainees (for this study only the trainee relationship was considered).

Given the solutions adopted in the market based on employees' whistleblowing, the research could identify the factors that motivate this whistleblowing behavior, and whether different occupational profiles show different behavior, facts that are not yet present in empirical studies in Brazil. Thus, we propose the following research problematics: Which is the influence of the presence of internally operated anonymous whistleblowing channels in organizations on employees' decision to report cases of accounting fraud?

From the hypothesis that the decision to report irregular acts is affected by the whistleblowing channels (Near & Miceli, 1995), and that an internally operated channel would motivate a greater intention to report those acts (Kaplan et al., 2009), this study aims to analyze the impact of the presence of internally operated anonymous whistleblowing channels on employees' decision to report cases of accounting fraud and, additionally, whether employee's occupational profile has impact on this decision.

This research contributes to the expansion of Brazil's empirical referential related to the issues involved in the behavior of the whistleblower, to the discussions on the control matter, with emphasis on the incentive to whistleblowing, as well as to the conceptual referential in accounting area regarding factors that motivate accounting fraud by professionals in organizations. It also contributes methodologically by means of the use of experimental research processes in this field of study.

This study presents, besides this introduction, a review of literature on accounting fraud and whistleblowing channels, in section 2. In the sequence, the methodological procedures involved in applying the experiment are presented in section 3, and the results are presented and discussed in section 4. Section 5 presents the final considerations of the study.

2. LITERATURE REVIEW

2.1 Accounting frauds in Organizations

Corporate fraud has occurred more frequently in the contemporary context of the competitive business environment, and has information manipulation as one of its mechanisms, which may impact organizational performance (Wells, 2008). Consequently, companies have faced a growing number of fraud cases, leading to significant reputation and financial losses, which are estimated at 5% of the entity's annual gross revenue (ACFE, 2016).

Fraud is a wrongful act, (ACFE, 2016) committed intentionally and premeditated, aiming to take advantage of something. Error, in turn, is an unintentional action, without the purpose of causing damages, which may arise from ignorance, imprudence, incompetence or negligence. For Rezaee (2005), examples of fraud are fraudulent manipulation of accounting transactions and documents, intentional errors or omission of accounting information to prepare reports, intentional non-application of accounting principles, usability of accounting in aggressive profit management and omission of the essence of accounting events, among others.

ACFE (2016) describes that fraud is a systemic phenomenon, produced by synergies and executed with coordinated actions. Thus, it presents characteristics that are previous to the fraudulent act, which are motivation for its occurrence in organizational context.

The types of fraud are related to the organizational environment, which increases the degree of difficulty of detection, due to both the peculiarity of the operational activity and the requirements to employees (Johansson & Carey, 2016). Due to such systemic characteristic, organizations began to make greater efforts to verify the occurrence of fraud, as well as forms of controlling it. This movement intensified in the 2000's, with a growing number of companies (Enron, WorldCom, Tyco International, Xerox, Bristol Meyers Squibb, Sadia, Aracruz, Banco Panamericano, Petrobrás and others) that disclosed fraudulent statements covering their real financial situation.

Occupational fraud occurs through coordinated actions that come from the use of an occupation (position in the organization) in order to have personal benefit and enrichment, whether through misappropriation of organization's goods or assets or through the deliberate application of such assets (Rezaee, 2005). ACFE (2016) has developed one of the greatest contributions in distinguishing between types of occupational fraud, disclosing the fraud tree in its annual reports. The structure presents 62 types of fraud, divided into three groups: corruption, misappropriation of assets and fraudulent statements.

These groups can be conceptually separated. Corruption is an act practiced by a person who uses positions or social status to gain personal advantage through the entity that he/she represents (Wells, 2008).

