CORPORATE AND ACCOUNTING FRAUD: TYPES, CAUSES AND FRAUDSTER'S BUSINESS PROFILE

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Abstract

Fraud costs economy, businesses, investors and society more than $3 trillion every year. It is a serious problem that, after a series of corporate and accounting scandals, has recently received considerable attention. This essay reviews fraud concept and presents the main fraud schemes and causes that lead people to unethical behavior. We describe fraudster's personal characteristics and discuss fraud evolution from 2004 to 2016, according to the Association of Fraud Examiners' Reports to the Nations. This research is one of the few to focus on fraudster's business profile using a weighted measure of impact in terms of likelihood. In this way, we contribute to the existing fraud literature providing useful information to professionals and academics to further explore firms' internal environment characteristics that may affect fraudulent behavior. We find that asset misappropriation is the most frequent fraud scheme even if fraudulent financial statement is the most costly. Banking is the industry suffering the most from fraud after 2008; manufacturing experienced the most fraud cases before the financial crisis begins. Owners or executives generate the most high-impact fraud scandals, even if employees commit fraud more frequently. People working more than ten years at a corporation trigger the most severe damage as they have access to valuable information and have gained enough trust to overlap internal controls. Individuals between 41-60 years old seem to generate more damage reflecting their position and tenure within the organization. Our results show that organizational ethical culture and ethical "tone at the top" promoting and encouraging moral attitude are salient for fraud prevention.

Keywords: Fraud, Fraud Schemes, Fraud Consequences, Fraudster's Business Profile, The Association of Certified Fraud Examiners

1. INTRODUCTION

High profile corporate scandals at large companies such as Enron, WorldCom, Adelphia, Cendant and Tyco, have raised the attention of the public, investors, press, regulators and academics.

The top management executives of these firms were accused of manipulating the records and most of them were convicted. WorldCom CEO Bernie Ebbers was sentenced to 25 years in prison, for fraud, conspiracy and filing false documents with regulators; by inflating assets by $11 billion, he leaded this large telecommunication company to bankruptcy, 30.000 people to unemployment and investors to $180 billion losses.

According to the Association of Certified Fraud Examiners' 2016 Report to the Nations on Occupational Fraud and Abuse (ACFE, 2016), fraud costs to companies about $3.7 trillion worldwide; approximately 5% of firms' total revenues. Beyond the financial cost, fraud may also generate damage to employees, customers, suppliers and society, as well as litigation costs and regulatory penalties (Fleming et al, 2016).

Fraud as part of white-collar crimes is defined as "any illegal act characterized by deceit, concealment or violation of trust" (The IIA, 2013). In this context, fraud does not involve physical violence; instead it intentionally takes advantage of one's trust to illegally "borrow" valuable things

belonging to him (Gottschalk, 2010; Petlier-Rivest, 2009).

This study addresses the fraudsters' business profile, exploring the linkage between their characteristics (position, age, tenure with the victim) and fraud consequences. Unlike to prior studies (Persons, 2005; Rezaee, 2005; Karpoff et al, 2008; Kim et al, 2013) which examine fraud consequences and possible fraudster's red flags separately, this paper discusses fraud consequences by category and industry and fraudster's business profile integrating the terms of likelihood and impact.

In this way, we believe that this study provides to professionals and academics a more specific framework to further explore firms' internal environment characteristics that may affect fraud likeliness.

The remainder of this paper is organized as follows. The section following this introduction reviews the prior literature and presents the possible types of fraud that firms may experience. We also discuss the causes leading people to fraudulent behavior, presenting the fraud models examining this issue. Section 4 describes the research methodology we use to reach our results and the features we examine. Section 5 presents fraud consequences and fraudster's business profile. The final section summarizes the paper, addresses our main limitations and recommends possible future research outlooks.

