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ALAN DIÓGENES GÓIS

The dark tetrad of personality and the accounting information quality: The moderating effect
of corporate reputation

A tétrade sombria da personalidade e a qualidade da informação contábil: O efeito moderador
da reputação corporativa

SÃO PAULO
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For my family

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Human kind cannot gain anything without first giving something in return.
To obtain, something of equal value must be lost.

Hiromu Arakawa

ABSTRACT

Góis, A. D. (2017). The dark tetrad of personality and the accounting information quality: The moderating effect of corporate reputation. Doctoral Dissertation, Faculty of Economics, Administration and Accounting (FEA), University of São Paulo (USP).

The Upper Echelons Theory states that CEO characteristics, among them the Dark Tetrad (narcissism, Machiavellianism, psychopathy, and sadism) of personality, affect decision-making. In an accounting context, the presence of the Dark Tetrad of personality in CEOs can reduce accounting information quality because the personalities of the Dark Tetrad are associated with callousness, impulsivity, manipulation, criminality, grandiosity, enjoyment of cruelty, and misconduct, therefore CEOs with these traits are likely to manipulate earnings or commit fraud. However, companies with strong reputation due to the credibility and trustworthiness built into the company values and culture can reduce the effect of dark personality in accounting information quality. In such context, this study aims to investigate the moderating effect of corporate reputation on the relationship between the Dark Tetrad of personality and accounting information quality. The main assumption is that CEOs with strong Dark Tetrad traits engage more in earnings management and fraud; however, in companies with strong reputation, earnings management and fraud would be lower due to the values, structures, and formal or informal rules built around corporate reputation. This implies that companies with strong reputation tend to suppress the opportunistic actions of CEOs, enabling better accounting information quality. The research design was divided into two parts: the first part involved an archival method and the second part used an experiment method. For the archival method, I analyzed 434 firms (2,645 observations) with headquarters in the United States, covering the period between 2010 and 2017, using abnormal accruals, real earnings management, and classification shifting for earnings management, the overall Fortune's World's Most Admired Companies score for reputation, CEO speeches, and dark personality literature to measure the Dark Tetrad of personality. I ran regressions to test the research hypotheses and found that the Dark Tetrad of personality shows a positive relationship with all types of earnings management. Regarding reputation, only abnormal accruals show a negative relationship with corporate reputation. In turn, the interaction between the Dark Tetrad of personality and corporate reputation is negatively related to all types of earnings management. For the experimental method, I used a 2x2 between-subjects experiment design involving 101 MBA students who, in general, have had experience in management in Brazil and the United States of America. To measure the Dark Tetrad of personality, I used the Short-Dark Triad (Jones & Paulhus, 2014) and the Assessment of Sadistic Personality (Plouffe et al., 2017). For reputation, I adapted the scenarios from Goldberg and Hartwick (1990) and Lafferty (2007). For fraud, I developed two proxies, the first with five situations based on literature addressing accounting issues, and the other based on D'Souza and Lima (2015). To test the hypotheses, I applied Ordinary Least Squares regressions and Poisson regressions and found that psychopathy, sadism, Machiavellianism, and the Dark Tetrad of personality show a positive relationship with accounting fraud and misrepresentation. Regarding reputation, in all the models, reputation is not related to fraud. On the other hand, in relation to the interaction between the Dark Tetrad of personality and corporate reputation, only highly Machiavellian CEOs are discouraged from committing fraud by a strong reputation. Therefore, this study demonstrated that CEO personality can affect accounting information quality, however, corporate reputation is an intangible resource that influences CEO decision-making, so as a result, reputation helps to increase accounting information quality.

Keywords: Earnings Management, Corporate Fraud, Dark Personality, Corporate Reputation.

RESUMO

Góis, A. D. (2017). The dark tetrad of personality and the accounting information quality: The moderating effect of corporate reputation. Tese de Doutorado, Faculdade de Economia, Administração e Contabilidade, Universidade de São Paulo.

A Teoria dos Altos Escalões afirma que as características do CEO afetam a tomada de decisão deles, na qual uma delas é a Tétrade Sombria (narcisismo, maquiavelismo, psicopatia e sadismo) da personalidade. No contexto contábil, a presença de traços da Tétrade Sombria em CEOs pode reduzir a qualidade da informação contábil, porque as personalidades da Tétrade Sombria estão associadas à insensibilidade, impulsividade, manipulação, criminalidade, grandiosidade, prazer na crueldade e má conduta, portanto, CEOs com esses traços provavelmente gerenciariam resultados ou cometariam fraudes. No entanto, as empresas com forte reputação devido à credibilidade e confiabilidade que estão incorporadas em valores e cultura da empresa podem reduzir o efeito da personalidade sombria na qualidade da informação contábil. Neste contexto, o presente estudo tem como objetivo investigar o efeito moderador da reputação corporativa sobre a relação entre a Tétrade Sombria da personalidade e a qualidade da informação contábil. Assim, o principal pressuposto é que os CEOs com traços altos da Tétrade Sombria envolvem mais em gerenciamento de resultados e fraude, no entanto, em empresas com forte reputação, o gerenciamento de resultados e fraude seriam menores devido aos valores, estruturas e regras formais ou informais construídas em empresas com forte reputação. Isso implica que as empresas com forte reputação tendem a suprimir as ações oportunistas do CEO, permitindo uma melhor qualidade da informação contábil. O método de pesquisa foi dividido em duas partes: primeira parte, um método documental; e segunda parte, um método experimental. Para o método documental, foram analisadas 434 empresas (2.645 observações) com sede nos Estados Unidos para o período entre 2010 e 2017, utilizando *accruals* anormais, gerenciamento de resultados por atividades e mudança de classificação para gerenciamento de resultados, a pontuação geral das empresas mais admiradas da Fortune World para reputação, e o discurso do CEO e a literatura de personalidade sombria para mensurar a Tétrade Sombria da personalidade. Para, foram executadas regressões para testar as hipóteses de pesquisa e verificou-se que a Tétrade Sombria da personalidade possui uma relação positiva com todos os tipos de gerenciamento de resultados; em relação à reputação, apenas os *accruals* anormais mostram relação negativa com a reputação corporativa; por sua vez, a interação entre a Tétrade Sombria da personalidade e a reputação corporativa está negativamente relacionada a todos os tipos de gerenciamento de resultados. Para o método experimental, foi utilizado o desenho de experimento 2x2 entre sujeitos com 101 alunos de MBA do Brasil e dos Estados Unidos da América que, em geral, tiveram experiência em gestão. Para medir a Tétrade Sombria da personalidade, foi usado *The Short-Dark Triad* (Jones & Paulhus, 2014) e *Assessment of Sadistic Personality* (Plouffe et al., 2017). Para a reputação, foi adaptado os cenários de Goldberg e Hartwick, (1990) e Lafferty (2007). Já para a fraude, foi empregada duas variáveis, a primeira tem cinco situações baseadas em literatura abordando questões contábeis e a outra baseia-se em D'Souza e Lima (2015). Para testar as hipóteses, aplicou-se regressão por Mínimos Quadrados Ordinários e regressão Poisson, e observou-se que a psicopatia, o sadismo, o maquiavelismo e a Tétrade Sombria da personalidade mostraram uma relação positiva com a fraude contábil e a falsa representação; sobre a reputação, a reputação de todos os modelos não apresentou relação com fraude; Por outro lado, em relação à interação entre a Tétrade Sombria da personalidade e reputação corporativa, apenas os CEOs altamente maquiavélicos estão desencorajados a cometer fraude devido a uma forte reputação. Portanto, este estudo demonstrou que a personalidade do CEO pode afetar a qualidade da informação contábil, no

entanto, a reputação corporativa é um recurso intangível que influencia a tomada de decisão do CEO, então a reputação ajuda a aumentar a qualidade da informação contábil.

Palavras-chave: Gerenciamento de Resultados, Fraude Corporativa, Personalidade Sombria, Reputação Corporativa.

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1. INTRODUCTION

1.1. Contextualization

In the organizational context, where there is information asymmetry, the accounting information quality disclosed to the market serves as a mechanism for reducing such asymmetry. According to Dechow, Ge, and Schrand (2010), there is no consensus on the definition of accounting information quality, also known as earnings quality. These authors state that “higher quality earnings provide more information about the features of a firm’s financial performance that are relevant to a specific decision made by a specific decision-maker” (Idem, Ibidem, p. 344).

Earnings quality is represented by a wide range of dimensions and attributes, among which the properties of earnings, investor responsiveness to earnings, and external indicators of earnings misstatements can be highlighted (Dechow et al. 2010; Jeanjean & Stolowy, 2008).

Except for investor responsiveness to earnings, these dimensions and attributes are based on earnings management and fraud, in which there is honest or dishonest discretion when applying an accounting policy. Intentional manipulation reduces accounting information quality and adversely affects investor and analyst forecasts (Luchs, Stuebs, & Sun, 2009). Hence, this study considers earnings management and fraud as proxies for accounting information quality.

CEOs may use discretionary choices (based on accruals, manipulation in operational activities, or classification shifting) in an opportunistic manner to increase their own compensation, conceal poor performance, or improve the informational value of earnings (Chaney, Faccio, & Parsley, 2011; Rijsenbilt & Commandeur, 2013). This attitude involves manipulation within the accounting standards (Jones, 2011). However, a CEO may manipulate accounting numbers outside the laws and accounting standards to achieve some self-interest; here, the CEO is committing fraud (Stolowy & Breton, 2004).

Hambrick and Mason (1984) propose Upper Echelons Theory (UET), which acknowledges that “individual top managers heavily influence organizational outcomes by the choices they make, which are – in turn – affected by the managers’ characteristics” (Hiebl, 2014, p. 224).

The essence of the theoretical model is that decision-maker characteristics – cognitive models, personality factors, knowledge, values, biases, familiarities, and preferences – may

importantly influence decision-making (Cannella Jr., & Holcomb, 2005; Hambrick & Mason, 1984).

Amernic and Craig (2010), D’Souza and Lima (2015), Jones (2014), and Rijsenbilt and Commandeur (2013) confirmed this theory when they found that opportunistic decision-making is related to personality. Personality can be divided into normal or disorder/dark. As a dark personality is a negative aspect, a CEO with a dark personality affects accounting information quality, which in this research is analyzed via earnings management and fraud.

Dark personality traits are related to some features such as callousness, impulsivity, manipulation, criminality, grandiosity, enjoyment of cruelty, and misconduct (Paulhus, 2014). These traits were initially called the Dark Triad, which includes Narcissism, Machiavellianism, and Psychopathy. Over time, another dark personality trait, Sadism, has also attracted attention, changing the name to the Dark Tetrad (Paulhus & Jones, 2014).

Narcissists are grandiose self-promoters who continually crave attention. In turn, Machiavellians are experts in manipulation. On the other hand, Psychopaths cause serious harm due to impulsivity and callousness. And sadists enjoy hurting others either verbally or physically (Paulhus & Jones, 2014; Southard, Noser, Pollock, Mercer, & Zeigler-Hill, 2015).

However, personality influences not only decision-making or accounting information quality, but also the internal environment that the CEO forms part of, which in this research is considered as the corporate reputation. Cao, Myers, and Omer (2012), Garrett, Hoitash, and Prawitt (2014), Gertsen, Van Riel, and Berens (2006), and Luchs et al. (2009) found that corporate reputation positively influences accounting information quality. Thus, a strong reputation is expected to decrease earnings management and fraud.

Hegarty and Sims Jr. (1979, p. 331) say that it is “possible that unethical behavior can be strengthened or weakened by the environmental conditions that surround the behavior”. Thus, companies with stronger reputations “emphasize accountability, credibility, and trustworthiness, and build these values into their cultures so that these values are reflected not only through formal rules and structures, but also through unwritten rules and traditions” (Cao et al., 2012, p. 960). So, a strong corporate reputation creates an ethical and trustworthy environmental, which may reduce behavior related to dark personality traits and favor accounting information quality (Bergh, Ketchen Jr., Boyd, & Bergh, 2010; Stevens, 2002). Therefore, the interaction between the dark personalities and corporate reputation has an influence on accounting information.

Moreover, CEO reputation is aligned to corporate reputation (Love, Lim, & Bednar, 2017), and if a CEO has tried to mislead his/her stakeholders, investor confidence in the

trustworthiness of accounting information from the CEO is diminished (Gertsen et al, 2006). Hence, CEOs with strong dark personalities will think twice before making a decision, since they want to maintain their reputation and prestigious positions.

Corporate reputation is an intangible resource that involves the collective expectations of stakeholders developed over time in relation to a company (Roberts & Dowling, 2002). According to Van Riel and Fombrun (2007) and Melo and Garrido-Morgado (2012), when positive, reputation reinforces the attractiveness of an organization, attracts and retains employees, and attracts new sources of financial capital, besides affecting financial reporting quality (Cao et al., 2012). Therefore, companies with positive reputation are less likely to be a risk, as well as this being an important solution to information asymmetry (Fombrun & Shanley, 1990; Herremans, Akathaporn, & McInnes, 1993; Tischer & Hildebrandt, 2014).

Consequently, demands are made on the role of accounting information for companies with strong reputation, which implies the existence of a complementary relationship between reputation and accounting information (Li, 2010). The alignment of accounting information quality and corporate reputation generates benefits such as competitive advantage and value creation (Bushman & Smith, 2003; Walker, 2010).

However, competitive advantage and value creation can be destroyed in the presence of CEOs with strong dark personality traits. Plumb and Wilchins (2008) suggest that the 2008 banking crisis was partly caused by CEO hubris, a characteristic present in the narcissist trait, and Boddy (2010) shows evidence that psychopathic CEOs are destructive regarding the organizations that they work for and the people they work with.

Based on literature (Amernic & Craig, 2010; Cao et al., 2012; Chaney et al., 2011; Dechow et al, 2010; D'Souza & Lima, 2015; Hegarty & Sims Jr., 1979; Jones, 2014; Li, 2010; Luchs et al., 2009; Rijsenbilt & Commandeur, 2013), this study aims to investigate the moderating effect of corporate reputation on the relationship between the Dark Tetrad of personality and accounting information quality.

The main assumption is that CEOs with strong Dark Tetrad traits manage earnings more or are more likely to commit fraud. However, in companies with strong reputation earnings management and the occurrence of fraud are lower due to the values, structures, and (formal or informal) rules built around corporate reputation and because the CEOs do not want to damage their own reputations. This implies that companies with strong reputations tend to suppress the opportunistic actions of CEOs, enabling better accounting information quality. Thus, to complement the desired goal, the following specific objectives were outlined:

- (i) discuss the concept and the meaning of accounting information quality, the Dark Tetrad traits, and corporate reputation;
- (ii) examine the relationship between accounting information quality and corporate reputation;
- (iii) investigate the relationship between accounting information quality and the Dark Tetrad traits;
- (iv) analyze the association between the Dark Tetrad traits and corporate reputation;
- (v) determine the association between industry and accounting information quality, as well as corporate reputation and the Dark Tetrad traits.

The next section shows the expected contributions from this dissertation.

1.2. Research Contributions

The study seeks to contribute to identifying that dark personalities are more prone to earnings management and fraud, as well as to how reputation acts in each dark personality trait. This result reinforces the idea of the destructive power that a CEO can have when he/she has a strong Dark Tetrad of personality and reinforces the halo effect of reputation, in which the values, culture, and perceptions built over time protect the company in crises or against opportunistic actions.

According to Scott (2012), it is important for accountants to understand earnings management because it is possible to improve accounting information quality when the usefulness of net income is understood for reporting to stakeholders and to help firms when there are severe legal and reputational consequences during financial distress.

Thus, this study sought to contribute to the accounting literature on two themes: the dark personality traits (Dark Tetrad) and corporate reputation. Both issues have barely been addressed and joint analysis is practically non-existent, so it is relevant to study them in relation to accounting information quality.

The main contribution is to demonstrate that corporate reputation, a non-measurable intangible asset, is an important factor in the quality of accounting information because reputation is expected to reduce earnings management or fraud by dark personality (Dark Tetrad) managers. Therefore, it can assist shareholders, investors, employees, analysts, and auditors.

For stakeholders and shareholders, knowing who is in power and how he/she can act is important for taking short and long-term investment decisions. The effect of a CEO with a

strong dark personality trait has positive and negative aspects: they are bold and can often perform better and enhance company reputation, but this has a cost, either in the workplace or in attitudes that can reduce the reputation and performance of the company in the future.

Based on Gunny (2010), understanding the implications of earnings management (accruals manipulation, real activities manipulation, or classification shifting) is important not only for stakeholders but also for regulators. Regulators may restrict discretion in accounting earnings management.

The expected findings of this study would help unsophisticated investors to find companies to invest in as it is expected that companies with a good reputation and managers with weak dark personality traits would be the most interesting for these investors because the accounting information would be of a higher quality.