The misappropriation of assets consists of a range of actions involving financial transactions, mainly receipts and payments, as well as subtraction of inventories and other assets of the organization for his/her own benefit (Wells, 2008). Fraud in financial statements may involve: (1) manipulation of financial records, (2) intentional omission of events, transactions, accounts or other significant information from which the financial statements are prepared, or (3) misapplication of Accounting principles, policies and procedures used to measure, recognize, report and disclose business transactions (Johansson & Carey, 2016). Search for increase in stock prices or loans obtainment, distribution of smaller amounts of dividends to shareholders, or taxes payment evasion are among fraud motivations in financial statements.

2.2 Whistleblowing Channels

The whistleblowing channel has been indicated as an effective tool in the fight against accounting fraud, whether for reasons of speed in detecting the fact or for reducing behavioral incentives (Becker, 1968; Cohen & Felson, 1980), both in the public and private areas (ACFE, 2016). According to ACFE (2016), the most used fraud whistleblowing mechanisms in 2016 were telephone (39.5%), e-mail (34.1%), website or online form (23.5%) and fax (1.5%).

A whistleblowing channel, or hotline, can be understood as a whistleblowing mechanism or service, and its main function is to connect different actors within a regulatory model (Williams, 1999). The types of whistleblowing channels can be internal or external (Dworkin & Baucus, 1998), formal or informal, and identified or anonymous mechanisms (Park et al., 2008).

Internal whistleblowing may cause less impact on the organization in relation to the external complaint, since disclosure of information in the external environment may be prejudicial to the entity's strategy (Park & Blenkinsopp, 2009). Moreover, the disclosure of privileged information to agents outside the organization may violate signed contracts, and the publicity of such facts without explanation or previous solution may harm the entity.

For these reasons, internal whistleblowing gives the organization the opportunity to quickly deal with a concern, without the pressure and charges for explanations that come from the external environment. In addition, by correcting corporate problems internally, the management can ensure that critical information remains confidential, as well as encouraging organizational accountability and learning (Zhang, Chiu & Wei, 2009). On the contrary, in the absence of an internal communication channel, employees who discover corporate illegalities do not disclose their observations, putting the organization at risk (Near & Miceli, 1995).

Studies on determinants of whistleblowing intentions are not conclusive. The effect of gender on the intention to report accounting fraud information to the anonymous communication channels indicates from women's greater whistleblowing propensity (Kaplan et al., 2008) to lack of gender influence, as in the cases of Ahmad, Smith and Ismail (2010), with auditors in Malaysia, and Keenan (2000), in a study with executives in several countries.

The verification that the intention to denounce illegal acts increases in the presence of internal channels has more uniform findings in literature. Brennan and Kelly (2007) verified this effect for sample of trainee auditors in Ireland. In the same sense, study by Kaplan et al. (2008) and Ahmad, Smith and Ismail (2010). The authors indicate that this preference can be related to a greater guarantee of information reliability (whistleblower preservation) and belief in the accomplishment of actions corrective for irregularities generating benefits not only for the organization but also for the society.

For Kaplan et al. (2009), the internally operated whistleblowing channel may be administered by the internal audit department, by the human resources department, or by contracted staff of specific professionals who report the denunciations to the top management (PwC, 2016). This choice has several benefits: it causes less impact on the organization, since the information disclosure in the external environment does not occur (Park & Blenkinsopp, 2009); it can be a parameter to solve corporate problems; it may increase confidentiality, control levels of the entity (Zhang, Chiu & Wei, 2009) and the propensity of inferior hierarchical levels to denounce.

There is no detailed regulatory guidance on how to manage an anonymous whistleblowing channel; however, regulators allow audit committees to direct actions regarding policies and procedures for their operation, then the effectiveness and reliability of an anonymous whistleblowing channel can vary according to how it is administered, with minimal differences between them in relation to the variables that influence the decision to denunciate (Dworkin & Baucus, 1998).

3 METHODOLOGICAL PROCEDURES

3.1 Method

The field experiment was adopted as procedure, where the interviewees were presented to a simulated situation, by a scenario narrative. The independent variable was manipulated in a specific experimental group, as proposed by Barlow and Hersen (1984), and a control group was maintained, without the manipulation of said variable.