2. LITERATURE REVIEW

2.1. Prior literature

In recent fraud and accounting literature, several studies have demonstrated the devastating consequences of fraud scandals (Petlier-Rivest, 2009; Rezaee, 2005), as well as of news of misconduct; Karpoff et al (2008) reveal that firms lose 38% of their market value upon reported news of unethical behavior. In the same line, Beasley et al (2010) find that financial reporting fraud often affects also the reputation and the financial position of the firm, broadening fraud consequences context.

Much attention has also been given to the top management's role and characteristics that affect corporate and accounting fraud likelihood (Beasley, 1996; Owens-Jackson et al; 2009, Abbott et al, 2000; Uzun, 2004, Abbott et al, 2012; Donelson et al, 2017). Hermanson et al (2017), examining the differences between predator and situational fraudsters, find that position, education, age and tenure with the victim are features affecting fraud likelihood and impact.

Hermanson et al (2017) results confirm the need for greater understanding of firms' internal environment and fraudsters' characteristics (Cooper and Palmer, 2013; Dorminey et al, 2012; Trompeter et al, 2013). Eaton and Korach (2016) and Rammamoorti (2008) demonstrate also the need for incorporating sociology and psychology in fraud theory to better comprehend who commits fraud and the reasons leading people to this behavior.

In this context, an analysis of fraud concept and perpetrator's business profile would increase corporate governance participants' awareness on this issue and their attention to fraud prevention and detection strategies. Thus, our research question is:

RQ: How is the fraudster's business profile affecting firms in terms of likelihood and impact?

2.2. Fraud schemes & causes

To better understand the fraud framework, we present briefly the possible types of fraud a firm may face and the causes leading people to fraudulent acts. As the objective of this paper is not to provide a detailed analysis of fraud theories, we present the evolution of fraud theory in brief.

According to the Association of Certified Fraud Examiners (2016) fraud schemes are classified in three categories; *asset misappropriation* involving cash larceny, skimming, billing schemes or misuse of the organization's assets, *corruption* in which persons use their authority for private benefit and *fraudulent financial statements* involving manipulation of the organization's financial statements.

The increasing number of corporate scandals during the last century drew the attention of professionals and regulators on fraud prevention and detection analysis. Although their efforts and adoption of fraud regulations and rules, the frequency of fraud cases reported still remains high. This stability shows that fraud is a severe and continuously evolving issue, as KPMG survey reveals (KPMG, 2016).

2.3.The fraud triangle

Since 1953 numerous studies have tried to explore the reasons that lead people to unethical and fraudulent behavior. Donald Cressey (1953), a criminologist, first developed the "Fraud Triangle Model" conducting interviews with inmates in the Illinois State Penitentiary; he concluded that common features characterize all white-collar criminals. In this context, his model consists of three elements overlapping one another; *pressure*, *opportunity* and *rationalization*.