For employees, the expected findings are important in two respects: manager personality and company reputation. The dark personality literature in the field of business says that companies with managers possessing strong dark personality traits tend to have stressful working environments. Therefore, as the study seeks to present a metric for dark personality, an individual who wishes to work in a publicly-traded company could use this metric to see if the job is worthwhile in relation to the workplace. The other point concerns reputation and confirming the second research hypothesis (corporate reputation negatively impacts the relationship between Dark Tetrad personalities and corporate fraud): reputable companies would tend to commit less corporate fraud and thus survive longer in the market because there are many cases of companies, such as Enron and Arthur Andersen, who committed fraud and later went bankrupt. Therefore, companies with good reputations would be good companies to work for.

The expected findings would help analysts in their predictions, because they do not consider behavioral aspects of managers. Thus, the earnings of companies have possibly been different from their predictions due to the dark personality of top management, since managers with strong Dark Tetrad personality traits are impulsive and unpredictable.

For auditors, the findings of this dissertation could assist in the perception of risk of client fraud. The auditing standards say that auditors should consider the risk of fraud that the client may cause. Therefore, if the expected findings are confirmed, auditors should create tools and processes in companies with poor reputations, because in those companies, managers with a strong personality trait would tend to report fraudulent financial information.

In addition to these contributions, academically, the dissertation could enhance Behavioral Accounting with a focus on Financial Accounting. In Brazil, there are few studies

in this area, so this dissertation would be a guiding study for the content in Brazil. Internationally, it would add the dark side of management to Accounting, especially in relation to sadism, which is one component of the Dark Tetrad of personality and for which there are no studies relating sadism to fraud, earnings management, and aspects of the business area. The study also contributes to developing a metric for analyzing the Dark Tetrad through content and linguistic analysis of Earnings Conference Calls. This new metric will help in archival studies, because the usual metrics for the Dark Tetrad are surveys, and so it will instigate studies in the (behavioral) accounting area.

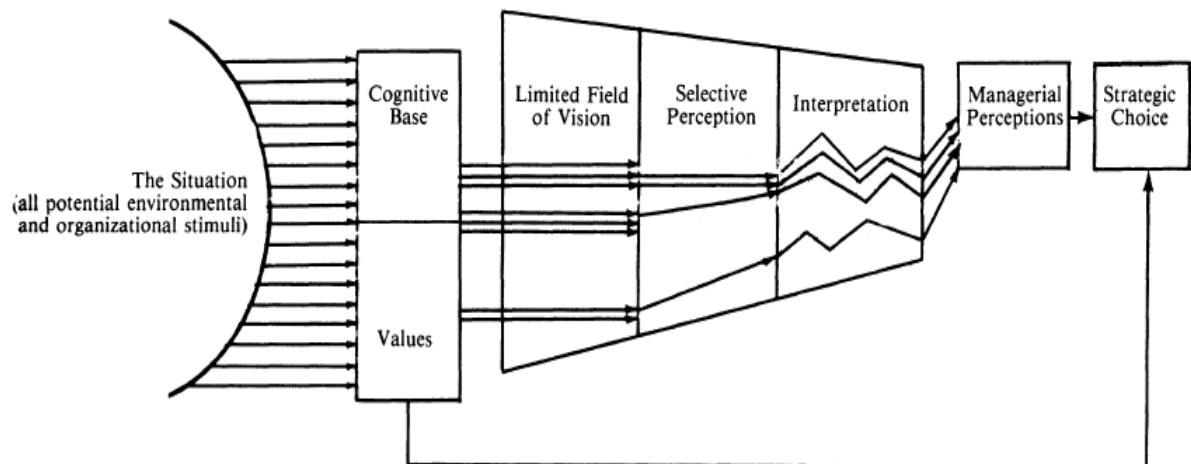
2. THEORETICAL BACKGROUND

2.1. Upper Echelons Theory: Why do organizations act as they do?

The Upper Echelons Theory (UET) began to be developed with the study from Hambrick and Mason (1984) which says that top executives matter, and firm outcomes are reflections of their values and cognitive bases which are reflected in bounded rationality.

However, potential stimuli are needed both within and outside the organization for the idiosyncrasies of decision makers to be exposed. Hence, “if strategic choices have a large behavioral component, then to some extent they reflect the idiosyncrasies of decision makers” (Hambrick & Mason, 1984, p. 195). This explanation is summarized in Figure 1.

Figure 1 – Strategic choice



Source: Hambrick and Mason (1984).

According to Hambrick and Mason (1984, p. 195):

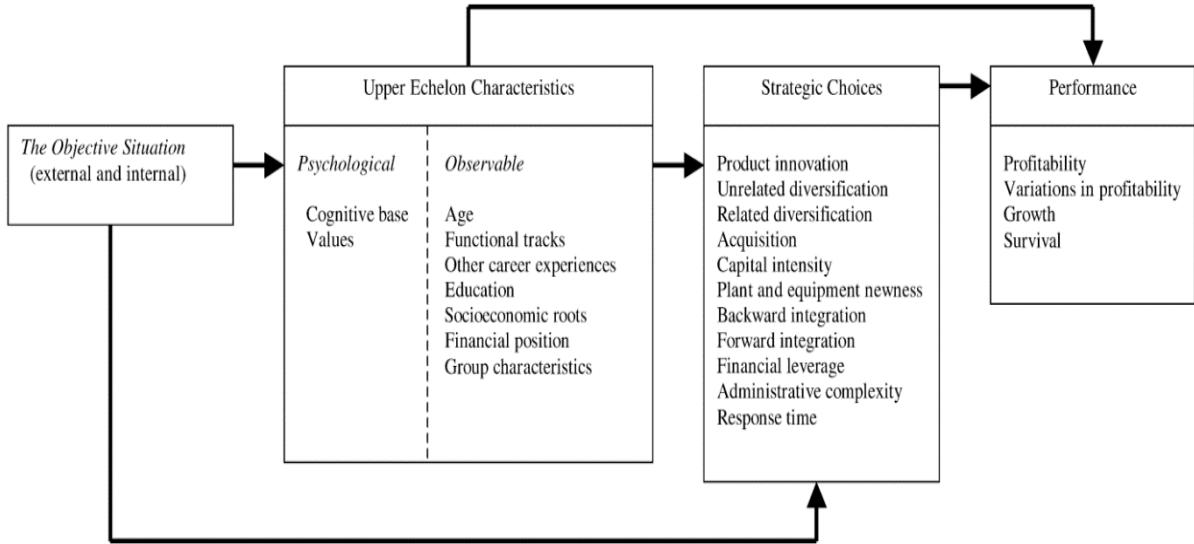
First, a manager, or even an entire team of managers, cannot scan every aspect of the organization and its environment. The manager's *field of vision* - those areas to which attention is directed - is restricted, posing a sharp limitation on eventual perceptions. Second, the manager's perceptions are further limited because one *selectively perceives* only some of the phenomena included in the field of vision. Finally, the bits of information selected for processing are *interpreted* through a filter woven by one's cognitive base and values.

We can see that the lines which start in The Situation do not reach the end (Strategic Choice) and they are affected by the bounded rationality (values, cognitive base, limited field

of vision, selective perception, and interpretation). This is to say that each CEO acts in a particular way and this is reflected in firms.

Based on Figure 1, Hambrick and Mason (1984) proposed the Upper Echelons Theory model shown in Figure 2.

Figure 2 – Upper Echelons Theory model

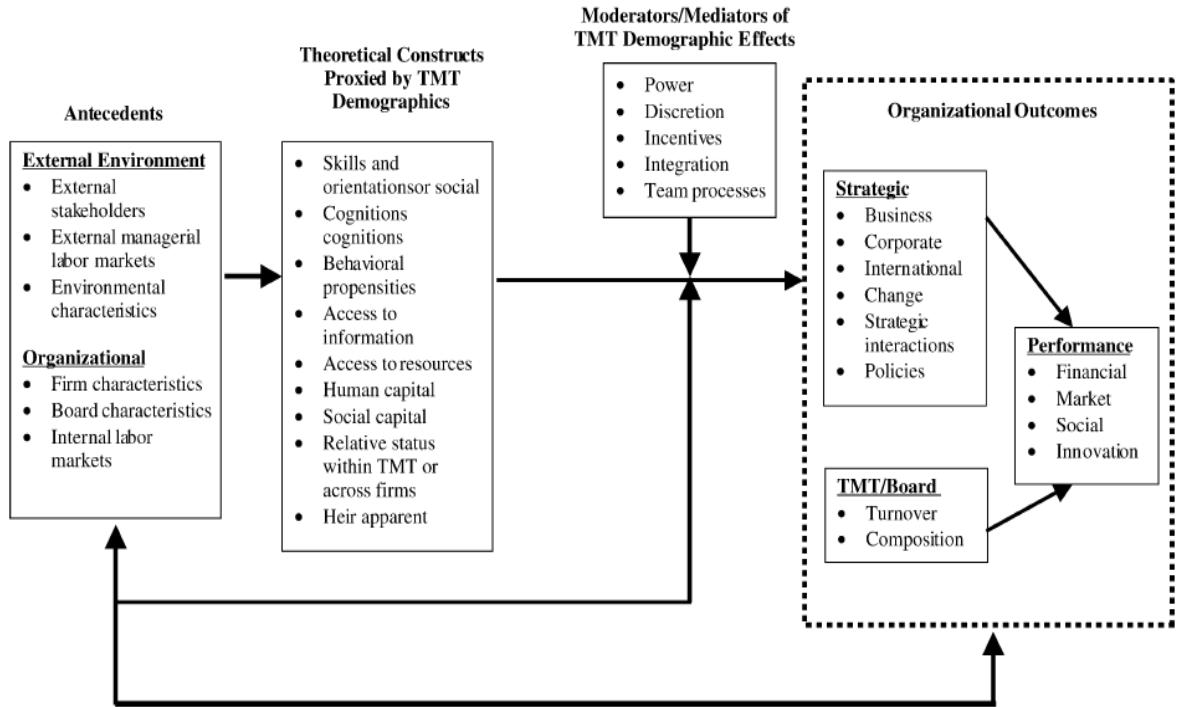


Source: Hambrick and Mason (1984).

This model shows that the external or internal situation is the trigger for the psychological aspects of CEOs/managers to interfere in strategic choices and performance. A criticism of this model is that the authors did not use psychological aspects but rather observable aspects (age, functional tracks, other career experiences, education, socioeconomic roots, financial position, and group characteristics), although they recognized this problem by saying that it is a limitation. Yamak, Nielsen, and Escribá-Esteve (2013) complements the Upper Echelons Theory by arguing that it is important to consider the external environment such as industry and institutions (like cultural and legal systems) in the model.

Carpenter, Geletkanycz, and Sanders (2004) revised the Upper Echelons Theory model proposed by Hambrick and Mason (1984), and this is shown in Figure 3.

Figure 3 – Upper Echelons Theory model revised



Source: Carpenter et al. (2004).

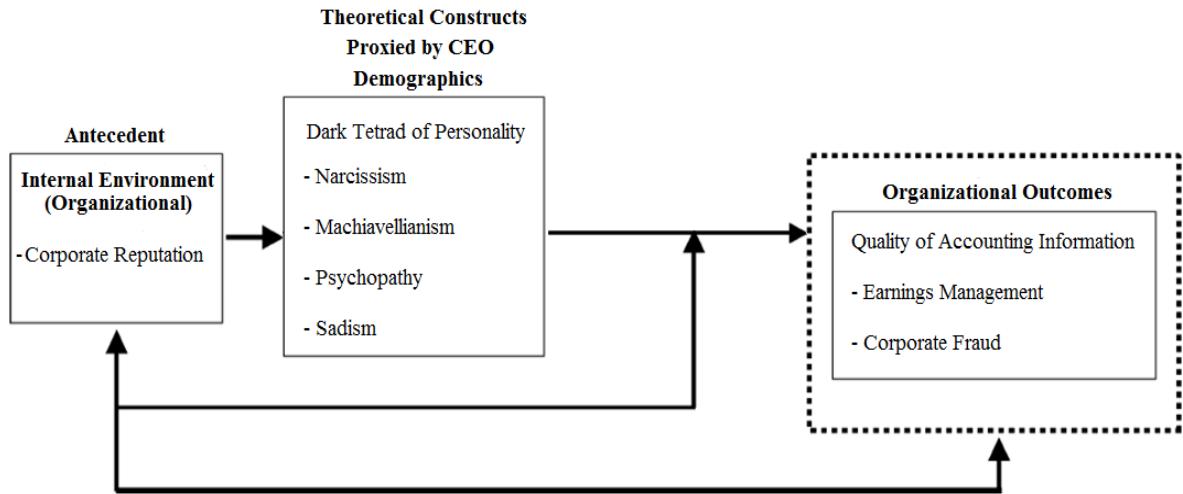
We can see that the model is more complete, the antecedents (objective situation) are more detailed, TMT demographics (Upper Echelons characteristics) do not consider only observable aspects but insert psychological aspects, moderators/mediators were created that are not present in Hambrick and Mason (1984), strategic choice was condensed in categories, and turnover and TMT board composition were integrated into the organizational outcome.

The studies based on Upper Echelons Theory have diverse applications: they associate Top Management Group (TMG) or CEO characteristics with innovations, diversification strategies and posture, strategic change and other firm strategies and outcomes, export intensity, strategic risk-taking, and the strategic choice made by the TMG to engage in reputation management (Agnihotri & Bhattacharya, 2015; Carter, 2006; Lee & Moon, 2016).

Hiebl (2014) shows Upper Echelons Theory being applied in management accounting and control (cultural controls, planning, cybernetic controls, and administrative controls). Moreover, unlike Hambrick and Mason (1984), Waldman, Javidan, and Varella (2004) used a psychological aspect (charisma) to examine the conditions under which charismatic leadership can help yield positive firm performance.

Based on the literature (Carpenter et al., 2004; Hambrick & Mason, 1984, Hiebl, 2014; Waldman et al. 2004), Figure 4 presents the Upper Echelons Theory model for this dissertation.

Figure 4 – Upper Echelons Theory model for this dissertation



Source: Author.

We can note that in this dissertation the antecedent is corporate reputation (internal environment), which is the trigger for CEO characteristics. Thus, the CEO's Dark Tetrad of personality (Narcissism, Machiavellianism, Psychopathy, and Sadism) is influenced by company reputation. He or she will act differently, and hence the accounting information quality (organizational outcomes) will be affected in either a positive or negative way. Dark personalities are related to unethical behavior (Paulhus, 2014), so CEOs with strong dark personality traits are expected to increase the occurrence of earnings management and fraud.

The next section discusses the Dark Tetrad of personality which represents the theoretical construct measured by CEO demographics.

2.2. The Dark Tetrad of personality: The lack of empathy

Personality is “a person’s characteristic pattern of thinking, feeling and acting” (Myers, 2008, p. 553), so personality defines what a person is like. Personalities can be divided into two types: normal personalities and personality disorders or dark personalities. Both types are correlated, and so an individual that has a set of normal personalities has a set of dark personalities. For example, narcissistic and psychopathic individuals tend to have more extravert and open personalities, in which narcissism and psychopathy are dark personality traits and extraversion and openness are normal personality traits (Paulhus & Williams, 2002).

There is different evidence in literature which suggests that all normal personality measures can be reduced or categorized under five dimensions which has been labeled the “Big Five” (Goldberg, 1990; Judge, Higgins, Thoresen, & Barrick, 1999). The Big Five dimensions

are extraversion, neuroticism or emotional stability, agreeableness, conscientiousness, and openness.

Extraversion is related to having an energetic approach towards the social and physical world. Extraverted individuals often feel positive emotions and tend to be confident (Gleitman, Gross, & Reisberg, 2011). According to Matthews, Deary, and Whiteman (2003), warmth, gregariousness, assertiveness, activity, and excitement seeking are characteristics present in extrovert individuals.

Neuroticism means being prone to negative emotions (Gleitman et al., 2011) and anxiety, angry hostility, depression, self-consciousness, impulsiveness, and vulnerability are some adjectives that could be used for neurotic individuals (Matthews et al, 2003).

Agreeableness is a trusting and easygoing approach to others (Gleitman et al., 2011). Also, agreeable individuals are straightforward, altruistic, complying, modest, and tender-minded (Matthews et al, 2003).

Conscientiousness means having an organized, efficient, and disciplined approach to life (Gleitman et al., 2011). Thus competence, order, dutifulness, achievement striving, self-discipline, and deliberation are aspects linked to a conscientious individual (Matthews et al, 2003).

Openness refers to unconventionality, intellectual curiosity, and interest in new ideas, foods, and activities (Gleitman et al., 2011) and open individuals are related to fantasy, aesthetics, feelings, actions, ideas, and values (Matthews et al, 2003).