The design of the experiment investigates the influence of the existence or not of whistleblowing channels (anonymous and internally operated - independent variable X) on the propensity to denunciate cases of accounting fraud (dependent variable Y). The 2x1 experiment was composed of two groups and one treatment: one control group (G1) and one experimental group (G2). The control group in the experiment (G1) received no intentional stimulus and served as the standard for comparison. In the experimental group (G2), the independent variable was manipulated to measure its effects on the decision to denunciate. The decision to denunciate the fraud case was measured on a seven-point Likert scale: 1 - Certainly I would not communicate; 2 - Unlikely to communicate; 3 - Little likely to communicate; 4 - Likely to communicate; 5 - Very likely to communicate; 6 - Certainly I would communicate; 7 - I have no responsibility for this.

After the presentation of the scenario, the participant assigns the numerical value on the Likert scale for his/her intention to denunciate. Item 7 was included on the Likert scale in order to capture the responses of the participants who do not feel responsible for reporting the fraud case, that is, they are indifferent to the situation.

3.2 Scenario

The modeling of the scenario used considered the elements of the greatest occurrence of accounting fraud, such as accounting manipulation scheme (undocumented recording), which is a common method of fraud (Kaplan et al., 2009; ACFE, 2014). The scenario was constructed from the adaptation proposed by Kaplan et al., (2009), and Ahmad, Smith and Ismail (2010). Specific details of the status of the person who committed the fraud, type of activity, and organization size are included to help interviewees understand the case.

The developed scenario inserts the interviewee in the accounting activity of monitoring and recording contractual revenues of a company, highlighting the behavior expected by the entity, in the sense of ethical culture in internal and external work relations. The scenario reports the interviewee's exposure to a case of accounting fraud in the organization, committed by his/her superior accounting manager. After discovering the accounting fraud, the interviewee is asked about his/her intention to report the case to the organization's top administration. At this moment, in the scenario of the experimental group, one inserts the information about the existence, in the organization, of an internally operated anonymous whistleblowing channel, a question is presented, and the person is requested to indicate the whistleblowing intention to an anonymous channel. In the case of the control group, the information about the whistleblowing channel does not exist.

3.3 Data collection and treatment procedures

The research universe consisted of employees of organizations, segmented into two specific occupational profiles based on the nature of their employment relationships with the organization, whether tenured or nontenured, denominated professionals and students, respectively. The sample of this research has non-probabilistic character for convenience. The collection instrument was randomly distributed into 2 groups: G1 - Control Group: Without whistleblowing channel; G2 - Experiment Group: Internally operated whistleblowing channel.

The minimum sample size of 150 interviewees was established based on previous research on the subject (Kaplan et al., 2009; Ahmad, Smith & Ismail, 2010), with a total of 191 interviewees distributed as follows: 95 in the control group (G1) and 96 in the treatment group (G2).

The collection instrument was the structured questionnaire, sent by e-mail to the participants and collected between July and October 2016. The questionnaire was divided into two sections. (a) Exposure to the fraud scenario for interviewees to communicate their decision through a seven-point Likert scale; and (b) Demographic data: gender, age, working time at the current organization, time of professional experience and function in relation to accounting. These variables were treated with the intention of identifying undesirable variations in the dependent variable (Hair Jr et al., 1998).

The instrument was validated by a group of evaluators composed of doctors and masters in the area of Management and Accounting of Federal Teaching Institutions of Brazil, which resulted in a Content Validity Coefficient (Fenker, Dieh & Alves, 2011) of 0.920 regarding clarity. The precision, in turn, reached the coefficient of 0.880.

From the sample of 191 respondents, missing data (three cases) and the answers that indicated point 7 on the scale ("I have no responsibility for this") (two cases) were excluded. The motivation for the exclusion of point 7 was due to its low representativeness, which made any analysis of this information unfeasible.