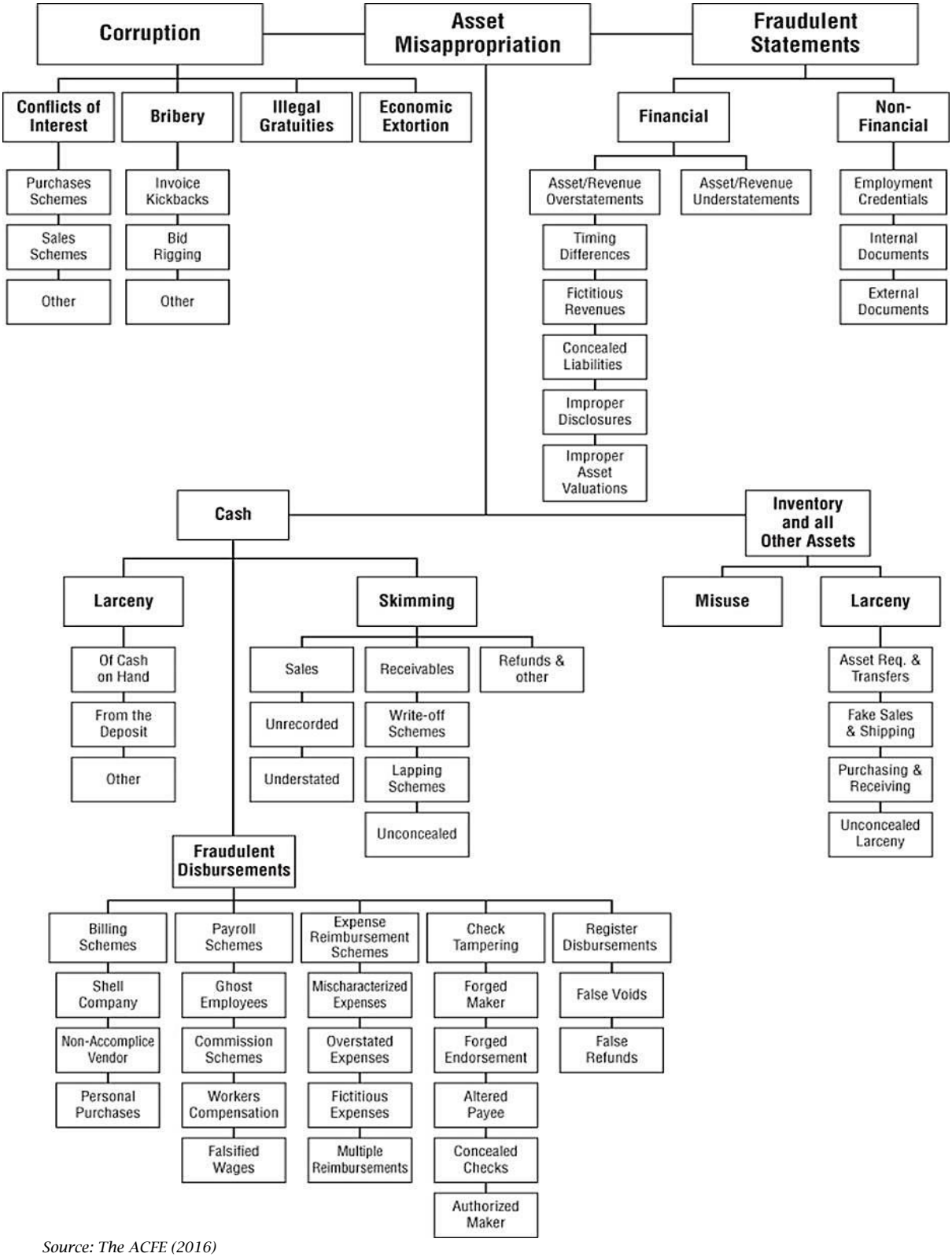
Pressure. The incentive to commit fraud can arise from financial and non-financial pressures. An individual may lead to unethical behavior because of financial losses, greed, personal debt, the need to meet stakeholders' expectations, social recognition and a strong sense of self-esteem (Hogan et al, 2008; Kassem and Higson, 2012). Murphy and Free (2016) also argue that poor work environment, anger against the firm and instrumental climate are some additional incentives.

Opportunity. Weak corporate governance structure, lack of effective internal controls and improper control environment provide perceived opportunities for individuals to commit fraud and conceal it (Trompeter et al, 2013). Donelson et al (2017) also argue that internal controls' weaknesses at entity-level reflect a salient opportunity to commit fraud, rather than process-level.

Rationalization. Cressey (1953) observed that fraudsters wish to rationalize their acts and justify their fraudulent actions prior to the first fraud act; "rationalization is an attempt to reduce the cognitive dissonance within the individual" (Dorminey et al, 2012). Trying to formulate a morally acceptable idea before engaging in fraud, perpetrators often blame the organization or their environment; "The Company owes me", "I am only borrowing some money", "It's for my son's surgery".

Although Cressey's fraud theory was supported by regulators and researchers (Bell and Carcello, 2000; Rezaee, 2005), additional theories developed, expanding Fraud Triangle's elements to provide a deeper understanding of motivations and characteristics from which fraud may be prompted.