In turn, the dark personalities called the Dark Triad or Tetrad are related to callousness, impulsivity, manipulation, criminality, grandiosity, enjoyment of cruelty, and misconduct (Paulhus, 2014; Paulhus & Jones, 2014; Southard et al., 2015). The Dark Tetrad is composed of four personality traits: Narcissism, Machiavellianism, Psychopathy (these three are known as the Dark Triad), and Sadism.

Narcissists are described as optimistic egoists, and individuals with strong narcissistic traits have some features such as callous manipulation, attention seeking, grandiosity, egotism, risk-taking, overconfidence, unrealistic optimism, impulsivity, and entitlement (Chabrol, Leeuwen, Rodgers, & Séjourné, 2009; D'Souza & Lima, 2015; Jones, 2013; Paulhus & Jones, 2014, Southard et al., 2015).

Machiavellians are described as carefully manipulative, and individuals with strong Machiavellian traits have some features such as a cynical worldview, lack of morality, manipulativeness, and risk-aversion (Jones, 2013; Paulhus, 2014; Southard et al., 2015). Machiavellians plan and think long-term, build alliances because they want to maintain a

positive reputation, and for this reason they are not associated with impulsivity and aggression (Jones, 2013; Paulhus & Jones, 2014).

Psychopathy is described as reckless impulsivity, and individuals with strong psychopathy take needless risks for minimal gains, act in a reckless fashion, are callous, unemotional, use interpersonal manipulation, are impulsive, sensation seeking, and have antisocial tendencies (Chabrol et al., 2009; Jones, 2013; Paulhus, 2014; Paulhus & Jones, 2014, Southard et al., 2015).

Sadism is related to humiliating others, showing a pattern of cruelty or intentionally inflicting physical, sexual, or psychological pain or suffering on others in order to assert power and dominance or for pleasure and enjoyment (O'Meara, Davies, & Hammond, 2011). From a sub-clinical perspective, sadism is called everyday sadism, and individuals with a strong everyday sadist trait engage in costly, harmful actions that control other individuals' personal states, and they have some features such as callousness, the need for stimulation, impulsiveness, a lack of empathy, or a lack of remorse (O'Meara et al., 2011; Paulhus, 2014; Pfattheicher & Schindler, 2015; Southard et al., 2015; Trémolière & Djeriouat, 2016). Unlike the others personality traits, sadism "appears to be more indicative of a non-goal exaltation where arousal-seeking orientation is pivotal, making sadism an even more socially disturbing behavior" (Trémolière & Djeriouat, 2016, p. 160).

To concretize what was explained about narcissism, Machiavellianism, psychopathy, and sadism, which compose the constellation of the Dark Tetrad of personality, Paulhus (2014) present some characteristics that are shared by the Dark Tetrad traits (Table 1).

Table 1 – Characteristics related to Dark Tetrad personalities

Feature	Narcissism	Machiavellianism	Psychopathy	Sadism
Callousness	++	++	++	++
Impulsivity	+		++	
Manipulation	+	++	++	
Criminality		Only white-collar	++	
Grandiosity	++		+	
Enjoyment of cruelty				++

Source: Paulhus (2014).

Note: A double plus sign indicates high levels of a given trait (top quintile) relative to the average population-wide level. A single plus sign indicates slightly elevated levels (top tertile). A blank entry indicates average levels of a trait.

Therefore, the Dark Tetrad of personality is composed of narcissism (a grandiose attention seeker), Machiavellianism (a strategic manipulator); psychopathy (an impulsive thrill seeker), and sadism (cruelty seeker).

As mentioned before, there are various studies relating the Big Five personality traits, composed of neuroticism or emotional range, extraversion, openness, agreeableness, and conscientiousness, with the Dark Triad or Dark Tetrad of personality which is composed of narcissism, psychopathy, Machiavellianism, and sadism (Book et al., 2016; Buckels, 2012; Furnham, Richards, Rangel & Jones, 2014; Geel, Goemans, Toprak, & Vedder, 2017; Greitemeyer, 2015; Greitemeyer & Sagioglou, 2017; Sagioglou & Greitemeyer, 2016). Thus, a given set of Big Five personality traits are related to dark personality ones. To better understand how Big Five personality traits are related to the dark personality ones, McCrae and Costa Jr. (1986) explain how individuals with each Big Five personality trait act in the positive and negative extremes (Table 2).

Table 2 – Definition of extreme adjectives for Big Five

Dimension	Negative extreme	Positive extreme
Neuroticism	worrying	calm
	insecure	secure
	self-pitying	self-satisfied
	retiring	sociable
Extraversion	sober	fun-loving
	reserved	affectionate
	down to earth	imaginative
	preference to routine	preference to variety
Openness	conforming	independent
	ruthless	soft-hearted
	suspicious	trusting
	uncooperative	helpful
Agreeableness	disorganized	well-organized
	careless	careful
	weak willed	self-disciplined
Source: McCrae and Costa Jr. (1986, p. 1002).		

Based on the literature (Book et al., 2016; Buckels, 2012; Geel et al., 2017; Greitemeyer, 2005; Greitemeyer & Sagioglou, 2017; Sagioglou & Greitemeyer, 2016) that relates the Big Five and Dark Personality, it is possible to define some assumptions:

- (i) narcissistic individuals are more related to the positive extreme of extraversion and openness and the negative extreme of neuroticism, agreeableness, and conscientiousness;
- (ii) Machiavellian individuals are more related to the positive extreme of neuroticism and the negative extreme of extraversion, agreeableness, and conscientiousness;
- (iii) psychopathic individuals are more related to the negative extreme of extraversion, agreeableness, conscientiousness, neuroticism, and openness; and

(iv) sadistic individuals are more related to the negative extreme of agreeableness, conscientiousness, neuroticism, and openness.

Therefore, for each normal personality, we have a dark personality. Generally, when we act at the extreme, everybody has a dark personality; the only difference is the range.

Besides the relationship between the Big Five and the Dark Tetrad, several empirical studies have found that high levels of the Dark Tetrad of personality are associated with various psychological aspects and behaviors, which are shown in Table 3.

Table 3 – Previous empirical studies

Aspects associated to Dark Tetrad	Authors
Manipulation within the workplace	Jonason, Slomski and Partyka (2012)
Substance use	Jonason, Koenig and Tost (2010)
Detached love styles	Jonason and Kavanagh (2010)
Dark humor	Veselka, Schermer, Martin and Vernon (2010)
Impulsivity and sensation seeking	Crysel, Crosier and Webster (2013)
Mating strategies	Jonason and Buss (2012)
Misreading feeling and intention	Vonk, Zeigler-Hill, Ewing, Mercer and Noser (2015)
Intergroup threat and prejudice	Hodson, Hogg and MacInnis (2009)
Social dominance orientation	Hodson et al. (2009); Jonason and Webster (2012); Jones and Paulhus (2011); Southard et al. (2015)
Cruelty to animals	Kavanagh, Signal and Taylor (2013)
Self-monitoring	Rauthmann (2011)
Antisocial activities or behaviors	Buckels, Trapnell and Paulhus (2014); Chabrol et al. (2009); James, Kavanagh, Jonason, Chonody and Scrutton (2014)
Schadenfreude	James et al. (2014); Porter, Bhanwar, Woodworth and Black (2014)
Selfish	Jonason and Webster (2012)
Negotiation face-to-face	Crossley, Woodworth, Black and Hare (2016)
Bullying and trolling	Buckels et al. (2014)
Aggressive tendencies	Jones and Paulhus (2010)
Limited empathic abilities	Jonason and Krause (2013); Jonason, Lyons, Bethell and Ross (2013)
Tendency to use deception	Baughman, Jonason, Lyons and Vernon (2014); Book, Visser and Volk (2015)

Source: Author.

Some studies have verified that personality is an important factor in decision-making (Driesch, Costa, Flatten, & Brettel, 2015; D’Souza & Lima, 2015; Oesterle, Elosge, & Elosge, 2016; Waldman et al., 2004; Wang, Waldman, & Zhang, 2012). Therefore, executives with strong Dark Tetrad traits are likely to make opportunistic decisions. In the accounting area, they could manage earnings or commit fraud to achieve their goals. Hence, the Dark Tetrad of personality can damage accounting information quality.

Despite the Dark Tetrad of personality being associated with a range of negative outcomes, it is important to note that these personality features can be at least somewhat

beneficial in some areas of life, and consequently, these personalities can result in some benefits (Zeigler-Hill & Marcus, 2016). Therefore, the following sections address the characteristics of each personality trait that makes up the Dark Tetrad.

2.2.1. Narcissism: Grandiosity

The first component of the Dark Tetrad is narcissism which is related to exaggerated self-worth and importance, grandiosity, vanity, self-absorption, attention seeking, and entitlement (Morf & Rhodewalt, 2001; Raskin & Terry, 1988; Zeigler-Hill & Marcus, 2016).

The construction of narcissism comes from the story of Narcissus, a character in Greek mythology, and its retelling in Homeric hymns. Narcissus was a young man who stared into a lake all day to see his beautiful reflection and drowned after falling in love with his own reflection in a pool of water (Stopfer, Braun, Müller, & Egloff, 2015; Zeigler-Hill & Marcus, 2016).

Psychology and psychiatry classify narcissism as a personality pathology or personality disorder. The Diagnostic and Statistical Manual of Mental Disorders (DSM; American Psychiatric Association, 1994) considers narcissism as a personality disorder (NPD) which involves grandiosity, a need for admiration, and a lack of empathy.

The DSM (American Psychiatric Association, 1994) indicates nine criteria or features that are present in a narcissistic individual, these being:

- (i) a grandiose sense of self-importance;
- (ii) a preoccupation with fantasies of unlimited success, power, brilliance, beauty, or ideal love;
- (iii) a belief that he or she is special and unique and can only be understood by other special people;
- (iv) a need for excessive admiration;
- (v) a sense of entitlement;
- (vi) an interpersonally exploitative personality;
- (vii) a lack of empathy;
- (viii) envy of others or a belief that others are envious of him or her;
- (ix) arrogant, haughty behaviors or attitudes

It is important to say that NPD is pathological, but the aforementioned characteristics are contained in a sub-clinical narcissist.

Campbell, Hoffman, Campbell, and Marchisio (2011) define narcissism as an individual difference based on grandiosity, self-love, and inflated self-views. On the other hand, Zeigler-Hill and Marcus (2016) define narcissism as an individual's bias in relation to self-regulation and maintenance of a positive self-image.

Despite being seen in pathological terms, narcissism has normal or bright aspects which are healthy grandiosity, self-love, and attention-seeking. The dark aspects emerge when abilities to regulate these aspects are out of control (Dowgwillo, Dawood, & Pincus (2016); Zeigler-Hill & Marcus, 2016). The dark aspects of narcissism can be divided into two: narcissistic grandiosity (overt) and narcissistic vulnerability (covert).

Grandiose narcissism includes traits such as "grandiosity, aggression, and dominance, whereas vulnerable narcissism is thought to reflect a defensive and insecure grandiosity that obscures feelings of inadequacy, incompetence, and negative affect" (Miller, Gentile, Wilson, & Campbell, 2013, p. 284). Zeigler-Hill and Marcus (2016) say individuals with high grandiosity need validation and admiration and seek self-realization through top jobs such as leadership in firms, the military etc. According to Wallace and Baumeister (2002), they seek top jobs because these provide the opportunity for recognition and glory.

Vulnerable narcissism is associated with hypersensitivity, defensiveness, and insecurity (Dickinson & Pincus, 2003) and reflects experiences of anger, envy, aggression, helplessness, emptiness, and low self-esteem (Pincus, Cain, & Wright, 2014).

2.2.2. Machiavellianism: Manipulation

The second component of the Dark Tetrad is Machiavellianism. The term Machiavellianism is based on Niccolò Machiavelli who was an Italian political advisor to the Medici family in the 16th century. His book, *The Prince*, describes the sort of manipulative and calculating interpersonal strategies that would become his namesake (Jones, 2016; Zeigler-Hill & Marcus, 2016). Unlike the others, Machiavellianism is not considered a personality disorder by the Diagnostic and Statistical Manual of Mental Disorders (DSM, 1994); however this trait is related to some mental disorders like paranoia (Christoffersen & Stamp, 1995; McHoskey, 2001).

Machiavellianism reflects "an extremely selfish orientation in which an individual is willing to use whatever means are necessary to attain his or her goals, like deception,

manipulation, exploitation" (Zeigler-Hill & Marcus, 2016, p. 5). Jones and Paulhus (2014) say that Machiavellians are characterized as manipulative, power hungry, self-interested, and as cynical individuals. Christie and Geis (1970) describe Machiavellian individuals as amoral because they do what they think will work for their selfish gains and do not care about the morality of their decisions (Jones, 2016).

Gu, Wen, and Fan (2017) define Machiavellian individuals in four aspects: (i) they are prone to being skeptical of others; (ii) they tend to achieve their goals through immoral behaviors such as manipulation, exploitation, and deception; (iii), they are inclined to have a desire to control others; and (iv) they tend to focus on their external performance and do not care about their internal performance.

On the other hand, O'Boyle, Forsyth, Banks, and McDaniel (2012) state that Machiavellianism consists of three sets of interrelated values: (i) manipulative tactics in dealing with others; (ii) a cynical view of human nature; and (iii) an amoral perspective to favor oneself.

Rauthmann and Will (2011) and Jones (2016) state that all these values, aspects, and attitudes create the Machiavellian feature which is: (i) cynical, pragmatic, misanthropic, and immoral beliefs; (ii) emotional detachedness; (iii) agentic and self-beneficial motives; (iv) strategic long-term planning; (v) manipulation and exploitation; and (vi) deception and duplicity.

In a business area, more Machiavellian individuals rationalize financial misbehaviors such as misreporting (Murphy, 2012) which can lead to pragmatic and effective leadership (Deluga, 2001), increase the level of management control (Jones, 2016; Zeigler-Hill, Southard, & Besser, 2014), and increase the propensity for counterproductive and unethical work behaviors (O'Boyle et al., 2012).

Empirical research has supported the idea that Machiavellianism is associated with low levels of agreeableness and conscientiousness (Jakobwitz & Egan, 2006), empathy (Wai & Tiliopoulos, 2012), and cooperation (Paal & Bereczkei, 2007).

Machiavellianism is associated with a lack of guilt or remorse when misbehaving selfishly (Murphy, 2012), manipulating others (Jonason et al., 2012), and being dishonest (Lee & Ashton, 2005). Machiavellianism has no association with short-term thinking when properly assessed (Jonason & Tost, 2010).

Machiavellian individuals use caution when stealing (Cooper & Peterson, 1980; Jones, 2014), maintain relationships in the face of infidelity (Jones & Weiser, 2014), and do not engage in impulsive forms of academic dishonesty (Williams, Nathanson, & Paulhus, 2010).

More Machiavellian individuals trade interpersonal connections for tangible goals (Hawley & Geldhof, 2012; Jonason & Schmitt, 2012; Lyons & Aitken, 2010; Wei & Chen, 2012).

2.2.3. Psychopathy: Callousness

The third component of the Dark Tetrad is psychopathy which is often considered to be the most malevolent of the Dark Tetrad traits (Paulhus & Williams, 2002; Rauthmann, 2012) and is characterized by features that include impulsivity, boldness, disinhibition, lack of empathy, thrill seeking, callousness, fearlessness, and interpersonal aggression (Hare, 1985; Harpur, Hare, & Hakstian, 1989; Lilienfeld & Andrews, 1996; Patrick, Fowles, & Krueger, 2009; Skeem, Polaschek, Patrick, & Lilienfeld, 2011).

In clinical terms, Cleckley (1976) describes psychopathy as a disorder that emphasizes emotional and interpersonal characteristics, including: general lack of affectivity, defective insight, absence of nervousness, lack of remorse or shame, superficial charm, pathological lying, egocentricity and inability to love, and failure to establish close or intimate relationships.

These features contribute to the difficulty in defining psychopathy (Lebreton, Binning, & Adorno, 2006). Thus, the literature separates this construct to better understand how it is composed resulting in primary and secondary psychopathy (Spencer & Byrne, 2016).

Individuals with primary psychopathy are selfish, callous, uncaring, manipulative towards others, lack emotion, maintain superficial relationships, and lack negative affectivity (Levenson, Kiehl, & Fitzpatrick, 1995; Skeem et al., 2011; Yildirim, 2016; Yildirim & Derksen, 2015).

On the other hand, individuals with secondary psychopathy are impulsive, neurotic, and aggressive, and exhibit emotional reactivity, a self-defeating lifestyle, a disturbance of emotion, and antisocial behavior (Levenson et al., 1995; Lynam, Whiteside, & Jones, 1999; Morrison & Gilbert, 2001; Yildirim, 2016; Yildirim & Derksen, 2015).