In order to reinforce the internal validity of the experiment, this study involves a sample of students and professionals with experience and engaged in activities in organizations with voluntary participation (Smith, 2014). The non-parametric Mann-Whitney U test was used to verify the existence of significant differences between the control group (G1) and the treatment group (G2), as well as verifying whether there is influence between the composition of the groups in their different occupational profiles (students and professionals) and their intention to denunciate, identifying the relative frequencies through the degree of association with the dependent variable.

4. PRESENTATION AND ANALYSIS OF RESULTS

4.1 Interviewees Profile

In this section, the profiles of the randomly constituted groups are examined so that to verify if such composition can influence the discussion of the results or the treatment applied. The distribution of interviewees into both groups (95 and 96) did not significantly affect their analysis and comparison, considering the standard of the statistical test used. Nevertheless, factors such as gender, working time at the current organization, age, and experience in the function (students and professionals) have to be considered.

Table 1 shows that there is a predominance of male interviewees (57.9%) in the control group (without whistleblowing channel - G1), and 52.1% of female participants in the treatment group (with internally operated whistleblowing channel - G2).

It is worth noticing that this gender difference in the randomly formed groups could not be controlled.

Table 1. Composition of Groups by Gender

Gender	Without whistleblowing channel G1 (n = 95) (%)	With internally operated whistleblowing channel G2 (n = 96) (%)
Female	42.1	52.1
Male	57.9	47.9
Difference in the number of interviewees	15.8%	4.2%

Source: Research Data (2016)

Table 2 considers two other demographic issues that may influence the analysis of the results of this study, such as interviewee's age and time of professional experience. For Keenan (2000), the interviewee's age can be a stimulator factor to whistleblowing. Organizations' older members may have a greater understanding of entities' control systems and, in addition, have minimal whistleblowing restrictions compared with new members. Regarding the time of experience, Dworkin and Baucus (1998) affirm that the new employees can be reluctant to denunciate because they do not know the culture of the entity and have little knowledge of the whistleblowing channels available in the entity.

Table 2. Composition of the group by age, experience, performance and occupation

DEMOGRAPHIC VARIABLES	Without whistleblowing channel G1(n=95)		With internally operated whistleblowing channel G2 (n=96)	
	Students (n=42)	Professionals (n=53)	Students (n=38)	Professionals (n=58)
Age	23.19 (2.61)	32.25 (5.92)	24.16 (2.84)	34.31 (5.70)
Time of Professional experience	1.74 (0.83)	8.53 (6.06)	2.39 (1.03)	10.34 (5.40)

Source: Research Data (2016)

Note: Median (standard deviation between parentheses)

In all groups, professionals present themselves with more expressive participation, and the Control Group (G1) presents the lowest relationship between professionals and students. In this sense, considering students' nontenured employment, younger age and less experience in corporate environment, as can be seen in Table 2, it is expected, according to studies of Dworkin and Baucus (1998) and Keenan (2000), that the whistleblowing propensity is smaller. From the analysis of the composition of the groups, it can be noticed that G2, with a larger number of professionals and accumulation of experience in organizations, besides knowledge of their controls and less restrictions on whistleblowing, may present a greater propensity to whistleblowing.

The influence of the variables gender, experience time and age on the interviewees' intention to denunciate between the groups was verified using the Mann-Whitney U test and Kruskal-Wallis test, respectively. The tests did not indicate statistically significant differences in both cases, indicating that these factors did not influence the interviewees' intention to denunciate when segmented into groups.

4.2 Relationship between whistleblowing intention and presence of anonymous whistleblowing channel

Table 3 shows the median of whistleblowing intention of the control group - G1 (Without whistleblowing channel) and treatment group - G2 (with internal whistleblowing channel) to verify the influence of the whistleblowing channel on this decision.

The initial data in Table 3 express some behavioral motivations of the interviewees when they intend to denunciate accounting fraud. In the absence of a whistleblowing channel, 7.4% employees would avoid denouncing the fraud. With the presence of the channel, the propensity to avoid reporting disappears (items 1 and 2, G2 without answers). Similarly, the indication of certainty of whistleblowing (item 6) increases by 12% when compared to the group without whistleblowing channel.