Figure 1. Fraud tree



Source: The ACFE (2016)

2.4. The fraud scale

Albrecht et al (1984) developed the "Fraud Scale" model as an alternative to the Fraud Triangle. Through an analysis of 212 fraud cases, they proposed a fraud scale which consists of two Fraud Triangle's features, pressure and opportunity, but instead of rationalization it involves personal integrity; personal integrity is defined as "the personal code of ethical behavior each person adopts" (Albrecht et al, 2016). Among its advantages, the most beneficial one is that personal integrity can be observed and measures through a person's past behavior and his decisions; so, one's commitment to ethical conduct and his tendency to fraud can be assessed.

2.5. The fraud diamond

Wolfe and Hermanson (2004) believed that the Fraud Triangle effectiveness could be improved by adding a fourth element, capability. Apart from the incentive, perceived opportunity and rationalization, they argued that to commit fraud, an individual should have the appropriate abilities, coercion, skills and personal traits; without capability, the fraudster will not be able to overcome controls and remain undetected. As the authors describe, an opportunity opens the door to fraud, incentive and rationalization attract him to that door, but fraudster should have the capability to recognize the opportunity to cross that door and commit fraud over and over again.

2.6. MICE

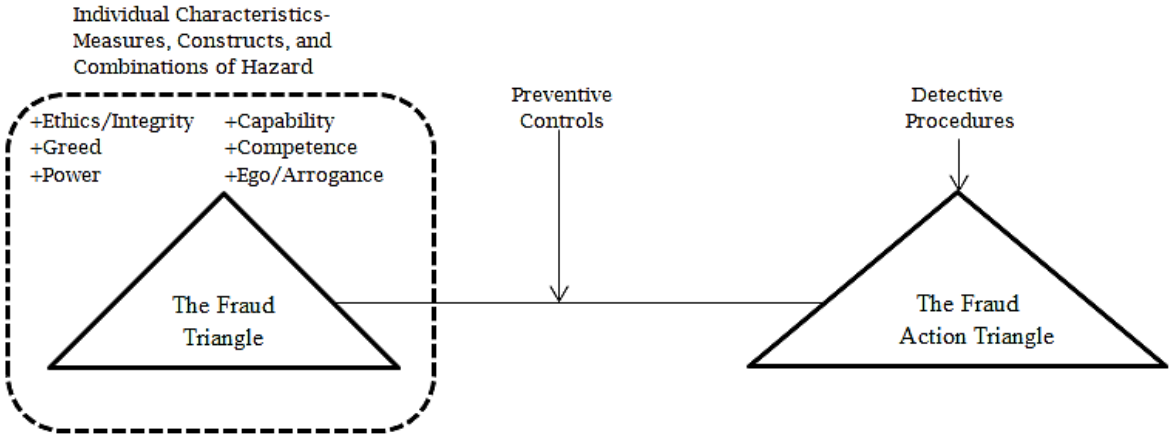
Kranacher et al (2011) built upon the Fraud Triangle another model trying to explain the non-financial incentives that drive prominent members of society to commit fraud. MICE model expands motivation features beyond financial pressures involving apart from Money, also Ideology, Coercion and Ego.

Money, Ego and Coercion seem to be common motivations for unethical and fraudulent activities; WorldCom, Enron and Madoff fraud scandals are some examples involving the aforementioned motivations. However, ideology does not appear to be a common motivation; ideology may lead to individuals to fraud to achieve a greater good following Machiavelli's quote "the end justifies the means" (Dorminey et al, 2012).

2.7.Meta model of fraud analysis

The Meta-Model framework provides an evolution to fraud analysis. It endorses the personal anti-fraud efforts and the characteristics businesses should adopt to construct a cohesive and well-organized ethical workplace (Dorminey et al, 2012). Apart from preventive and detective procedures followed by a firm, the meta-model framework includes the personnel characteristics at all hierarchy levels; ethics, integrity, ego; the anti-fraud control environment; tone at the top, hotlines; and fraud triangle criteria.