These two components of psychopathy (primary and secondary) are part of both clinical and subclinical psychopathy. The latter, also called successful psychopathy, is at the core of this research (Spencer & Byrne, 2016). Gustafson and Ritzer (1995) and Levenson et al. (1995) state that subclinical psychopathy differs in intensity and pervasiveness in relation to the clinical disorder. Pethman and Erlandsson (2002) quantify this difference by saying that clinical psychopathy is low (approximately 1%), while the subclinical form may range from 5% –15%.

Therefore, we can note that psychopathy is a collection of maladaptive personality traits characterized by interpersonal, affective, behavioral, and antisocial features that are dangerous to companies and society.

2.2.4. Sadism: Pleasure from hurting

The fourth component of the Dark Tetrad is sadism, which is as malevolent as psychopathy. Sadism is the enjoyment of other people's suffering and has traditionally been discussed in its most extreme forms, that is, in criminal and sexual contexts, but it is most widely known in the sexual context (Paulhus & Dutton, 2016).

The name sadism comes from Donatien Francois de Sade, also known as the Marquis de Sade, who was a revolutionary, a novelist, and a libertine sex philosopher who wrote about the sexual pleasures of inflicting pain: sadism (Brame, 2015; Paulhus & Dutton, 2016)

The third edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-III-R; American Psychiatric Association, 1987) included Sadistic Personality Disorder as a category with eight criteria that focus on domination and power over others (Nell, 2006), but the fourth edition of the DSM removed Sadistic Personality Disorder, considering only sexual sadism. According to DSM-III (1987, p. 371), a sadistic individual:

- (i) uses physical cruelty or violence for the purpose of establishing dominance in a relationship (not merely to achieve some non-interpersonal goal, such as striking someone in order to rob him or her);
- (ii) humiliates or demeans people in the presence of others;
- (iii) treats or disciplines someone under his or her control unusually harshly, e.g., a child, student, prisoner, or patient;
- (iv) is amused by, or takes pleasure in, the psychological or physical suffering of others (including animals);
- (v) lies for the purpose of harming or inflicting pain on others (not merely to achieve some other goal);
- (vi) gets other people to do what he or she wants by frightening them (through intimidation or even terror);
- (vii) restricts the autonomy of people with whom he or she has a close relationship, e.g., will not let a spouse leave the house unaccompanied or permit a teenage daughter to attend social functions;

(viii) is fascinated by violence, weapons, martial arts, injury, or torture.

O'Meara et al. (2011, p. 523) define a sadist as "a person who humiliates others, shows a longstanding pattern of cruel or demeaning behavior to others, or intentionally inflicts physical, sexual, or psychological pain or suffering on others in order to assert power and dominance or for pleasure and enjoyment".

Pinker (2011) conceded that a milder version of sadism is evident in everyday life and may even be normally distributed. This example of sadism is defined as everyday sadism (Paulhus & Dutton, 2016). Everyday sadism, a subclinical personality trait, is characterized by the tendency to engage in cruel, demeaning, or aggressive behaviors for pleasure or dominance (Myers, Burkett, & Husted, 2006; O'Meara et al., 2011).

Everyday sadism can be divided into direct and vicarious sadism (Paulhus & Dutton, 2016). The difference is related to how the hurt or cruelty is inflicted: the direct sadist enjoys inflicting the cruelty, and the vicarious or indirect sadist enjoys watching the cruelty being inflicted. Additionally, Buckels, Jones, and Paulhus (2013) separated direct sadism into physical and verbal forms, since the psychological harm from the verbal form can be more dangerous than the harm from the physical form.

Empirical studies have found that sadism is related to aggressiveness, impulsivity, and acts of bullying (Bates, Bayles, Bennett, Ridge, & Brown, 1991; Ferris & Grisso, 1996), internet "trolls" (Buckels et al., 2014); engaging in antisocial punishment (Pfattheicher & Schindler, 2015); and a pattern of moral judgments that would go beyond the inhibition of emotional aversion experienced toward harmful intent or actual harm (Trémolière & Djeriouat, 2016).

Everyday sadism is often evident both in social relationships and in the workplace and is usually displayed in contacts with people in inferior positions but seldom with people in positions of authority or higher status.

2.3. Accounting information quality: Earnings management and corporate fraud

The accounting literature (Dechow et al., 2010; Jeanjean & Stolowy, 2008; Martínez-Ferrero, Prado-Lorenzo, & Fernandez-Fernandez, 2013) has several attributes and metrics to measure information quality which are segregated into three categories: properties of earnings, investor responsiveness to earnings, and external indicators of earnings misstatements (Dechow et al., 2010). In addition, the proxies for information quality measure specific characteristics

(Dechow et al., 2010), thus one proxy should not be a substitute for another and, depending on what is being studied, one particular proxy will fit best.

Earnings persistence, abnormal accruals, income smoothing, asymmetric timing and timely loss recognition, and target beating, also known as small profits, have all been considered properties of earnings (Dechow et al., 2010).

The persistence of accounting earnings plays an important role in predicting future earnings and evaluating company asset values. Dechow and Schrand (2004) say that information quality will be relevant when it reflects performance during the period and persists in the following periods.

Abnormal or discretionary accruals relate to adjustments for unexpected reasons, and therefore these accruals may indicate accounting manipulation. Hence, the presence of discretionary accruals indicates low information quality (Marra, Mazzola, & Prencipe, 2011).

Income smoothing refers to stability in reported earnings (Bauwheide, Willekens, & Gaeremynck, 2003) and thus it reduces the variability of earnings. This is due to accruals that may show evidence of earnings management. Therefore, greater variability in reported earnings implies higher information quality (Machuga & Teitel, 2009).

Asymmetric timeliness or timely loss recognition relates to conservatism in which net income reflects bad news more timelily than good news (Basu, 1997). Thus, the use of accounting conservatism increases reliability and transparency, reducing opportunistic behavior by managers.

Target beating or small profits is related to manager actions to avoid losses or drops in earnings and can also refer to achieving the earnings expected by analysts (Peasnell, Pope, & Young, 2000). Thus, earnings very close to zero may indicate earnings management and very low information quality (Dechow et al., 2010).

Information quality via the aspect of responsiveness to investor earnings is analyzed by the following proxies: earnings response coefficient (ERC) and value relevance (Dechow et al., 2010).

ERC has the ability to predict future cash flows, as well as earnings persistence (Ali, Chen, & Radhakrishnan, 2007). ERC is an indicator of earnings informativeness, so when there is earnings management, earnings lose their significance for investors (Fargher & Zhang, 2014).

Value relevance as well as ERC indicates earnings informativeness, and the association is verified between price and earnings that accounting provides (Van der Meulen, Gaeremynck, & Willekens, 2007). Thus, value relevance studies seek to verify whether accounting information is relevant to the stock market and what its explanatory power is (Ohlson, 1995).

Regarding external indicators of earnings misstatements, these are divided into three categories and are related to identifying problems in information quality: Accounting and Auditing Enforcement Releases (AAER), restatements, and internal control procedure deficiencies reported under the Sarbanes Oxley Act (SOX) (Dechow et al., 2010).

AAER strictly refers to the US market as they relate to statements by the Securities and Exchange Commission (SEC). In these cases, the SEC alleges that a company has engaged in some earnings manipulation in which there has been fraudulent behavior by the manager (Friedman, 2014; Habib, Jiang, Bhuiyan, & Ilsam, 2014).

Restatements are considered occasional and are due to the correction of unintentional errors, the adoption of a new standard retrospectively, as well as intentional errors or fraud (Kryzanowski & Zhang, 2013). Jiang, Habib, and Zhou (2015, p. 125) claim that they “call into question the credibility of a firm's future financial reports because of its previously released low quality financial information”.

Internal control procedure deficiencies reported under the Sarbanes Oxley Act (SOX), as well as AAER, are related to the North American context. With the advent of SOX, companies that follow the rules of the SEC must disclose deficiencies in internal controls in their financial reporting. This disclosure suggests that there is an information problem in the company's financial reporting system (Altamuro & Beatty, 2010; Cheng, Dhaliwal, & Zhang, 2013).

Within the three categories of earnings quality, only responsiveness to investor earnings is not related to accounting choice. According to Fields, Lys, and Vincent (2001, p. 256), an accounting choice is “any decision whose primary purpose is to influence (either in form or substance) the output of the accounting system in a particular way, including not only financial statements published in accordance with GAAP, but also tax returns and regulatory filings”.

The first and third categories of earnings quality are accounting choices related to manipulation, but the first category (properties of earnings) is manipulation within the limits of laws and standards, also known as earnings management, and the third category (external indicators of earnings misstatements) is manipulation outside the limits of laws and standards, also called fraud (Stolowy & Breton, 2004). According to Cohen, Ding, Lesage, and Stolowy (2010), fraud occurs due to three aspects – incentives, opportunities, and attitudes/rationalizations – and is related to unethical decision-making (Carpenter & Reimers, 2005). Because of the importance of these two categories for accounting information, this study emphasizes earnings management and fraud.

2.3.1. Earnings management: Within the limits of laws and standards

According to Healy and Wahlen (1999, p. 368), earnings management occurs when managers “use judgment in financial reporting and in structuring transactions to, alter financial reports, either mislead a stakeholder about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers”.

In turn, according to Leuz, Nanda, and Wysocki (2003, p 506), earnings management is “the alteration of firms’ reported economic performance by insiders to either mislead a stakeholder or to influence contractual outcomes”.

According to Scott (2012, p. 423), earnings management is “the choice by a manager of accounting policies, or real actions, affecting earnings so as to achieve some specific reported earnings objective”.

On the other hand, Ball (2009) says that earnings management is used to express managers’ manipulation in the reporting of their own financial performance, which encompasses a range of practices, including: (i) practices that are legal, violate no accounting rules or principles, and are generally viewed as ethical; (ii) practices that are legal, violate no accounting rules or principles, and are viewed by many as ethical; and (iii) practices that are legal, violate no accounting rules or principles, but might violate accepted standards of disclosure.

Thus, earnings management involves opportunistic manager behavior that changes the accounting numbers, affecting accounting information quality. Xie, Davidson III, and DaDalt (2003) say that this happens because accounting through accruals models gives managers discretion to determine the actual earnings that a firm reports in any given period. In turn, Scott (2012) states that managers will choose an accounting policy, from among several, in order to achieve their objectives.

Earnings management affects accounting information quality; however it has a positive aspect or good side and a negative aspect or bad side. The good side of earnings management is based on blocked communication (information that can be prohibitively costly to communicate to the principal). In turn, earnings management reduces the blockage, resulting in credibility (Scott, 2012). On the other hand, the bad side of earnings management is related to opportunistic manager behavior (Scott, 2012). Therefore, accountants “must scrutinize manager motivations with great care if they are to detect opportunistic earnings management” (Scott, 2012, p. 445).

Following the literature (Dechow et al. 2010; Gunny, 2010; Roychowdhury, 2006; Scott, 2012), earnings management is divided into accounting policy choice or accruals manipulation, real actions or real activities manipulation, and classification shifting. The three types each have peculiarities: accruals manipulation only changes earnings through accounting choice; real activities manipulation changes earnings, but it also affects cash flow, since there are cuts in expenses and increases in production and sales; and classifications shifting does not change earnings but rather only changes accounts within an income statement.

Accruals manipulation, or discretionary accruals, are based on accounting choice within the Generally Accepted Accounting Principles (GAAP) that disguises the real economic performance of a company (Dechow & Skinner, 2000). Scott (2012) cites some accounting choices related to discretionary accruals such as provisions for credit losses, warranty costs, inventory values, write-offs, and provisions for restructuring. Thus, accounting choice related to discretionary accruals is not easy to notice.

Total accruals (discretionary and non-discretionary accruals) are the changes in working capital that include accounts receivable, inventory, and accounts payable which depend to some extent on changes in sales (Jones, 1991). Thus, to obtain discretionary accruals, it is necessary to understand non-discretionary accruals. According to Jones (1991), gross property, plant, and equipment (PPE), and changes in sales are used to control changes in non-discretionary accruals caused by changing conditions. Sales are used “to control the economic environment of the firm because they are an objective measure of the firms' operations before managers' manipulations, but they are not completely exogenous” (Jones, 1991, p. 211/2). In turn, PPE controls the portion of total accruals related to non-discretionary depreciation expenses (Jones, 1991). Therefore, what does not explain the non-discretionary accruals, through PPE and changes in sales, are the discretionary accruals.

Real activities manipulation “occurs when managers undertake actions that change the timing or structuring of an operation, investment, and/or financing transaction in an effort to influence the output of the accounting system” (Gunny, 2010, p. 855). Roychowdhury (2006) and Scott (2012) cite some manipulations in activities such as advertising, research and development (R&D), maintenance, timing of purchases, disposals of capital assets, stuffing the channels, overproduction, and sales discounts. Based on these examples, Roychowdhury (2006) defined three types of real activities manipulation: sales manipulation, reduction of discretionary expenditure, and overproduction.

Sales manipulation occurs when managers temporarily increase sales during the year by offering price discounts or more lenient credit terms, accelerating the timing of sales (Roychowdhury, 2006; Cohen, Dey, Lys, 2008; Cohen & Zarowin, 2010).

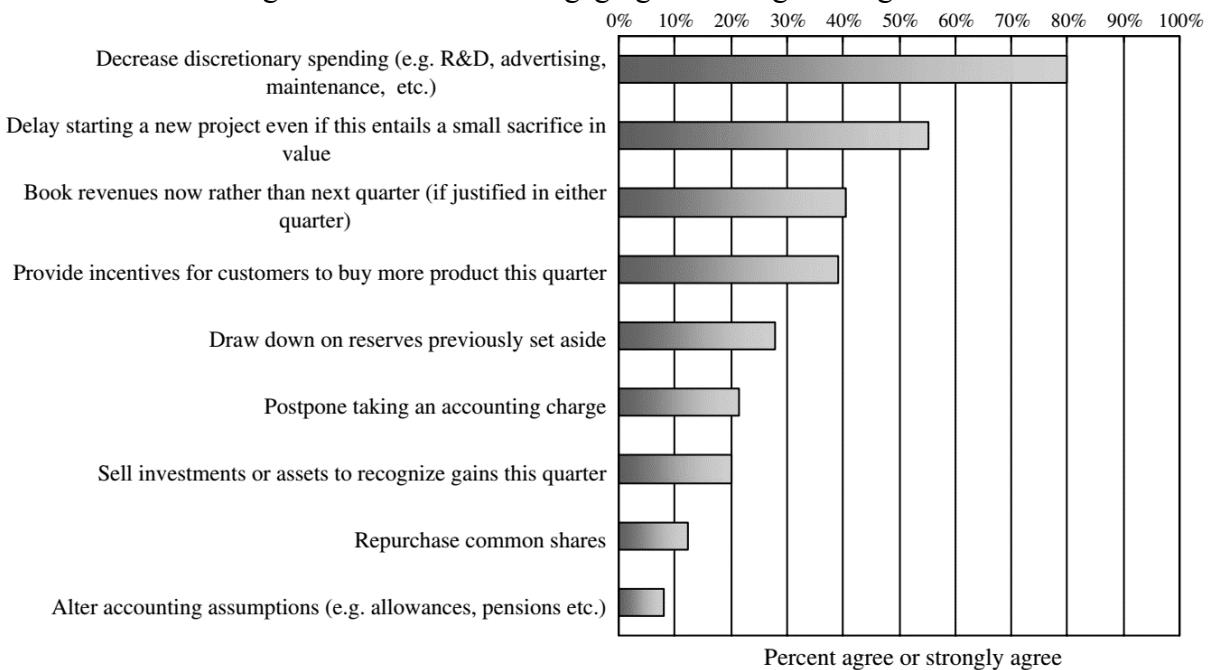
Reduction of discretionary expenditures arises when managers cut expenditures such as R&D, advertising, and maintenance, hence increasing earnings (Roychowdhury, 2006; Cohen et al., 2008; Cohen & Zarowin, 2010).

Overproduction happens when managers produce more goods than necessary. With higher production levels, fixed overhead costs are spread over a larger number of units, lowering fixed costs per unit, as long as the reduction in fixed costs per unit is not offset by any increase in marginal cost per unit. Total cost per unit declines and this implies that the reported COGS is lower, and the firm reports better operating margins (Roychowdhury, 2006, p. 340; Cohen et al., 2008; Cohen & Zarowin, 2010).

Classification shifting is different from accruals or real activities manipulation because it does not involve reversing accruals or lost revenues, but rather represents a misclassification of expenses within the income statement, and hence presents no change in GAAP earnings (Abernathy, Beyer, & Rapley, 2014; Fan, Barua, Cready, & Thomas, 2010; Haw, Ho, & Li, 2011; McVay, 2006). Classification shifting presupposes that managers classify a portion of core operating expenses as special items, which is a GAAP violation that alters investor perception and informativeness and makes the auditor's job more difficult (Behn, Gotti, Hermann, & Kang, 2013; McVay, 2006).