Table 3. Whistleblowing intention and internally operated anonymous channel

Whistleblowing Intention	N	Median (Standard Deviation)	Likert Scale (%)					
			1	2	3	4	5	6
Without whistleblowing channel(Control Group - G1)	95	4.78 (1.41)	4.2	3.2	11.6	15.8	22.1	43.2
With internally operated whistleblowing (Experimental group - G2)	96	5.27 (0.93)	0.00	0.00	5.2	17.7	21.9	55.2

Source: Research Data (2016).

Note: Indications of the Likert Scale ranging from 1 - Certainly I would not communicate to 6 - Certainly I would communicate.

These data may indicate that the presence of the internal whistleblowing channel increases the trust of the organization's members, whether by greater protection perceived by the channel internal operation or by the trust in the improvement of organizational practices. Regardless of the motivation, the sign of greater propensity to whistleblowing is clear in the data presented.

The data detailed in Table 3 reflect that the median in group G2, where there is an internally operated whistleblowing channel, was higher (5.27) than the median whistleblowing intention of the control group (4.78). Table 4 presents median tests for the groups.

Table 4. Whistleblowing intention of Control Group (G1) and Treatment Group (G2)

Whistleblowing Intention	Median (Sd)	Mann-Whitney U
Without whistleblowing channel (Control Group - G1)	4.78 (1.41)	0.025
With internally operated whistleblowing channel (Experimental Group - G2)	5.27 (0.93)	

Source: Research Data (2016)

Table 4 shows that the whistleblowing intention of interviewees of the experimental group (G2), with the presence of the internally operated anonymous whistleblowing channel, presents statistical significance ($w = -2.246$; $p = 0.025$), in relation to the responses of the control group. It is verified that the existence of the anonymous whistleblowing channel in the organization as recommended by SOX (2002), CVM (2011), and Law 13,303/16, is related to the employees' greater propensity to whistleblowing.

These data indicate that the presence of the internal whistleblowing channel increases the probability of employees to denunciate fraud and that there is relevance in the format of operation given to the whistleblowing channel by the organization in the employee's decision to denunciate the fraud.

The result is in line with the findings of Kaplan et al. (2009), which indicate a greater possibility of internal whistleblowing when internally operated anonymous channels exist, especially for encouraging the employee to communicate the fraud without fear of punishment and/or reprisals by managers or co-workers. This would reinforce, for the Accounting professionals, as in Lucena et al. (2015), the feeling of responsibility in denouncing. According to the authors, less fear of reprisals would positively affect the intention to communicate questionable acts, generating a cycle of continuous stimuli.

It is observed a possible influence of the occupational profiles of the groups formed on the application of the experiment. The difference between students and professionals, the latter with greater knowledge and experience in the organizational environment, is considered to define the impacts of the channels on their decision. Table 5 shows the groups' whistleblowing intentions, and analyzes segmented by occupational profile.

Table 5. Whistleblowing intention of Control Group and Experimental Group (G2) – per Occupational Profile

Professionals' whistleblowing intention (tenured employee)	Median (Standard Deviation)	Mann-Whitney U
Without whistleblowing channel (Control Group - G1)	4.79 (1.38)	0.017
With internally operated whistleblowing channel (Experimental Group - G2)	5.40 (0.86)	
Students' whistle-blowing intention (non-tenured employee)	Median (Standard Deviation)	Mann-Whitney U
Without whistleblowing channel (Control Group - G1)	4.76 (1.46)	0.506 (NS)
With internally operated whistleblowing channel (Experimental Group - G2)	5.08 (1.02)	

Source: Research Data (2016)

Note: NS – nonsignificant

The results of the statistical significance between the two occupational profiles (tenured and nontenured) indicate that in the group that represents occupational profile of tenured employment relationship with the organization there are significant differences ($w=-2.388$, $p=0.017$) between the whistleblowing intention of control group (G1) and experimental group (G2). The influence of the internally operated whistleblowing channel on the professionals' whistleblowing propensity is confirmed. On the other hand, the group where there is nontenured employment relationship (students) indicates that the existence of the internal whistleblowing channel is not a motivating factor for their decision to report accounting fraud.