Figure 2. The meta-model framework



Source: Dorminey et al (2012)

3. RESEARCH METHODOLOGY

Fraud may generate pervasive and wide-ranging effects. It influences shareholders, employees and societies where the firms operate. Fraud can also damage managers' reputation and a firm's performance (Zahra et al, 2007; Gerety and Lehn, 1997).

This study utilizes data collected by the Association of Certified Fraud Examiners' Reports to the Nations on Occupational Fraud and Abuse. We examine occupational fraud by category and industry and explore how perpetrator's position, tenure within the organization and age affect fraud likelihood and impact from 2004 to 2016.

4. RESEARCH RESULTS

The results in Table 1 show that asset misappropriation is the most frequent type of fraud, followed by corruption; more than two out of three cases reported, involved asset misappropriation. Table 2 shows that fraudulent financial statements is the most high-impact category, with a median fraud loss per company ranging from $975.000 to $4.100.000. Using a weighted measure of impact in terms of likelihood, we find in Table 3 that asset misappropriation affects the firms more than the other categories of fraud.

Table 1. Likelihood of occupational fraud by category

Category	*2004*	*2006*	*2008*	*2010*	*2012*	*2014*	*2016*
Asset Misappropriation	92,70%	91,50%	88,70%	86,30%	86,70%	85,40%	83,50%
Corruption Schemes	30,10%	30,80%	27,40%	32,80%	33,40%	36,80%	35,40%
Fraudulent Financial Statements	7,90%	10,60%	10,30%	4,80%	7,60%	9,00%	9,60%

Source: The Authors, data from The ACFE

Table 2. Impact of occupational fraud by category

Category	*2004*	*2006*	*2008*	*2010*	*2012*	*2014*	*2016*
Asset Misappropriation	93.000	150.000	150.000	135.000	120.000	130.000	125.000
Corruption Schemes	250.000	538.000	375.000	250.000	250.000	200.000	200.000
Fraudulent Financial Statements	1.000.000	2.000.000	2.000.000	4.100.000	1.000.000	1.000.000	975.000

Source: The Authors, data from The ACFE

Table 3. Weighted impact of occupational fraud by category

Category	*2004*	*2006*	*2008*	*2010*	*2012*	*2014*	*2016*
Asset Misappropriation	65.960	103.273	105.261	94.031	81.472	84.618	81.225
Corruption Schemes	57.574	124.683	81.289	66.182	65.387	56.097	55.097
Fraudulent Financial Statements	60.443	159.518	162.974	158.837	59.514	68.597	72.840

Source: The Authors, data from The ACFE

Industries experiencing fraud differ significantly in terms of likelihood and median losses. Table 4 shows that banking and government face fraud more frequently, while communication and utilities have to deal with the least fraud cases.

The results in Table 5 show that fraud losses are greater in agriculture sector followed by oil and gas companies, while on the other hand the consequences in education are the least severe. Using a weighted measure of impact in terms of likelihood, we find in Table 6 that fraud affects banking more than the other industries and communication less.

Table 4. Likelihood of occupational fraud by industry

Industry	*2004*	*2006*	*2008*	*2010*	*2012*	*2014*	*2016*
Manufacturing	12,90%	9,70%	7,20%	10,70%	10,10%	8,50%	8,80%
Banking	11,10%	14,30%	14,60%	16,60%	16,70%	17,80%	16,80%
Service	11,10%	5,80%	3,90%	4,90%	3,50%	3,30%	3,20%
Government	10,50%	11,50%	11,70%	9,80%	10,30%	10,30%	10,50%
Insurance	9,10%	7,50%	5,60%	5,10%	5,70%	4,50%	3,90%
Retail	7,90%	7,20%	7,00%	6,60%	6,10%	5,60%	4,80%
Health Care	7,30%	8,60%	8,40%	5,90%	6,70%	7,30%	6,60%
Education	6,10%	7,00%	6,50%	5,00%	6,40%	5,90%	6,00%
Construction	3,40%	3,40%	4,60%	4,30%	3,40%	3,10%	3,90%
Transportation	3,40%	2,60%	3,40%	3,40%	2,60%	3,50%	3,10%
Oil & Gas	3,20%	3,10%	1,90%	3,20%	3,20%	3,60%	3,40%
Communication	2,60%	1,50%	1,50%	0,90%	0,70%	1,10%	0,70%
Utilities	2,60%	3,30%	2,40%	2,50%	1,80%	1,80%	1,80%
Real Estate	2,20%	2,90%	3,20%	3,20%	2,00%	1,80%	1,90%
Agriculture	1,20%	0,80%	1,40%	1,50%	1,50%	2,00%	2,00%