Graham, Harvey, and Rajgopal (2005) carried out a survey along 401 financial executives and one question was: "Near the end of the quarter, it looks like your company might come in below the desired earnings target. Within what is permitted by GAAP, which of the following choices might your company make? (Graham et al, 2005, p. 35)" This question is related to earnings management. The distribution of motives for engaging in earnings management is shown in Figure 5.

Figure 5 – Motives for engaging in earnings management



Source: Graham et al. (2005).

The finding suggests that managers are much more willing to engage in real earnings management than accruals management, because only 8% is related to accruals management (alter accounting assumptions). Zang (2012) confirms the finding of Graham et al. (2005) by saying that decisions to manage earnings through real actions precede decisions to manage earnings through accruals.

Within the patterns of earnings management, the literature has categorized them into taking a bath, income minimization, income maximization, income smoothing, creative acquisition accounting, cooking jar reserves, abusing the materiality concept, and improper revenue recognition (Scott, 2012; Sevin & Schoroeder, 2005). These techniques are used to achieve analyst forecasts, maintain job and reputation, and create small positive results.

2.3.2. Corporate fraud: Outside the limits of laws and standards

Fraud has become a worldwide problem and major scandals have occurred in the United States such as Enron Corp., Fannie Mae, Global Crossing, and WorldCom Inc. These events have serious consequences for companies as well as for all stakeholders involved direct or indirectly with the company. According to Karpoff, Leo, and Martin (2008), in average, frauds make firms lose 41% of their market values and, in some cases, they do not recover this market value.

Fraud is a complex issue and can be viewed from two perspectives. According to Bayou and Reinstein (2001), there is a broader view of fraud (based on the Association of Certified Fraud Examiners – ACFE), which includes corruption (conflict of interest, bribery, illegal gratuities, economic extortion, etc.), fraudulent statements (financial and non-financial), and asset misappropriation (cash, inventory, and other assets). On the other hand, there is a narrower view of fraud (based on Commission, Statement on Auditing Standards – SAS No. 82), which includes fraudulent financial reporting (manipulation, falsification, alteration; financial statement misrepresentation and omissions; misapplication of GAAP) and asset misappropriation (theft, embezzlement, and other).

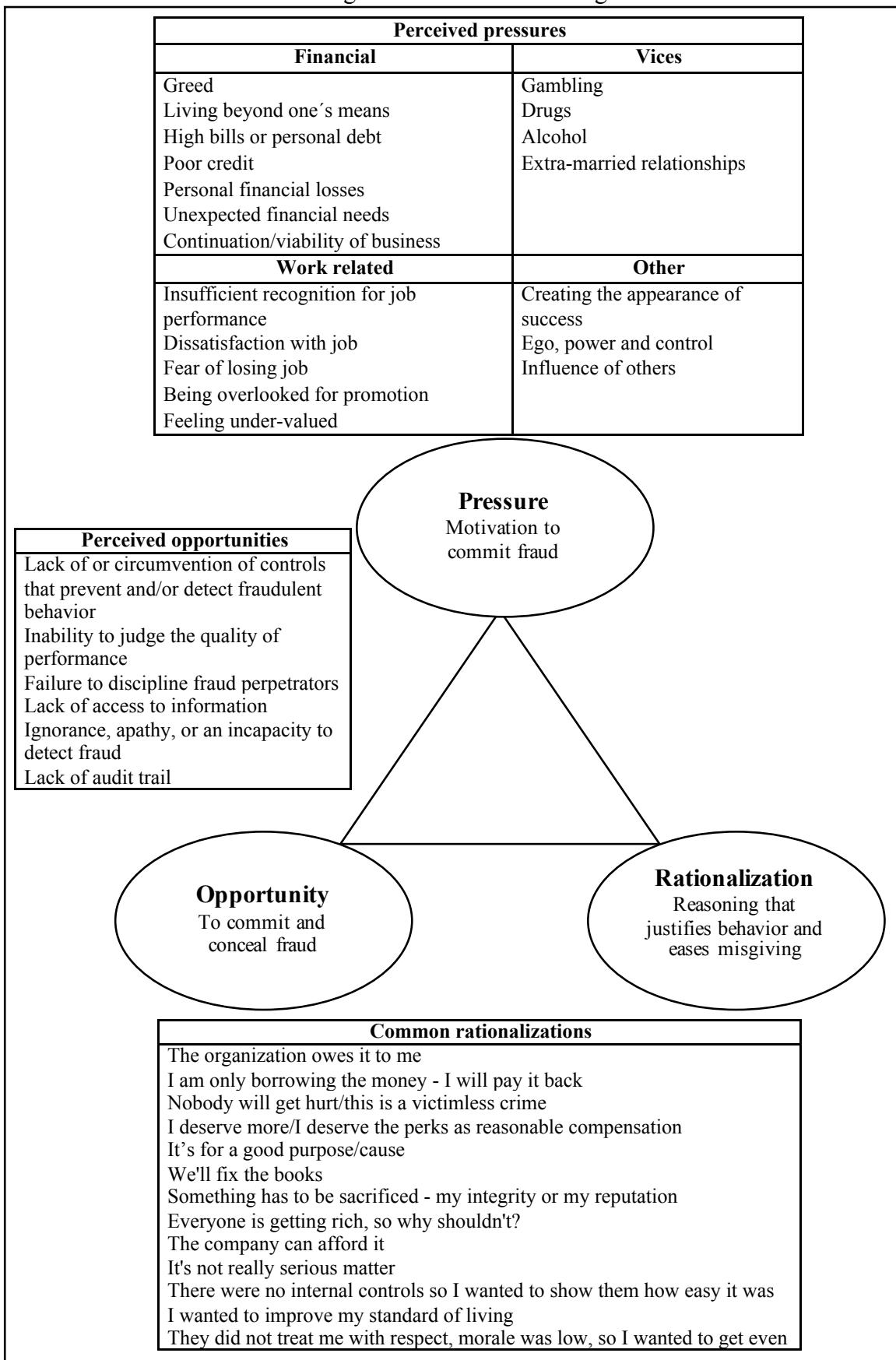
According to Zahra, Priem, and Rasheed (2007), fraud “refers to the deliberate actions taken by management at any level to deceive, con, swindle or cheat investors or other key stakeholders (p. 122)”. These actions are done outside the limits of the laws and standards. Bayou and Reinstein (2001) state that without norms or standards there are no frauds because there is no judgment.

Prentice (2012) says that managers, especially CEOs and CFOs, wish to act ethically; however, the circumstances of companies (obedience to authority, conformity bias, loss aversion) make this difficult. Moreover, managers “act not only from calculation but also from habit, emotion, prejudice and even superstition as well as impulsively or under compulsion” (Bunge, 1996, p. 156). Thus, there are internal and external factors that encourage managers to commit fraud.

Bayou and Reinstein (2001) argue, based on SAS No. 82 (AICPA, 1997) and ACFE, that these factors or drivers contained in a fraud system consist of five components including: (a) drivers of fraud, (b) intent, (c) plan, (d) action, and (e) object.

This system is also known as the Fraud Triangle, which includes motivation, opportunity, and rationalization. Dellaportas (2013) shows the Fraud Triangle with some examples of motivations (called pressure), opportunities, and rationalizations (Figure 6).

Figure 6 – The Fraud Triangle



Source: Adapted from Dellaportas (2013).

The motivation is the pressure that a person feels (Coenen, 2008). In turn, the opportunity to commit fraud “includes the access to assets, people, information, and computer systems that enables the person not only to commit the fraud but to conceal it” (Coenen, 2008, p. 12). And the rationalization occurs when an employee determines that the fraudulent behavior is “okay” in her or his mind, and the process of rationalization will be easy for those with deficient moral codes, making it the most dangerous component of the Fraud Triangle (Coenen, 2008).

Wolfe and Hermanson (2004) complement the Fraud Triangle by including a fourth element that is the capability that is described as an individual’s personal traits and abilities. For this reason, this new system is called the Fraud Diamond.

Ball (2009, p. 286) shows another explanation for the occurrence of financial frauds, which “share three properties: (i) an inability to meet performance expectations; (ii) personal costs of failing to meet expectations; and (iii) being able to convince oneself that real performance will improve soon”. These properties are linked to the Fraud Diamond, especially pressure and rationalization.

As well as earnings management, fraud has specific tactics for creating some deception in financial reporting (Johnson, Grazioli, & Jamal, 1993). Table 4 shows some examples of these tactics to overstate earnings.

Table 4 – Fraud Tactics

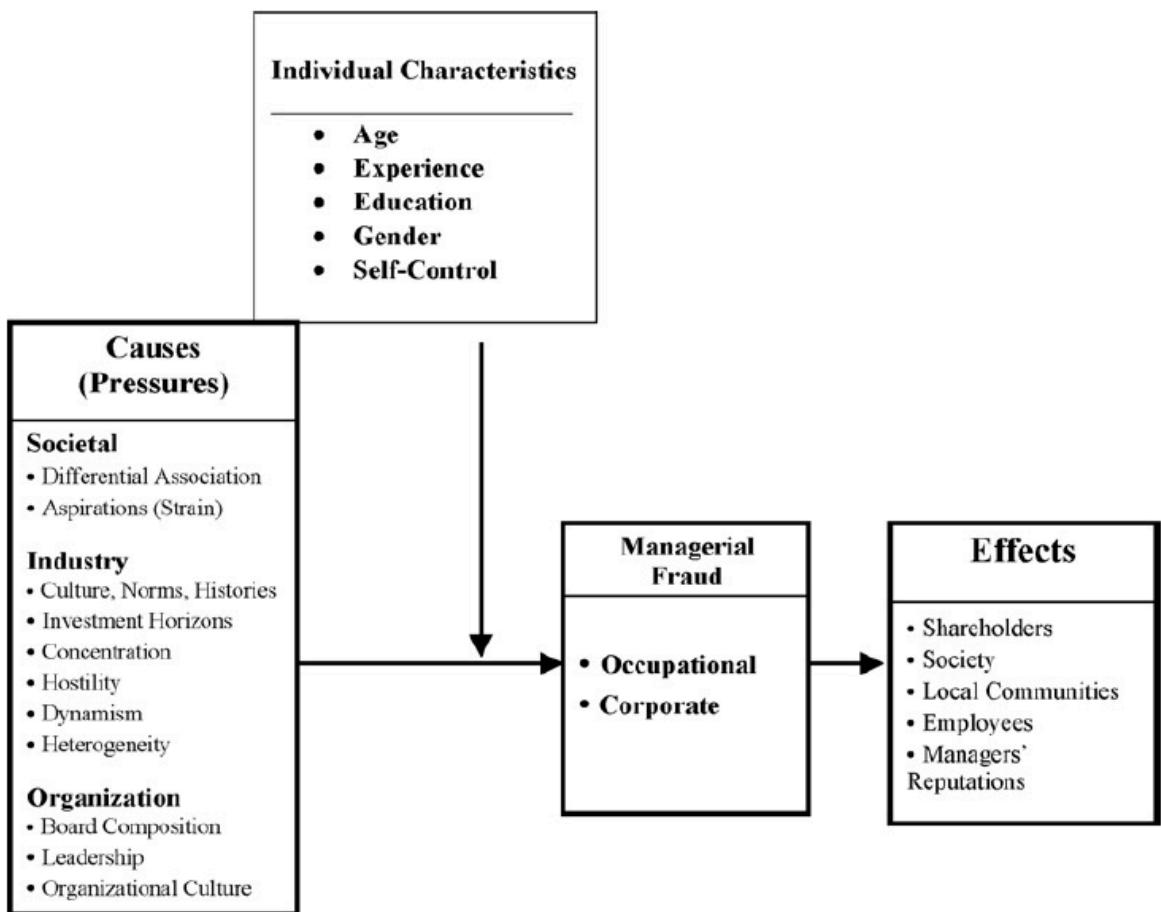
Strategies for deception	Example of tactics for creating deception
Masking	Failing to record or disclose an expense or a liability Eliminating differences with the target representation by deleting non-complying items
Double play	Improperly applying Generally Accepted Accounting Principles, where an item is not individually material
Mimicking	Adding a misleading narrative of the company Spreading the extent of the fraud into small manipulations, individually not material
Dazzling	De-emphasizing issues by reporting them in the notes to the financial statements rather than reporting them on the financial statement
Inventing	Creating fictitious transactions or transactions without substance Creating external factors justifying attributes that deviates from the misleading representation
Repackaging	Changing the labels that characterize attributes in the financial statements Reframing issues to maliciously justify attributes that deviate from the target representation
Decoying	Creating “blind alleys”: anomalies that after a close examination turn out to be consistent with the misleading representation

Source: Johnson et al. (1993).

These deception strategies form just some of the strategies for committing a fraud. This shows why it is so difficult to detect it.

Using Upper Echelons Theory and the Fraud Diamond as a framework, Zahra et al. (2007) create a model involving the causes and effects of fraud committed by top management (Figure 7), which is characterized as White-collar crime.

Figure 7 – Causes and effects of top management fraud



Source: Zahra et al (2007).

Considering the constructs of this dissertation, corporate reputation is a cause/pressure in an industry and organization, because reputation both internally and externally affects manager action. Another construct is the Dark Tetrad of personality traits, which are the individual characteristics. These two constructs may encourage a CEO to commit fraud.

2.4. Corporate reputation: Intangible resource and shield

Corporate reputation is a construct that has several definitions and measurements and, depending on the area and the focus of the research, one concept and one metric of corporate reputation can suit best (Gotsi & Wilson, 2001; Pfarrer, Pollock, & Rindova, 2010).

Barnett, Jermier, and Lafferty (2006) analyzed several definitions of reputation and concluded that they can be divided into three types: asset, assessment, and awareness. Reputation is an asset when it is considered as something of value and significance to the firm or an intangible resource (Barnett et al., 2006). Reputation is an assessment when stakeholders are/were involved in an assessment of the firm's status; thus, it is related to judgment, estimates, evaluations, or gauges (Barnett et al., 2006). Awareness is closely related to assessment; however the difference is in the judgment, because when reputation is awareness, the stakeholders only have some general awareness of a firm without any judgment. Thus, it is related to perception or representation (Barnett et al., 2006).

Due to the complexity of the concept of reputation, Davies et al. (2002) say that reputation has ten tenets that can help to understand it. First, multiple stakeholders need to be considered, because reputation is assessed by owners, society and community, customers, employees, suppliers, government, lenders, etc. (Miles & Covin, 2000).

Second, the main elements of reputation are linked. In this case, the two principle elements of reputation are identity and image, which when aligned define what is reputation. Because there is confusion about identity, image, and reputation. Walker (2010, p. 367) shows the differentiation between them (Table 5).

Table 5 – Identity, image and reputation

	Organizational identity	Organizational image	Corporate reputation
Stakeholders: Internal or external	Internal	External	Internal and external
Perceptions: Actual or desired	Actual	Desired	Actual
Emanating from inside or outside the firm	Inside	Inside	Inside and outside
Positive or negative perception of the firm possible	Positive or negative	Positive	Positive or negative
Relevant question	"Who/what do we believe we are?"	"What/who do we want others to think we are?"	"What are we seen to be?"

Source: Walker (2010, p. 367).

We can observe through stakeholders, emanating from inside or outside the firm, and possible positive or negative perceptions of the firm, that reputation is a combination of identity and image.

Third, reputation is created through multiple interactions, as companies consider multiple stakeholders. These create reputation through different aspects, for example customers create reputation through product quality. Fombrun and Shanley (1990) proposed that reputation is created by accounting and market variables. With regards to using various aspects, Fortune magazine creates a reputation ranking known as the World's Most Admired Companies. This ranking integrates nine attributes, which are innovation, people management, use of corporate assets, social responsibility, quality of management, financial soundness, long-term investment value, quality of product/service, and global competitiveness. Therefore, both the literature and the market agree with this tenet.

Fourth, reputations are valuable and have value. This tenet is supported by the Resource-Based View (Barney, 1991), Roberts and Dowling (2002), Rindova, Williamson, Petkova, and Sever (2005), Pfarrer et al. (2010), and Boyd, Bergh, and Ketchen Jr. (2010), which advocate that reputation is an intangible resource that is valuable, rare, inimitable, and with these characteristics, reputation is able to create competitive advantage.

Fifth, reputation can be managed. Davies et al (2002) state that identity (an internal aspect of reputation) can be managed and influences image (external aspect of reputation), and therefore reputation could be managed in this way. In turn, Fombrun (1996) says that companies can manage their reputation by means of distinctiveness, focus, consistency, identity, and transparency, to seek a positive perception among their stakeholders.