The non-significance in the group with occupational profile of nontenured employment relationships (students) regarding the existence of the channel can be explained by its own transient condition in the organization, which would not imply restrictions and/or greater commitment to the operational continuity of the organization if the subject decides to report or remains in silence regarding the fraudulent conduct. In a different way, the protection factor, represented by the possibility of using an internally operated whistleblowing channel in the group with participants with tenured employment relationships, can be an explanatory factor in their decision to report fraud either by having the possibility to continue in the entity without fear of retaliation or because they believe that will be benefited from a good organization's performance in the future.

From this difference obtained by the segmentation of groups among the different occupational profiles of the organization's employees, it is possible to better interpret the result initially presented in Table 4. With this interaction of analyzes, it is possible to infer the influence of the internally operated whistleblowing channel on the intention of reporting acts of accounting fraud by employees with tenured occupational profile (professionals). It is in line with their greater experience in the labor market, but does not invalidate the finding obtained by the experiment.

This result are in accordance with the studies of Near and Miceli (1995); Kaplan and Schults (2007); Ayers and Kaplan (2005); Hunton and Rose (2010); and Johansson and Carrey (2016), who demonstrate that an anonymous whistleblowing channel, such as the one used in the scenario of the experiment, would motivate greater whistleblowing intention, especially for understanding that there is protection against retaliation.

The results, however, are not consistent with the findings of the study of Silva, Melo and Sousa (2016), in the specific area of compliance in the Brazilian scenario. The findings show the non-relevance of a whistleblowing channel for Brazilian employees in the decision to report irregular or illegal acts to their organizations. This fact may be due to the specificity of the type of offense reported in the experiment conducted by the authors, which specifically referred to issues of normative or regulatory compliance, which may have been understood by participants as less prone to retaliation or less relevant to the future of the organization, showing the indifference of the participants in relation to the communication format.

5 FINAL CONSIDERATIONS

According to data from ACFE (2016), accounting fraud brings the greatest financial damage to organizations among the three typologies of occupational fraud, showing the importance of studying factors that may reduce its occurrence.

The results of the study indicate that in the Brazilian scenario the presence of an anonymous and internally operated whistleblowing channel can influence the decision of the employee with tenured employment relationship with the organization to report the accounting fraud of which he/she is aware. This result may be due to employee's view regarding the importance of protecting the entity or reducing its exposure to the external environment, as a way of maintaining its employment relationship and benefiting from the growth or maintenance of the organization in the future. Other factors may explain the impact of the presence of the internally operated whistleblowing channel on inducing a higher propensity to whistleblowing. These factors include employees' belief in incremental management improvements that can modify existing control systems, with continuous monitoring and audits. Moreover, the possible visualization of greater protection against retaliation, coming from denunciations in the organizational environment, which is in line with the international evidence on the subject (Near & Miceli, 1995; Kaplan & Schults, 2007; Ayers & Kaplan, 2005, Hunton & Rose, 2010, and Johansson & Carrey, 2016).

Despite the recent exposure of Brazilians to the issue of corporate whistleblowing, its impacts and benefits, there is evidence of greater propensity to report accounting fraud only when the channel is anonymous and internally operated. This finding may suggest that greater dissemination among the members of the organization on the benefits of using internal communication channels as an effective control instrument may increase their whistleblowing intention and, consequently, increase the effectiveness of organizations' control systems and/or reduction of fraud potential, as suggested by Crime and Punishment (Becker, 1968) and by the Theory of Opportunities (Cohen & Felson, 1980).