Source: The Authors, data from The ACFE

Table 5. Impact of occupational fraud by industry

Industry	*2004*	*2006*	*2008*	*2010*	*2012*	*2014*	*2016*
Manufacturing	125.000	413.000	441.000	300.000	200.000	250.000	194.000
Banking	101.000	258.000	250.000	175.000	232.000	200.000	192.000
Service	139.000	163.000	100.000	109.000	150.000	125.000	100.000
Government	45.000	82.000	93.000	81.000	100.000	64.000	133.000
Insurance	172.500	100.000	216.000	197.000	95.000	93.000	107.000
Retail	35.500	80.000	153.000	85.000	100.000	54.000	85.000
Health Care	105.000	160.000	150.000	150.000	200.000	175.000	120.000
Education	31.000	100.000	58.000	71.000	36.000	58.000	62.000
Construction	145.000	500.000	330.000	200.000	300.000	245.000	259.000
Transportation	225.000	109.000	250.000	300.000	180.000	202.000	143.000
Oil & Gas	101.500	154.000	250.000	478.000	250.000	450.000	274.000
Communication	150.000	225.000	150.000	110.000	150.000	50.000	225.000
Utilities	30.000	124.000	90.000	120.000	38.000	100.000	102.000
Real Estate	385.000	200.000	184.000	475.000	375.000	555.000	200.000
Agriculture	1.080.000	71.000	450.000	320.000	104.000	242.000	300.000

Source: The Authors, data from The ACFE

Table 6. Weighted impact of occupational fraud by industry

Industry	*2004*	*2006*	*2008*	*2010*	*2012*	*2014*	*2016*
Manufacturing	17.034	44.911	38.117	38.397	25.030	26.529	22.056
Banking	11.850	41.360	43.817	34.748	48.009	44.444	41.674
Service	16.309	10.598	4.681	6.388	6.505	5.149	4.134
Government	4.994	10.571	13.062	9.495	12.763	8.229	18.042
Insurance	16.593	8.408	14.521	12.017	6.710	5.224	5.391
Retail	2.964	6.457	12.857	6.710	7.558	3.775	5.271
Health Care	8.102	15.426	15.126	10.586	16.604	15.948	10.232
Education	1.998	7.847	4.525	4.246	2.855	4.272	4.806
Construction	5.211	19.058	18.223	10.287	12,639	9.481	13.050
Transportation	8.086	3.177	10.204	12.200	5.799	8.826	5.727
Oil & Gas	3.433	5.352	5.702	18.296	9.913	20.224	12.036
Communication	4.122	3.783	2.701	1.184	1.301	686	2.034
Utilities	824	4.587	2.593	3.588	847	2.247	2.372
Real Estate	8.953	6.502	7.068	18.181	9.293	12.471	4.909
Agriculture	13.699	636	7.563	5.741	1.933	6.042	7.751

Source: The Authors, data from The ACFE

Fraudster's business profile

Our results in Table 7 show employees being the most frequent fraud perpetrators; almost one out of two fraud cases perpetrated by an employee. However, Table 8 shows that the impact of a fraud perpetrated by an employee affects the corporation the least, depicting on the other hand that fraud committed by an owner or executive affects the most a firm, with a median loss per firm reaching $1.000.000 in 2006; this indicates that persons with access to information and power to overcome the internal controls affect the most a firm.