Sixth, reputation and financial performance are linked. Several studies highlight this aspect and that financial performance is an antecedent of reputation in that strong financial performance is a relevant facet of a good reputation (Fombrun & Shanley, 1990; Rose & Thomsen, 2004; Walker, 2010). There is also a contrary relationship, in that a prior reputation impacts financial performance (Roberts & Dowling, 2002; Sánchez & Sotorriño, 2007; Chen, 2016).

Seventh, relative reputation (ranking) drives financial performance. Davies et al. (2002) raise this criticism of the literature, because rankings like the World's Most Admired Companies are extracted from big companies, consider managers and analysts, and are overly dominated by financial performance. However, Davies et al. (2002) express that there is not a perfect metric for reputation, and thus rankings are continuously used and famous. Fryxell and Wang (1994) analyzed the Fortune ranking and concluded that reputation is treated like an

investment; hence, we could infer that reputation ranking focuses on stakeholders, in this case, analysts, managers, and shareholders.

Eighth, reputation can be measured. The literature on reputation confirm this, and we can find several metrics, such as surveys (Walsh & Beatty, 2007), rankings (Brammer, Millington & Pavelin, 2009), factor analysis by means of variables (Góis, De Luca, Lima & Vasconcelos, 2017), etc. Due to there being multiple stakeholders, reputation is in many cases measured considering one or some stakeholders depending on the research interest.

Ninth, reputation can be lost more easily than it can be created. Davies et al. (2002) state that reputation is like an investment in credibility, but it is fragile, and therefore bad actions (pollution, corruption, misstatement, layoffs, etc) by companies erode reputation, since stakeholders lose trust in the company.

Tenth, reputation can best be studied using an interdisciplinary approach. Davies et al. (2002) highlight that reputation is a concept that transcends areas. Fombrun (1996) says this when defining reputation by accounting, marketing, economy etc. Rindova et al. (2005), Pfarrer et al. (2010), and Boyd et al. (2010) confirm it when they explain reputation by means of several theories like Institutional, Resource-based View, Transaction Cost Economics, Signaling, etc.

According to Roberts and Dowling (2002), corporate reputation is the set of organizational attributes, developed over time, that influence how stakeholders perceive a company with good corporate conduct. In turn, Gotsi and Wilson (2001) consider reputation as a stakeholder's overall evaluation of a company based on direct experiences, and information on its actions and /or comparison with the actions of major competitors. Melo and Garrido-Morgado (2012) also highlight the fact that reputation is considered an important ally in the process of reducing asymmetric information.

For this research, reputation is made up of the ten tenets and it is treated as a valuable intangible resource derived from judgment and stakeholder perception.

An important aspect of reputation is its ability to defend an organization during a crisis event (Coombs & Holladay, 2006). When a company is involved in an accounting scandal, an error or fraud, some stakeholders will lower their expectations and this distrust will have several implications for the company's operations and reputation (Karpoff et al., 2008). In this regard, Hall (1993) and Barnett and Pollock (2012) state that a bad reputation is easily acquired, difficult to remove, and the perception of this reputation is more indicative to society than a good reputation.

On the other hand, Fombrun, Gardberg, and Barnett (2000) claim that, in practice, a good reputation leads to better chances of overcoming crises, because it serves as a kind of

“safety net”. Similarly, Thevissen (2002) states that a good reputation is accumulated over time and a bad event does not erase the company's reputation; it can erode a surface layer but does not attack the core of the reputation that are the historical values of the company. Therefore, there is a reputation penalty that may be greater in companies with bad reputations.

When a possible fact that can erode a company's reputation takes place, stakeholders from a reputable company tend to believe in the company, because they consider that it is something that is temporary. This does not happen with disreputable companies, in which stakeholders decrease their appreciation for the company more (Turk, Stewart, Kim, & Hipple, 2012).

Corporate reputation can be understood as a potential source of competitive advantage, since it creates heterogeneity between firms, generates stakeholder value, is difficult to duplicate, acquire, or transfer, and can create a market reserve for the company (Inglis, Morley & Sammut, 2006; Melo & Garrido-Morgado, 2012; Roberts & Dowling, 2002). For Barney (1991), companies have a competitive advantage when implementing a value creation strategy that their competitors or potential competitors cannot succeed in implementing in a similar way, simultaneously; therefore, this strategy creates value for shareholders. Also, this competitive advantage comes from the ability of a high-reputation firm to attract customers, investors, and excellent employees; to motivate its suppliers; and to incur less hostility from regulatory bodies (Bennet & Kottasz, 2000).

Reputation over time creates two elements in stakeholders' minds: competence and integrity (Brown & Dacin, 1997). Thus, companies with strong reputations are considered more trustworthy. However, this trustworthiness can be easily lost if a CEO is responsible for some bad action/strategy or responsible for a crisis (Coombs & Holladay, 2014). Therefore, if a company loses its competitive advantage and reputation, the CEO will probably be fired, since investors will not trust him/her anymore. As CEO reputation is strictly related to company reputation, CEOs who work in highly reputed companies tend to restrict their opportunistic actions, because they want to preserve the competitive advantage and all the benefits that come from a good reputation (Love et al., 2017; Schnee, 2017).

2.5. Hypotheses

Several studies have analyzed the relationship between quality of accounting information and firm characteristics and attributes, such as size, leverage, market-to-book, sales growth, audit quality, corporate governance, voluntary disclosure, etc. (Dechow et al., 2010; Leuz et al., 2003; Becker, DeFond, Jiambalvo, & Subramanyam, 1998; Xie et al., 2003; Francis, Nanda, & Olsson, 2008).

Other literature has attributed the occurrence of earnings management to CEO characteristics and incentives (Bergstresser, & Philippon, 2006; Klein, 2002; Hsieh, Bedard, & Johnstone, 2014; Davidson, Xie, Xu, & Ning, 2007), but few studies have investigated how psychological characteristics of CEOs affect earnings management.

In psychology, a theme that is related to misconduct is the Dark Tetrad personalities. Paulhus (2014) states that these personalities are related to callousness, impulsivity, manipulation, criminality, grandiosity, enjoyment of cruelty and misconduct, and thus they have significant implications with regard to manager judgment and opportunistic decision-making (D'Souza and Lima, 2015). Furthermore, dark personalities can constitute a risk to companies and to their reputations (Brennan and Conroy, 2013), because they are more risk-taking, causing value destruction.

Analyzing other managerial characteristics, such as ego, biases, and experiences, Finkelstein and Hambrick (1996) argue that manager behavior influences firm behavior due to the ambiguity and complexity that are related to their tasks. Bertrand and Schoar (2003) state that firms' corporate policy decisions are affected by manager behavior and style.

Kaplan, McElroy, Ravenscroft, and Shrader (2007) found that poor moral judgment is related to high earnings management. In turn, Elias (2002) demonstrated that the ethical perception of earnings management is related to individual characteristics.

Hegarty and Sims Jr. (1979), Duchon and Drake (2009), Stevens, Deuling, and Armenakis (2012) and Blair, Helland, and Walton (2017) state that CEOs with strong dark personalities engage in unethical behaviors. Thus, they are willing to lie and are able to present a charming façade in order to gain managerial promotions, using a ruthlessly opportunistic and manipulative approach to career advancement. In addition, they are responsible for accounting fraud, stock manipulation, unnecessary firings, and company-induced environmental damage (Boddy, 2005; Campbell et al., 2011; Dalton & Radtke, 2013; Boddy, Miles, Sanyal, & Hartog 2015; O'Reilly III, Doerr, & Chatman, in press). Bickle, Schlegel, Fassbender, and Klein

(2006) and Rijsenbilt and Commandeur (2013) confirm these expectations: they found that CEOs with strong dark personalities are positively related to fraud.

Based on this, Harrison, Summers, and Mennecke (2016) demonstrated that the Dark Triad traits affect different parts of the unethical decision-making process: (i) narcissists act unethically for their own personal benefit and change their perceptions of their abilities to successfully commit fraud; (ii) Machiavellians not only act unethically, but also alter their perceptions about the opportunities that exist to deceive others; and (iii) psychopaths rationalize their fraudulent behaviors.

With regard to financial reporting, Murphy (2012) found that participants whose attitude favors misreporting and individuals who are more Machiavellian are both more likely to misreport; and those with more Machiavellianism who misreport feel significantly less guilty than others who misreport. In turn, Majors (2015) found that managers with strong dark personalities show aggressiveness in their reporting. In an auditing context, Johnson, Kuhn, Apostolou, and Hassel (2013) show that narcissistic client behavior and fraud motivation are significantly and positively related to auditors' overall fraud risk assessments.

Regarding earnings management, Shafer and Wang (2011) found that CEOs with strong dark personalities judge earnings management more leniently. Olsen, Dworkls, and Young (2014) verified that dark personality characteristics of top executives affect financial performance measures through the executives' decisions and influence over firm operational activities rather than through accrual and accounting decisions. In tax accounting, Olsen and Stekelberg (2015) found that CEOs with strong dark personalities engage in tax shelters, an accounting manipulation.

As dark personality affects moral and ethical judgment and decision-making, it impacts the quality of accounting information. Thus, a CEO with a pronounced Dark Tetrad is prone to engaging in earnings management and fraud to achieve his/her objectives. Considering the above, this study raises the following hypothesis:

H₁: Individuals with strong Dark Tetrad traits are positively related to earnings management and fraud.

Due to agency conflicts, corporate governance emerged to reduce the opportunistic actions of CEOs, through formal contracts (Xie et al., 2003; Nanda et al., 2003). But even with corporate governance, CEOs often act opportunistically. Cao et al. (2012) state that corporate reputation could be another reducer of agency problems, because it is related to corporate

governance, but the reputation effect “requires no formal contracts because it relies on self-disciplining, and reputation research emphasizes the dynamics of repeated interactions between players” (Cao et al, 2012, p. 960/1).

Corporate reputation is an important and valuable intangible resource that leads to better financial performance and creates value (Herremans et al., 1993; Roberts and Dowling, 2002; Toms, 2000). In addition, Weigelt and Camerer (1988) state that corporate reputation is valuable because it reduces uncertainty.

Cao, Myers, Myers, and Omer (2015, p. 43) say that “a good reputation signals higher company quality, conveying competence and business conduct consistent with shareholder interests”, because reputation is a set of attributes such as high quality management, ethical and talented employees, innovation capacity, etc. Dyck, Volchkova, and Zingales (2008), Dyck and Zingales (2004), and Dai, Parwada, and Zhang (2015) reinforce this idea, stating that reputation has a restraining effect on managerial decisions.

Based on this, and in the underwriting context, Chang, Chung, and Lin (2010) argue that underwriters will protect their reputation by carefully monitoring and certifying financial information on firm IPOs, thus reducing any potential earnings manipulation.

On the other hand, Wu, Gao, and Li (2016) and Qi, Yang, and Tian (2014) found that firms receiving more media attention and reputable companies are more likely to engage in earnings management. Pfarrer et al. (2010) verified that firms with strong reputations are less likely to announce positive surprises and these firms experience greater market rewards for positive surprises and smaller market penalties for negative surprises than other firms.

When reputation is measured by Corporate Social Responsibility, Kim, Park, and Wier (2012) found that reputable firms are less likely (1) to manage earnings through discretionary accruals, (2) to manipulate real operating activities, and (3) to be the subject of SEC investigations, as shown by the Accounting and Auditing Enforcement Releases against top executives. And when reputation is measured by trust, Garrett et al. (2014) found that reputable firms are associated with better quality accruals, a lower likelihood of financial statement misstatements, and a lower likelihood of internal control material weakness disclosures.

Companies with high quality or strong reputations generate a competence halo based on accountability, credibility, and trustworthiness for stakeholders, and these values create a culture where the rules and traditions are unwritten (Agarwal, Taffler, & Brown, 2011; Cao et al. 2012). For this reason, higher reputation companies provide higher quality financial reports, because reputation reduces earnings management and fraud (Agarwal et al., 2011; Cao et al. 2012; Garrett et al., 2014; Luchs et al., 2009).

H₂: Corporate reputation is negatively related to earnings management and fraud

We can note that dark personality traits and corporate reputation impact on quality of accounting information in different ways. This fact can be explained by Upper Echelons Theory, which predicts that personal characteristics, in this case the Dark Tetrad personality traits, may affect decision-making, as well as the internal environmental or organizational pressures, in this case corporate reputation (Carpenter et al., 2004; Hambrick & Mason, 1984; Hiebl, 2014; Waldman et al. 2004; Yamak et al., 2013). Thus, these two constructs (dark personality and corporate reputation) could interact, reducing or expanding earnings management and fraud.

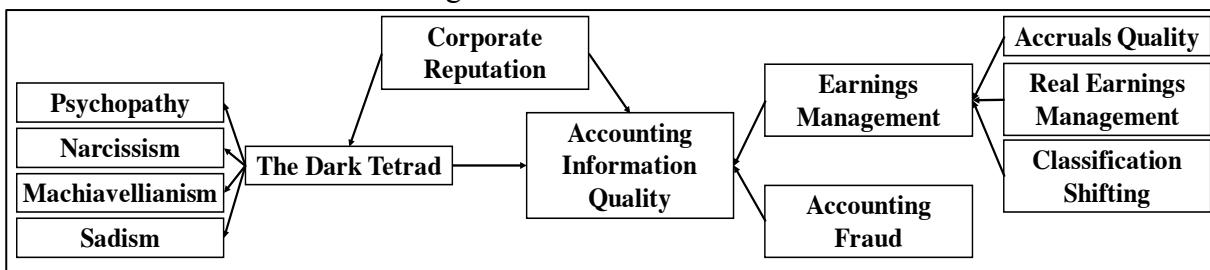
Cao et al. (2012) state that highly reputable companies may have greater incentives to protect their reputations, since reputation reduces agency problems by inducing behavior that is in the interest of the principal even in the absence of a formal contract (Ball, 2009; Cao et al., 2014). Therefore, corporate reputation can inhibit a firm and its CEO from engaging in opportunistic behavior or activities (Webb, 2002; Dyck and Zingales, 2004; Dyck et al., 2008; Kim et al., 2012; Dai et al., 2015).

As firm reputation is linked to CEO reputation (Love et al., 2017), CEOs will not indulge in opportunistic behavior, because this incurs significant losses in power, prestige, reputation, and presumably, financial wealth, for violating or aggressively interpreting GAAP (Desai, Hogan, & Wilkins, 2006). Therefore, strong corporate reputation creates an environment of credibility and trustworthiness which may reduce the effect of strong dark personality traits favoring accounting information quality and so reduce the willingness to manage earnings and engage in fraud. Chen (2010) reinforces the argumentation by demonstrating that institutional factors affect the relationship between dark personality and financial accounting scandals. Hence, hypothesis H₃ is proposed:

H₃: Individuals with strong Dark Tetrad traits are positively related to earnings management and fraud, and this relationship is lower when corporate reputation is strong.

Based on the aforementioned literature, Figure 8 shows the theoretical model of the dissertation.

Figure 8 – Theoretical model



Source: Author.

In the next section, the research design, data collection, sample, and hypothesis tests are presented.

3. METHOD

In this section, the research design and methodology used to test the hypotheses developed in section 2.5 are discussed. There are two methodological approaches: one is the archival method and the other is the experimental method. The archival method is used for earnings management. On the other hand, the experimental method is used for fraud.

3.1. Archival Method

3.1.1. Data collection

To test the hypotheses developed in section 2.5, the research population consists of all public companies listed in Fortune's World's Most Admired Companies in at least one year between 2010 and 2017. The sample's starting year of 2010 was chosen to eliminate the effect of the financial crisis that occurred during 2007 and 2009 (deHaan, 2017).

The accounting information needed to measure earnings management (accruals quality, real earnings management, and classification shifting) and the control variables are obtained from Wharton Research Data Services (CRSP and Capital IQ). The measurement of the Dark Tetrad of personality is divided into three parts: (1) the transcription of Earnings Conference Calls are obtained from the Seeking Alpha website (<https://seekingalpha.com/>); (2) the CEO speeches are extracted from the transcriptions and used in the Personality Insight program (<https://personality-insights-livedemo.mybluemix.net/>) to identify the Big Five Personality; and (3) the dark personality literature is used to convert the Big Five Personality into the Dark Tetrad. Corporate reputation is measured by the overall score disclosed in Fortune's World's Most Admired Companies ranking, which is available online from the Fortune website (<http://fortune.com/worlds-most-admired-companies/>). The control variables were collected from Wharton Research Data Services (CRSP and Capital IQ), the Bloomberg website (<https://www.bloomberg.com/>), and Relationship Science (<https://relationshipscience.com/>).