The results can contribute to the reflection of regulators and organizations regarding the decision to stimulate the use of internal whistleblowing channels in Brazil, reinforcement to protection to the whistleblower and necessity of dissemination of this control instrument within the organizations as a potentially risk mitigating element of accounting fraud, whether by identifying and investigating crime quickly, or by reducing the opportunity or increasing the risk of fraudulent action.

REFERENCES

- Ahmad, S. A., Smith, M., & Ismail, Z. (2010). Internal Whistle-blowing Intentions in Malaysia: Factors That Influence Internal Auditors' Decision-Making Process. In *International Conference on Business and Economic Research* (pp. 15-16).
- ACFE. (2016). *Association of Certified Fraud Examiners. Report to the nations on occupation fraud and abuse*. Disponível em: <<https://s3-us-west-2.amazonaws.com/acfepublic/2016-report-to-the-nations.pdf>>. Acesso em 29 de maio de 2016.
- Ayers, S., & Kaplan, S. E. (2005). Wrongdoing by consultants: An examination of employees' reporting intentions. *Journal of Business Ethics*, 57(2), 121-137.
- Barlow, B.H., & Hersen, M. (1984). *Single-case experimental design: strategies for studying behavior change*. New York: Pergamon.
- Becker, G. S. (1968). Crime and Punishment: An Economic Approach. *Journal of Political Economy*, 76 (2), 169-217.
- Brennan, N., & Kelly, J. (2007). A study of whistleblowing among trainee auditors. *The British Accounting Review*, 39(1), 61-87.
- Burkert, Herbert. (2000) The issue of hotlines. Protecting Our Children on the Internet: towards a new culture of responsibility. Gütersloh: Bertelsmann Foundation Publishers, p. 263-318.
- Cohen, L., & Felson, M. (1980), "Property crime rates in the United States: a macrodynamic analysis, 1947-1977". *American Journal of Sociology*, 86, (1), 90-119.
- CVM. (2011). *Comissão De Valores Mobiliários*. Disponível em: <<http://www.cvm.gov.br/legislacao/inst/inst509.html>>.
- Curtis, M. B., & Taylor, E. Z. (2009). Whistleblowing in public accounting: Influence of identity disclosure,