Using a weighted measure of impact in terms of likelihood, we find in Table 9 that owners' or executives' fraud scandals generate the most severe results, while employees' fraud actions affect the firms the least.

Table 7. Likelihood & fraudster's position

Category	*2004*	*2006*	*2008*	*2010*	*2012*	*2014*	*2016*
Owner/Executive	12,40%	19,30%	23,30%	16,90%	17,60%	18,60%	18,90%
Manager	34%	39,50%	37,10%	41%	37,50%	36,20%	36,80%
Employee	67,80%	41,20%	39,70%	42,10%	41,60%	42%	40,90%

Source: The Authors, data from The ACFE

Table 8. Impact & fraudster's position

Category	*2004*	*2006*	*2008*	*2010*	*2012*	*2014*	*2016*
Owner/Executive	900.000	1.000.000	834.000	723.000	573.000	500.000	703.000
Manager	140.000	218.000	150.000	200.000	182.000	130.000	173.000
Employee	62.000	78.000	70.000	80.000	60.000	75.000	65.000

Source: The Authors, data from The ACFE

Table 9. Weighted impact & fraudster's position

Category	*2004*	*2006*	*2008*	*2010*	*2012*	*2014*	*2016*
Owner/Executive	97.723	193.000	194.217	122.187	104.289	96.074	137.543
Manager	41.681	86.110	55.594	82.000	70.579	48.615	65.904
Employee	36.809	32.136	27.762	33.680	25.811	32.541	27.520

Source: The Authors, data from The ACFE

The results in Table 10 show that persons employed by a firm for 1-5 years are more likely to commit fraud; in contrast it is rare for persons with less than 1 year to commit fraud. Table 11 shows that persons' fraud actions occupied by the "victim" for more than 10 years will affect the firm the most; the median loss per individual case was $250.000 in 2016.

Using a weighted measure of impact in terms of likelihood, we find in Table 12 that fraudsters being in a firm for more than 10 years are expected to influence the most the company. These results reaffirm Petlier-Rivest's (2009) conclusion; the more years a fraudster is working for a company the more entrusted he is and the more impact his acts will have on the firm.

Table 10. Likelihood & tenure with victim

Category	*2004*	*2006*	*2008*	*2010*	*2012*	*2014*	*2016*
< 1 year	6,70%	10,20%	7,40%	5,70%	5,90%	5,70%	8,20%
1-5 years	47%	25,70%	40,50%	45,70%	41,50%	45,70%	42,40%
6-10 years	22,80%	26,30%	24,60%	23,20%	27,20%	23,20%	26,50%
> 10 years	23,50%	37,70%	27,50%	25,40%	25,30%	25,40%	22,90%

Source: The Authors, data from The ACFE

Table 11. Impact & tenure with victim

Category	2004	2006	2008	2010	2012	2014	2016
< 1 year	26.000	45.000	50.000	47.000	25.000	47.000	49.000
1-5 years	148.000	100.000	142.000	114.000	100.000	114.000	100.000
6-10 years	120.000	205.000	261.000	231.000	200.000	231.000	210.000
> 10 years	171.000	263.000	250.000	289.000	229.000	289.000	250.000

Source: The Authors, data from The ACFE

Table 12. Weighted impact & tenure with victim

Category	2004	2006	2008	2010	2012	2014	2016
< 1 year	1.742	4.594	3.700	2.679	1.476	2.679	4.018
1-5 years	69.560	25.725	57.510	52.098	41.541	52.098	42.400
6-10 years	27.360	53.968	64.206	53.592	54.454	53.592	55.650
> 10 years	40.185	99.250	68.750	73.406	57.994	73.406	57.250

Source: The Authors, data from The ACFE

The results in Table 13 show that individuals between 41-60 years old generate almost have of fraudulent acts. Table 14 shows also the same year-range triggers the most salient impacts; on the contrary, employees less than 31 years old generate the least severe fraud issues.

Using a weighted measure of impact in terms of likelihood, we find in Table 15 that fraudsters being between 41-60 years old influence the most the company. Age is a secondary factor in predicting occupational fraud, reflecting the fraudster's position and tenure with the victim.