3.1.2. Sample

The sample is composed of the public companies listed at in least one year in Fortune's World's Most Admired Companies ranking and that have data in CRSP and Wharton Research

Data Services Capital IQ, and CEO speeches on the Seeking Alpha website from Earnings Conference Calls. Table 6 shows the sample selection better.

Table 6 – Sample selection

Criteria	Number of firms
Firms listed in the World's Most Admired Companies ranking	1,029
Firms that have some financial information in Wharton Research Data Services (CRSP and Capital IQ)	913
Firms that have transcriptions of Earnings Conference Calls on the Seeking Alpha website	584
Firms that do not make up the financial industry	465
Firms with their headquarter in the United States and do not have missing values	434

Source: Author.

Based on the criteria described in Table 6, the final sample is composed of 434 firms (2,645 observations) with headquarters in the United States. First, I selected the firms listed in the World's Most Admired Companies ranking, because in the literature there is no measure of reputation that could be used for all firms. The most widely-used is the Fortune ranking, which limits the sample.

Second, I checked if the firms listed in Fortune's ranking have some financial information in Wharton Research Data Services (CRSP and Capital IQ), because some firms are not listed on the Stock Exchange, so they do not have financial information available.

Third, I checked if the firms have transcriptions of Earnings Conference Calls on the Seeking Alpha website because CEO speeches are extracted from the transcriptions to measure the Dark Tetrad of personality.

Fourth, I excluded firms from the financial industry because they have accounting peculiarities, so they differ from the rest.

Fifth, I excluded the international companies because they represent less than 15% of the sample, so I choose to analyze only American firms since they operate in the same market and adopt the same accounting standards. Lastly, I verified which firms have missing value in the variables used in the model to test the hypothesis, so when the regressions were run, only 434 firms had the necessary information.

3.1.3. Measurement of variables

Earnings Management (EM) is divided into three attributes based on Francis and Wang (2008), Dechow, Sloan, and Sweeney (1995), Roychowdhury (2006), Cohen et al. (2008), and

McVay (2006), which are: abnormal and discretionary accruals, real earnings management, and classification shifting. These three proxies are the most common proxies for accounting information quality. According to Chen, Gotti, Herrmann, and Schumann (2016), asymmetric information encourages earnings management behavior. Therefore, when a company has high earnings management, the accounting information quality is low.

Abnormal accruals (AB) are measured according to Francis and Wang (2008) and are defined as the firm's total current accrals in year t, minus predicted total accrals for year t. Abnormal accruals are measured in four parts. The first is the measurement of total accrals (TA) according to Equation 1.

$$TA_{it} = (IBEI_{it} - OCF_{it})/A_{it-1} \quad (1)$$

Where: TA_{it} = Total Accrals; $IBEI_{it}$ = Earnings before extraordinary items; OCF_{it} = Operating cash flows; A_{it-1} = Total assets.

The second part is the measurement of current accrals (CA) according to Equation 2.

$$CA_{it} = \Delta(ACT_{it} - CHE_{it} - TSCA_{it}) - \Delta(LCT_{it} - DCL_{it} - PD_{it}) \quad (2)$$

Where: ACT_{it} = Total current assets; CHE_{it} = Cash and short-term investments; $TSCA_{it}$ = Treasury stock shown as current assets; LCT_{it} = Total current liabilities; DCL_{it} = Debt in current liabilities; PD_{it} = Proposed dividends.

The third part is the measurement of predicted accrals. Unlike other models such as Dechow et al. (1995), to calculate the predicted accrals you only need to replace the values in Equation 3 and it is not necessary to run a regression.

$$PA_{it} = \frac{\left\{ \left[S_{it} \times \left(\frac{CA_{it-1}}{S_{it-1}} \right) \right] - \left[PPE_{it} \times \left(\frac{D_{it-1}}{PPE_{it-1}} \right) \right] \right\}}{A_{it-1}} \quad (3)$$

Where: S_{it} = Sales; CA_{it} = Current accrals; PPE_{it} = Gross property, plant, and equipment; D_{it} = Depreciation and Amortization; A_{it-1} = Total assets.

The fourth part is the measurement of abnormal accrual (AB), which represents the difference between total current accrals (TA) and predicted total accrals (PA), Equation 4.

$$AB_{it} = (TA_{it} - PA_{it})/A_{it-1} \quad (4)$$

Where: TA_{it} = Total accruals; PA_{it} = Predicted accrals; A_{it-1} = Total assets.

Therefore, when AB_{it} is high, accruals quality is low, and thus information quality is low.

In turn, according to Dechow et al. (2010), earnings management based on accruals manipulation contains noise. For this reason, another metric is calculated: discretionary accruals.

Discretionary accruals are measured in accordance with Dechow et al. (1995) and Dechow et al. (2010). This variable is measured in three parts. The first part shows the total accruals estimated in Equation 5.

$$TA_{it} = \beta_0(\frac{1}{A_{t-1}}) + \beta_1(\Delta REV - \Delta REC)_{it} + \beta_2 PPE_{it} + \varepsilon_{it} \quad (5)$$

Where: TA_{it} = Total accruals (difference between earnings before extraordinary items and discontinued operations and operating cash flows from continuing operations) deflated by total assets; REV_{it} = Net revenues deflated by total assets; REC_{it} = Receivables deflated by total assets; PPE_{it} = Gross property, plant, and equipment deflated by total assets; A_{it-1} = Lagged total assets; ε_{it} = regression error.

The coefficients estimated in Equation 5 (β_0 , β_1 , and β_2) are used in Equation 6 to estimate the firm-specific non-discretionary accruals (NDA_{it}).

$$NDA_{it} = \beta_0(\frac{1}{A_{t-1}}) + \beta_1(\Delta REV - \Delta REC)_{it} + \beta_2 PPE_{it} + \varepsilon_{it} \quad (6)$$

Where: NDA_{it} = Non-discretionary accruals deflated by total assets; REV_{it} = Net revenues deflated by total assets; REC_{it} = Receivables deflated by total assets; PPE_{it} = Gross property, plant, and equipment deflated by total assets; A_{it-1} = Lagged total assets; ε_{it} = regression error.

Discretionary accruals (DA_{it}) are measured by the difference between total accruals (TA) and non-discretionary accruals (NDA), as shown in Equation 7.

$$DA_{it} = TA_{it} - NDA_{it} \quad (7)$$

Therefore, when DA_{it} is high, accruals quality is low, and thus information quality is low.

Real earnings management (REM) involves three methods of manipulating real operational activities: sales manipulation, reducing discretionary expenses, and overproduction (Roychowdhury, 2006). Real earnings management based on sales manipulation (S_MANIP) is shown in Equation 8.

$$\frac{CFO_{it}}{A_{it-1}} = \beta_0 \left(\frac{1}{A_{it-1}} \right) + \beta_1 \left(\frac{S_{it}}{A_{it-1}} \right) + \beta_2 \left(\frac{\Delta S_{it}}{A_{it-1}} \right) + \varepsilon_{it} \quad (8)$$

Where: CFO_{it} = Present Cash Flow from Operations; A_{it-1} = Lagged Total Assets; S_{it} = Sales of the period; ΔS_{it} = Change in Sales; ε_{it} = Regression error.

Real earnings management based in sales manipulation (S_MANIP) is obtained by the difference between the original value of cash flow from operations (CFO) and the fitted value of CFO, and the lower this value, the greater the earnings management and the lower the information quality.

Real earnings management based on overproduction (OVERP) is shown in Equation 9.

$$\frac{Prod_{it}}{A_{it-1}} = \beta_0 \left(\frac{1}{A_{it-1}} \right) + \beta_1 \left(\frac{S_{it}}{A_{it-1}} \right) + \beta_2 \left(\frac{\Delta S_{it}}{A_{it-1}} \right) + \beta_3 \left(\frac{\Delta S_{it-1}}{A_{it-1}} \right) + \varepsilon_{it} \quad (9)$$

Where: Prod_{it} = production costs, which are the sum of the cost of goods sold and the change in inventory; A_{it-1} = Lagged Total Assets; S_{it} = Sales of the period; ΔS_{it} = Variation of Sales; S_{it-1} = Lagged Sales; ε_{it} = Regression error.

Real earnings management based on overproduction (OVERP) is obtained by the difference between the original value of production costs (Prod) and the fitted value of Prod, and the higher this value, the greater the earnings management and the lower the information quality.

Real earnings management based reduced discretionary expenses (R_DIXEP) is shown in Equation 10.

$$\frac{DiscE_{it}}{A_{it-1}} = \beta_0 \left(\frac{1}{A_{it-1}} \right) + \beta_1 \left(\frac{S_{it}}{A_{it-1}} \right) + \beta_2 \left(\frac{\Delta S_{it}}{A_{it-1}} \right) + \varepsilon_{it} \quad (10)$$

Where: DiscE_{it} = discretionary expenses measured by the sum of advertising, R&D, and selling, general, and administrative expenses; A_{it-1} = Lagged Total Assets; S_{it} = Sales of the period; ΔS_{it} = Change in Sales; ε_{it} = Regression error.

Real earnings management based on reduced discretionary expenses (R_DIXEP) is obtained by the difference between the original value of cash flow from operations (DiscE) and the fitted value of DiscE, and the lower this value, the greater the earnings management and the lower the information quality.

Cohen et al. (2008) developed another metric for real earnings management, which is measured by the sum of the standardized S_MANIP, OVERP, and R_DIXEP. Thus, this new variable (REM) represents a full concept of real earnings management, where a low value means greater earnings management and lower information quality.

Classification shifting is based on McVay (2006), which first used a model of core earnings (CE) to measure the unexpected change in core earnings (UE_CE) (Equation 11).

$$CE_{it} = \beta_0 + \beta_1 CE_{it-1} + \beta_2 ATO_{it} + \beta_3 ACC_{it-1} + \beta_4 ACC_{it} + \beta_5 \Delta SALE_{it} + \beta_6 N_ \Delta SALE_{it} + \varepsilon_{it} \quad (11)$$

Where: CE_{it} = Core Earnings (before Special Items and Depreciation), calculated as (Sales - Cost of Goods Sold - Selling, General, and Administrative Expenses)/Sales; ATO_{it} = Asset Turnover Ratio, defined as Sales_t/((NOA_t - NOA_{t-1})/2), where NOA, or Net Operating Assets, is equal to the difference between Operating Assets - Operating Liabilities; Operating Assets is calculated as Total Assets minus Cash and Short-Term Investments; Operating liabilities is calculated as Total Assets minus Total Debt, minus Book Value of Common and Preferred Equity, minus Minority Interests; Average net operating assets is required to be positive; ACC_{it} + Operating Accruals, calculated as [Net Income before Extraordinary Items - Cash From Operations]/Sales; SALE_{it} = Percentage Change in Sales, (Sales_t - Sales_{t-1}) / Sales_{t-1}; N_SALE_{it} = Percentage Change in Sales (SALE_t) if SALE_t is less than 0, and 0 otherwise.

Unexpected change in core earnings (UE_CE) represents the difference between reported and predicted core earnings (CE) from Equation 11. To verify if managers manage earnings through classification shifting, unexpected change in core earnings (UE_CE) is regressed by Special Items (SI), as in Equation 12.

$$UE_CE_{it} = \beta_0 + \beta_1 SI_{it} + \varepsilon_{it} \quad (12)$$

Where: UE_CE_{it} = the difference between reported and predicted core earnings (CE); SI_{it} = Income-Decreasing Special Items as a Percentage of Sales, calculated as [Special Items_t (-1)] / Sales_t when Special Items are income-decreasing, and 0 otherwise.

If Special Items (SI) shows a positive relationship with unexpected change in core earnings (UE_CE), then managers engage in earnings management through classification shifting, and they transfer items from core earnings to special items, deceiving stakeholders.

Appendix A reports the regression coefficients for some of the key regressions used to estimate discretionary accruals (DA), sales manipulation (S_MANIP), reduced discretionary expenditure (R_DIXEP), overproduction (OVERP), and classification shifting (UE_CE). To estimate each model, I ran cross-sectional regressions.

The Dark Tetrad (D4) of personality is measured by the content and linguistic analysis of CEO speeches presented in transcripts of Earnings Conference Calls. For that, more than 30 thousand transcriptions were analyzed, since the transcriptions were quarterly, so the transcriptions were condensed into a single file, annual transcription, which ended with 4,088 annual transcription, based on that, I extracted only the CEO's speech. I point out that I considered as CEO, the person that it was reported in the transcript of Earnings Conference Calls.

Some research demonstrates that it is possible to measure personality (normal or dark) from letters or documents written by CEOs (Amernic & Craig, 2006; Brennan & Conroy, 2013; Craig & Amernic, 2011). Unlike the literature that uses CEO letters to shareholders, this study uses transcriptions of Earnings Conference Calls, from which CEO speeches were taken. CEO speeches are expected to better captures personality than CEO letters because they are spontaneous, unlike CEO letters, which could be edited or maybe written by someone else and reviewed by the CEO.

The instrument to measure the D4 of personality is divided into four steps. First, the Personality Insights offered by the IBM Watson Group are used to measure the Big Five personalities, which are considered as normal personalities (Badenes et al., 2014). This program gives the raw score for each Big Five Personality (Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness) and its value ranges from 0 to 1. Table 7 shows an example result of Personality Insights in 2016.

Table 7 – Example of Personality Insights

Firm	CEO	OP	CO	EX	AG	NE
Apple	Timothy D. Cook	0.7797	0.6498	0.5449	0.6692	0.5547
3M	Inge G. Thulin	0.7844	0.6744	0.5775	0.7047	0.5394
Alliance Data Systems	Edward J. Heffernan	0.7981	0.6751	0.5517	0.6825	0.5457
Google	Sundar Pichai	0.7756	0.6610	0.5595	0.6793	0.5456
Amazon.com	Jeffrey P. Bezos	0.8151	0.6970	0.5625	0.7542	0.5125

Source: Author.

Note: EX – Extraversion; AG – Agreeableness; CO – Conscientiousness; NE – Neuroticism; OP – Openness.

Second, I carried out a review of the literature looking for studies that correlated the Big Five with the Dark Triad or Everyday Sadism and I found these studies: Book et al. (2016), Buckels (2012), Furnham et al. (2014), Geel et al. (2017), Greitemeyer (2015), Greitemeyer and Sagioglou (2017), and Sagioglou and Greitemeyer (2016).

Third, based on the findings, the mean of the Pearson coefficient was calculated, which shows a significant correlation between the Big Five and the Dark Triad and Everyday Sadism. After that, 1 (one) was added to the absolute value of the mean of the Pearson coefficient. Table 8 shows the results of this calculation.

Table 8 – Mean of Pearson coefficient between Big Five and Dark Tetrad

	NARC	PSYC	MACH	SAD	NARC	PSYC	MACH	SAD
	Part I				Part II			
EX	0.290	-0.041	-0.037	-	1.290	1.041	1.037	-
AG	-0.229	-0.552	-0.420	-0.418	1.229	1.552	1.420	1.418
CO	-0.188	-0.286	-0.238	-0.255	1.188	1.286	1.238	1.255
NE	-0.125	-0.013	0.007	-0.057	1.125	1.013	1.007	1.057
OP	0.215	-0.138	-	-0.031	1.215	1.138	-	1.031

Source: Author.

Note: NARC – narcissism; PSYC – psychopathy; MACH – Machiavellianism; SAD – Sadism; EX – Extraversion; AG – Agreeableness; CO – Conscientiousness; NE – Neuroticism; OP – Openness. Based on Book et al. (2016), Buckels (2012), Furnham et al. (2014), Geel et al. (2017), Greitemeyer (2015), Greitemeyer and Sagioglou (2017), Sagioglou and Greitemeyer (2016). The negative values are preserved in gray, because they are used in the next step.

Fourth, based on Table 8, equations were developed to measure each Dark Tetrad personality trait. When there was a positive relationship between the Big Five Personality and the Dark Tetrad of personality, I proposed multiplying the value of Part II by the results of Personality Insights (Table 7). On the other hand, when there was a negative relationship between the Big Five Personality and the Dark Tetrad of personality, I proposed dividing the value of Part II by the results of Personality Insights (Table 7). Lastly, the mean was calculated, generating the Dark Tetrad of personality.

Narcissism (NARC) is more related to positive extremes of extraversion and openness and negative extremes of neuroticism, agreeableness, and conscientiousness (Book et al., 2016; Buckels, 2012; Geel et al., 2017; Greitemeyer, 2005; Greitemeyer & Sagioglou, 2017; Sagioglou & Greitemeyer, 2016). Equation 13 shows the measurement of Narcissism.

$$NARC_{it} = ((EX_{it} \times 1.290) + (AG_{it}/1.229) + (CO_{it}/1.188) + (NE_{it}/1.125) + (OP_{it} \times 1.215))/5 \quad (13)$$

Where: $NARC_{it}$ – Narcissism; EX_{it} – Extraversion; AG_{it} – Agreeableness; CO_{it} – Conscientiousness; NE_{it} – Neuroticism; OP_{it} – Openness.