- situational context, and personal characteristics. *Accounting and the Public Interest*, 9(1), 191-220.
- Dodd-Frank Act. Dodd-Frank Wall Street Reform and Consumer Protection Act . (2010) 111th United States Congress. July 21, 2010.
- Dworkin, T., & Baucus, M. S. (1998). Internal vs. external whistleblowers: A comparison of whistleblowing processes. *Journal of Business Ethics*, 17(12), 1281-1298.
- Fenker, E. A., Diehl, C. A., & Alves, T. W. (2011). Desenvolvimento e avaliação de instrumento de pesquisa sobre risco e custo ambiental. *Revista de Contabilidade do Mestrado em Ciências Contábeis da UERJ*, 16(2), 30-49.
- Gao, J., Greenberg, R., & Wong-On-Wing, B. (2015). Whistleblowing intentions of lower-level employees: The effect of reporting channel, bystanders, and wrongdoer power status. *Journal of Business Ethics*, 126(1), 85-99.
- Hair Jr., J.F.; Anderson, R.E.; Tatham, R.L.; Black, W.C. (1998). *Multivariate data analysis*. 5th ed. New Jersey: Prentice Hall.
- Hunton, J. E., & Rose, J. M. (2011). Retracted: Effects of Anonymous Whistle-Blowing and Perceived Reputation Threats on Investigations of Whistle-Blowing Allegations by Audit Committee Members. *Journal of Management Studies*, 48(1), 75-98.
- Johansson, E., & Carey, P. (2016). Detecting fraud: The role of the anonymous reporting channel. *Journal of Business Ethics*, 139(2), 391-409.
- Kaplan, S. E., Pany, K., Samuels, J. A., & Zhang, J. (2009). An examination of the effects of procedural safeguards on intentions to anonymously report fraud. *Auditing: A Journal of Practice & Theory*, 28(2), 273-288.
- Kaplan, S. E., Pany, K., Samuels, J., & Zhang, J. (2008). An examination of the association between gender and reporting intentions for fraudulent financial reporting. *Journal of Business Ethics*, 87(1), 15-30.
- Kaplan, S. E., & Schultz, J. J. (2007). Intentions to report questionable acts: An examination of the influence of anonymous reporting channel, internal audit quality, and setting. *Journal of Business Ethics*, 71(2), 109-124.
- Keenan, J. P. (2000). Blowing the whistle on less serious forms of fraud: A study of executives and managers. *Employee Responsibilities and Rights Journal*, 12(4), 199-217.
- Lucena, E. R.F.C.V; Melo, C.L.L; Lustosa, P.R.B; Silva, C.A.T.(2015) Ética: a tendência de os profissionais contábeis denunciarem atos questionáveis. *Revista de Contabilidade e Organizações*, 9 (24), 3-17
- Near, J. P., & Miceli, M. P. (1995). Whistle-blowing: Myth and reality. *Journal of management*, 22(3), 507-526.
- Near, J. P., & Miceli, M. P. (2008). Wrongdoing, Whistle-Blowing, and Retaliation in the US Government What Have Researchers Learned From the Merit Systems Protection Board (MSPB) Survey Results?. *Review of Public Personnel Administration*, 28(3), 263-281.
- Park, H., & Blenkinsopp, J. (2009). Whistleblowing as planned behavior—A survey of South Korean police officers. *Journal of Business Ethics*, 85(4), 545-556.
- Park, H., Blenkinsopp, J., Oktem, M. K., & Omurgonulsen, U. (2008). Cultural orientation and attitudes toward different forms of whistleblowing: A comparison of South Korea, Turkey, and the UK. *Journal of Business Ethics*, 82(4), 929-939.
- PWC. (2016). *PriceWaterhouseCoopers. Adjusting the Lens on Economic Crime Preparation brings opportunity back into focus Economic crime: people, culture and controls*. <<http://www.pwc.com/gx/en/services/advisory/consulting/forensics/economiccrimesurvey.html>>; Acesso em: 27 de maio de 2016.
- Rezaee, Z. (2005). Causes, consequences, and deterrence of financial statement fraud. *Critical Perspectives on Accounting*, 16(3), 277-298.
- Silva, G. R., Melo, H. P. A., & Sousa, R. G. (2016). *A Proteção do Anonimato e a Eficácia do Compliance: Um Estudo Experimental Sobre a Influência do Canal de Denúncia Anônima na Comunicação de Problemas de Compliance no Brasil* In: XVI USP International Conference in Accounting, São Paulo.
- Smith, M. (2014). *Research methods in accounting*. Sage.
- Sousa, R. G., Vasconcelos, A. F., Antunes, G. A., & da Silva, J. D. G. (2013). Fraudes contábeis e whistleblowing:

- uma pesquisa empírica sobre a influência da percepção contábil do delatante. *Revista Universo Contábil*, 9(3), 128-142.
- Vasconcelos, A. F. D. (2015). Influência do julgamento ético, locus de controle, clima ético organizacional e materialidade do delito sobre as intenções de Whistleblowing dos auditores internos no Brasil. 153f, *Tese de Doutorado do Programa Multiinstitucional e Inter-Regional de Pós-Graduação em Ciências Contábeis (UFPB/ UNB/ UFRN)*, João Pessoa/PB.
- Wells, J.T. (2008). *Principles of Fraud Examination*. 2ª. Ed. John Wiley & Sons, INC, Hoboken, New Jersey.
- Williams, Nigel. (1999). *The Contribution Of Hotlines To Combating Child Pornography On The Internet*. Recuperado em 21 de outubro, 2015 de http://www.Childnet-Int.Org/Downloads/Combating_Child_Pornography.Pdf.
- Zhang, J., Chiu, R., & Wei, L. (2009). Decision-making process of internal whistleblowing behavior in China: Empirical evidence and implications. *Journal of Business Ethics*, 88, 25-41.