Table 13. Likelihood & fraudster's age

Category	2004	2006	2008	2010	2012	2014	2016
>60	2%	2,8%	3,9%	2,2%	3,1%	3,4%	2,5%
41-60	47,1%	49,9%	54,4%	47,6%	47,2%	46,9%	46,8%
31-40	34,2%	32,5%	29%	35,4%	34,1%	34,5%	35,6%
<31	16,7%	14,8%	12,7%	14,8%	15,6%	15,2%	15,1%

Source: The Authors, data from The ACFE

Table 14. Impact & fraudster's age

Category	2004	2006	2008	2010	2012	2014	2016
>60	527.000	713.000	435.000	974.000	250.000	450.000	630.000
41-60	423.000	600.000	750.000	1.284.000	1.215.000	781.000	1.038.000
31-40	155.000	269.000	258.000	247.000	250.000	258.000	200.000
<31	43.000	75.000	75.000	75.000	75.000	92.000	65.000

Source: The Authors, data from The ACFE

Table 15. Weighted impact & fraudster's age

Category	2004	2006	2008	2010	2012	2014	2016
>60	10.540	19.964	16.965	21.428	7.750	15.300	15.750
41-60	199.233	299.400	408.000	611.184	573.480	366.289	485.784
31-40	53.010	87.425	74.820	87.438	85.250	89.010	71.200
<31	7.181	11.100	9.525	11.100	11.700	13.984	9.815

Source: The Authors, data from The ACFE

5. DISCUSSION AND CONCLUSIONS

Today's business environment provides various new opportunities for fraud in which highly placed insiders defraud their own firms. These crimes are complex in structure, difficult to detect and difficult even for specialists to fully comprehend them.

This paper investigates the causes and consequences of corporate and accounting fraud and also fraudster's possible business profile. To commit fraud there should be present four elements; opportunity, pressure, rationalization and capability. As Wolfe and Hermanson (2004) describe, an opportunity opens the door to fraud, incentive and rationalization attract him to that door, but fraudster should have the capability to recognize the opportunity to cross that door and commit fraud over and over again, without being caught.

Fraud has devastating consequences for shareholders, employees, firms and communities. Using data from the Association of Certified Fraud Examiners' Reports to the Nations on Occupational Fraud and Abuse from 2004 to 2016, we find that asset misappropriation is the most frequent type of fraud and has the highest impact effects on firms in terms of likelihood. We also find that banking is the industry experiencing most fraud cases in the last years; in contrast manufacturing industry faced the most fraud acts in the past – before 2008.

However, fraud is not committed by machines; people commit fraud. We find that owners or executives trigger the greatest losses to firms, even if employees' fraudulent acts are the most frequent. In line with this finding, a person with more than ten years within a firm, between 41 and 60 years old, generates the highest fraud impacts; age is a factor reflecting one's position and tenure with the victim. These findings confirm previous researchers' results (Petlier-Rivest's, 2009; Hermanson et al, 2017), showing that to commit fraud a person should be trusted and have gained access to valuable information, to overlap controls.

Our discussion of the fraud causes, consequences and fraudster's possible business

profile serves as a reminder of the critical importance of organizational ethical culture. Board of directors and senior managers should strive to develop organizational cultures that encourage and promote ethical behavior among all managerial levels and reporting of fraud and abuses.

With respect to the ACFE dataset included in the biannual reports from 2004-2016, we recognize our sensitivity to the ACFE's data collection method. We also acknowledge the limitation of the way we describe fraudster's business profile, not based on individual characteristics and personality traits, but on past fraud cases.

For future research, we believe it is worthwhile to come up with more in-depth analysis of fraud meaning, exploring its differences from other quite similar concepts; wrongdoing, unethical conduct. We also encourage additional research into fraud-related behavioral and personality characteristics, integrating fraud theory with other social sciences (Murphy and Free, 2016; Trompeter et al, 2013; Eaton and Korach, 2016).

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