Psychopathy (PSYC) is more related to negative extremes of extraversion, agreeableness, conscientiousness, neuroticism, and openness (Book et al., 2016; Buckels, 2012; Geel et al., 2017; Greitemeyer, 2005; Greitemeyer & Sagioglou, 2017; Sagioglou & Greitemeyer, 2016). Equation 14 shows the measurement of Psychopathy.

$$PSYC_{it} = ((EX_{it}/1.041) + (AG_{it}/1.552) + (CO_{it}/1.286) + (NE_{it}/1.013) + (OP_{it}/1.138))/5 \quad (14)$$

Where: $PYSC_{it}$ – Psychopathy; EX_{it} – Extraversion; AG_{it} – Agreeableness; CO_{it} – Conscientiousness; NE_{it} – Neuroticism; OP_{it} – Openness.

Machiavellianism (MACH) is more related to positive extremes of neuroticism and negative extremes of extraversion, agreeableness, and conscientiousness (Book et al., 2016; Buckels, 2012; Geel et al., 2017; Greitemeyer, 2005; Greitemeyer & Sagioglou, 2017; Sagioglou & Greitemeyer, 2016). Equation 15 shows the measurement of Machiavellianism.

$$MACH_{it} = ((1.037/EX_{it}) + (1.420/AG_{it}) + (1.238/CO_{it}) + (1.007 \times NE_{it}))/4 \quad (15)$$

Where: $MACH_{it}$ – Machiavellianism; EX_{it} – Extraversion; AG_{it} – Agreeableness; CO_{it} – Conscientiousness; NE_{it} – Neuroticism; OP_{it} – Openness.

Sadism (SAD) is more related to negative extremes of agreeableness, conscientiousness, neuroticism, and openness (Book et al., 2016; Buckels, 2012; Geel et al., 2017; Greitemeyer, 2005; Greitemeyer & Sagioglou, 2017; Sagioglou & Greitemeyer, 2016). Equation 16 shows the measurement of Sadism.

$$SAD_{it} = ((AG_{it}/1.418) + (CO_{it}/1.255) + (NE_{it}/1.057) + (OP_{it}/1.031))/4 \quad (16)$$

Where: SAD_{it} – Sadism; EX_{it} – Extraversion; AG_{it} – Agreeableness; CO_{it} – Conscientiousness; NE_{it} – Neuroticism; OP_{it} – Openness.

The literature on the Dark Tetrad of personality shows that (Paulhus, 2014; Paulhus & Jones, 2014) narcissism, Machiavellianism, psychopathy, and sadism share similar characteristics and are correlated between themselves. Therefore, I ran a Factor Analysis to create a comprehensive measure called the Dark Tetrad of personality (D4). First, it was necessary to calculate the Pearson correlation to demonstrate that Narcissism, Machiavellianism, Psychopathy, and Sadism are highly correlated. Table 9 shows the Pearson correlation within each dark personality trait.

Table 9 – Pearson correlation within each dark personality - Archival

	NARC	PYSC	MACH	SAD
NARC	1			
PSYC	0.9877***	1		
MACH	0.9216***	0.9601***	1	
SAD	0.8784***	0.920***	0.8822***	1

Source: Author.

Note: *** Significant at a level of 1%; NARC – narcissism; PSYC – psychopathy; MACH – Machiavellianism; SAD – Sadism.

The results in Table 9 confirm what the literature on dark personalities says, because each personality is highly correlated, and thus they share similar characteristics, such as callousness (Paulhus, 2014; Paulhus & Jones, 2014). In their seminal paper, Paulhus and Williams (2002) demonstrated that Psychopathy and Narcissism are correlated to a coefficient of 0.50; on the other hand, Psychopathy and Machiavellianism are correlated to a coefficient of 0.31, and Narcissism and Machiavellianism are correlated to a coefficient of 0.25. Although the values of the coefficients are different, due to the method used, the results in Table 9 preserve the same order of magnitude of the coefficients. Therefore, a Factor Analysis (Table 10) was run to create a variable called the Dark Tetrad of personality (D4).

Table 10 – Factor Analysis – Archival

Bartlett's sphericity test				
Chi-square		24078.625	p-value	
Kaiser-Meyer-Olkin (KMO)		0.612		
Factor Analysis for Principal component factors				
Factor	Eigenvalue	Difference	Proportion	Cumulative
Factor1	3.77615	3.63639	0.944	0.944
Factor2	0.13976	0.05823	0.0349	0.979
Factor3	0.08153	0.07897	0.0204	0.9994
Factor4	0.00256	.	0.0006	1
Number of observations	2,645		Retained factors	1

Source: Author.

As expected, a unique variable was generated, in which the percentage of shared variance for all variables to create one factor is equal to 94.4%. Consequently, this variable shares all characteristics of each dark personality trait, which are callousness, impulsivity, manipulation, criminality, grandiosity, and enjoyment of cruelty (Paulhus, 2014).

Corporate reputation (REP) is the overall score that the World's Most Admired Companies ranking discloses on its website. If in one year the company is not listed in the ranking, its overall score is zero. This assumption is used because if a company is no longer listed, its reputation is low. In all models, the Corporate Reputation variable used was lagged, because the effects of reputation are only realized over time: thus, the reputation in t -1 will only start to affect the firm in t.

To verify the research hypothesis, the Multiple Linear Regression with panel data is applied with random effects controlled by industry and year, as shown in Equations 17 and 18. Random effects were used to capture industry effects, because in fixed effects, industry variables would be dropped. Equation 17 considers abnormal and discretionary accruals and real earnings management.

$$EM_{it} = \beta_0 + \beta_1 D4_{it} + \beta_2 REP_{it-1} + \beta_3 D4_{it} \times REP_{it-1} + \sum \beta_n (Control)_{it} + \varepsilon_{it} \quad (17)$$

Where: EM_{it} = AB_{it} , DA_{it} , S_MANIP_{it} , R_DIXEP_{it} , $OVERP_{it}$ and REM_{it} ; AB_{it} = Abnormal accruals according to Francis and Wang (2008); DA_{it} = Discretionary accruals according to Dechow et al. (1995); S_MANIP_{it} = Real earnings management based on sales manipulation according to Roychowdhury (2006); $OVERP_{it}$ = Real earnings management based on overproduction according to Roychowdhury (2006); R_DIXEP_{it} = Real earnings management based on reduced discretionary expenses according to Roychowdhury (2006);

REM_{it} = the sum of the standardized S_MANIP, OVERP, and R_DIXEP; REP_{it-1} = lagged corporate reputation, which represents the overall score in the World's Most Admired Companies ranking; D4: factor created by $NARC_{it}$, $PSYC_{it}$, $MACH_{it}$, and SAD_{it} ; $NARC_{it}$ = Narcissism results of Equation 13; $PSYC_{it}$ = Psychopathy results of Equation 14; $MACH_{it}$ = Machiavellianism results of Equation 15; SAD_{it} = Sadism results of Equation 16.

In turn, Equation 18 shows the model of earnings management for classification shifting.

$$EM_{it} = \beta_0 + \beta_1 D4_{it} + \beta_2 REP_{it-1} + \beta_3 SI_{it} + \beta_4 D4_{it} \times SI_{it} + \beta_5 REP_{it-1} \times SI_{it} + \beta_6 D4_{it} \times REP_{it-1} \times SI_{it} + \Sigma \beta_n (Control)_{it} + \varepsilon_{it} \quad (18)$$

Where: EM_{it} = UE_CE_{it} ; UE_CE_{it} = Unexpected change in core earnings results of Equation 11; REP_{it-1} = lagged corporate reputation, which represents the overall score in the World's Most Admired Companies ranking; D4: factor created by $NARC_{it}$, $PSYC_{it}$, $MACH_{it}$ and SAD_{it} ; $NARC_{it}$ = Narcissism results of Equation 13; $PSYC_{it}$ = Psychopathy results of Equation 14; $MACH_{it}$ = Machiavellianism results of Equation 15; SAD_{it} = Sadism results of Equation 16; SI_{it} = Income-Decreasing Special Items as a Percentage of Sales, calculated as $[Special\ Items_t\ (-1)] / Sales_t$ when Special Items are income-decreasing, and 0 otherwise.

The control variables are divided into two characteristics: CEO and organizational variables. CEO variables are age, gender, and CEO turnover (Carpenter et al., 2004; Goyal & Park, 2002; Hambrick & Mason, 1984; Hiebl, 2014; Waldman et al. 2004; Yamak et al., 2013), and organizational variables are company size (Li, 2010), leverage (Ali et al., 2007), audit quality (Peasnell et al., 2000), sales growth (Li, 2010), loss (Francis and Wang, 2008), return on assets (Roychowdhury, 2006), market-to-book (Roychowdhury, 2006), and the economic industry and year (Johnson, Xie, & Yi, 2014). I should be noted that the variables to measure earnings management and the firm control variables were winsorized by year at the extremes of 1 percent and 99 percent.

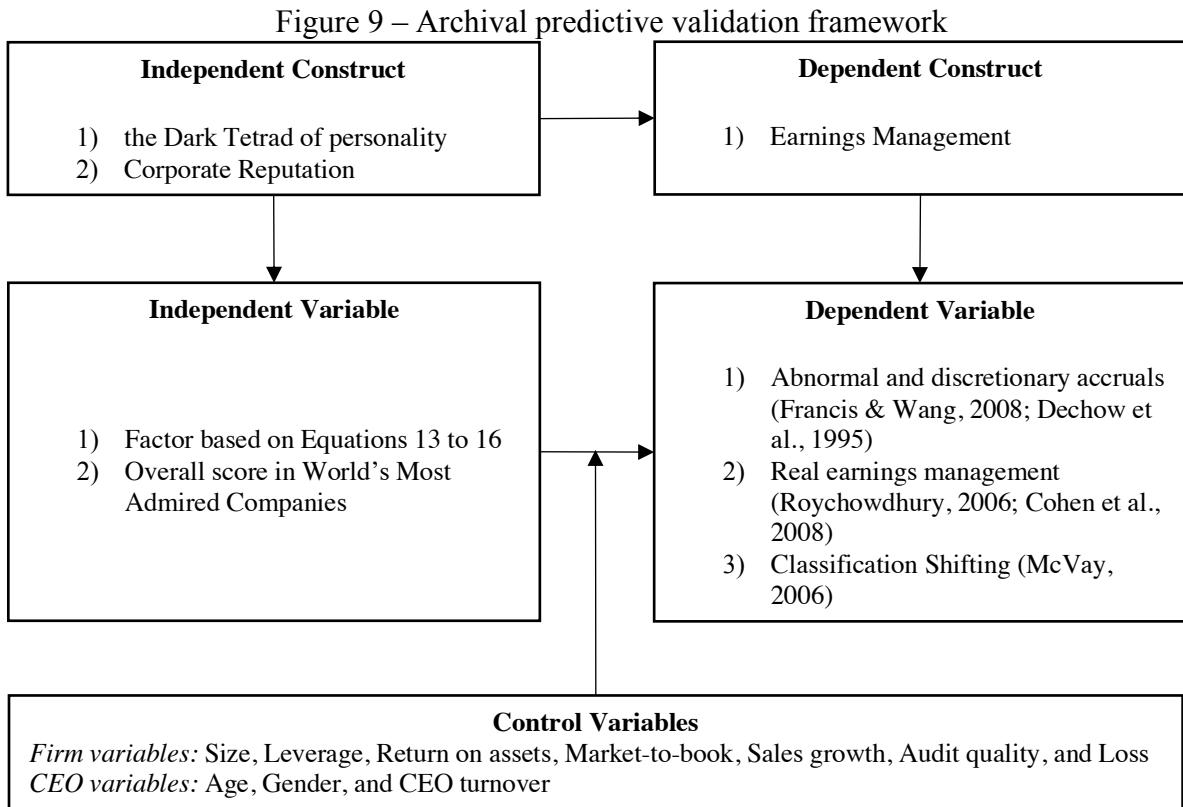
To summarize all the variables used in the archival method, Table 11 shows the operationalization of each of them.

Table 11 – Variables of the research

Variable			Operationalization
Dependent	EM	Earnings Management	AB: Abnormal accruals measured by Equation 4; DA: Discretionary accruals measured by Equation 7; S_MANIP: Sales manipulation measured by Equation 8; OVERP: Overproduction measured by Equation 9; R_DIXEP: Reduction in discretionary expenses measured by Equation 10; REM: Real earnings management measured by the sum of the standardized S_MANIP, OVERP, and R_DIXEP; UE_CE: Classification shifting measured by Equation 12.
Independent	D4	Dark Tetrad	NARC: Narcissism measured by Equation 13; PSYC: Psychopathy measured by Equation 14; MACH: Machiavellianism measured by Equation 15; SAD: Sadism measured by Equation 16; D4: factor created by NARC, PSYC, MACH, and SAD
	REP	Corporate Reputation	Lagged overall score of the company listed in the World's Most Admired Companies ranking
Controls	AGE	CEO's age	Difference between year t and year of birth
	GEN	CEO gender	Dummy variable, 1 for male CEOs and 0 otherwise
	TURN	CEO turnover	Dummy variable, 1 when the CEO changes firms
	SIZE	Firm size	Natural logarithm of total assets
	LEV	Leverage	Quotient of debts over total assets
	ROA	Return on asset	Income before extraordinary items scaled by total assets
	MTB	Market-to-book	The ratio of market value to Shareholders' Equity
	GROW	Sales growth	Change in Sale
	BIG4	Audit quality	Dummy variable, 1 for firms audited by the Big Four firms and 0 otherwise
	LOSS	Firm loss	Dummy variable, 1 for firms that have net income less than 0 and 0 otherwise
	YEAR	Year	Dummy variables for each year, 2010 to 2016
	IND	Economic Industry	Dummy variables for each economic industry based on the Global Industry Classification Standard, and suppressed Energy industry

Source: Author.

The graphical representation of the conceptual and operational relationships of the research is summarized in Libby boxes in Figure 9, which represents the predictive validity model to illustrate the research process.



Source: Author.

A secondary analysis was carried out to verify the company profile regarding the Dark Tetrad of personality (D4). I ran Chi-squared tests and Correspondence Analysis to analyze which variables (Abnormal Accruals, Real Earnings Management, Classification Shifting, Corporate Reputation, CEO's Age, Firm Size, Leverage, Return on Assets, Market-to-Book, and Sales Growth) are associated with D4. In addition, the associations were verified between the dependent and independent variables (Abnormal Accruals, Real Earnings Management, Classification Shifting, Corporate Reputation) in relation to Industry. To capture the effect of Classification Shifting, the Correspondence Analysis was run between Unexpected change in core earnings (UE_CE) and Income-Decreasing Special Items as a Percentage of Sales (SI), and a new variable was saved, called Classification Shifting (SHIF), which is the factor coordinates for axes 1 and 2. I highlight that all the variables, except Industry, are divided by three parts and by percentile.

The next section refers to the second research method adopted in the study and addresses the third category of information quality, based on the study from Dechow et al. (2010), which is related to corporate fraud.

3.2. Experimental Method

3.2.1. Sample

According to Wooldridge (2013), some econometricians think that 30 observations is satisfactory, so this is a large sample. Cozby and Bates (2012, p. 267) say “with more observations sampled, you are more likely to obtain an accurate estimate of the true population value. Thus, as the size of your sample increases, you are more confident that your outcome is actually different from the null hypothesis expectation”.

The study was applied online using a Qualtrics Survey of 101 MBA students who, in general, have had experience in management. The participants were from El Paso (USA), São Paulo (Brazil), and Vitória (Brazil), and they were students at the University of Texas - El Paso, FIPECAFI, and FUCAPE Business School.

3.2.2. Measures and Procedure

The Dark Tetrad of personality and Corporate Reputation constructs are independent variables as they can explain and predict the dependent construct – Corporate Fraud.

The Dark Tetrad of personality is based on psychological measuring instrument factors, in accordance with Paulhus and Jones (2014). The instrument contains 36 questions which are divided into two sub-instruments: Short-form measures of Dark Triad (Jones & Paulhus, 2014) and Assessment of Sadistic Personality - ASP (Plouffe, Saklofske & Smith, 2017).

Short-form measures of the Dark Triad or The Short-Dark Triad is a 27-item measure of the Dark Triad traits (Annex A). Participants indicate their agreement on a scale (0 = Strongly disagree; 10 = Strongly agree) with statements reflective of narcissism, Machiavellianism, and psychopathy. Narcissism has assertions that express leadership, exhibitionism, grandiosity, and entitlement. In turn, Machiavellianism has statements that express reputation, cynicism, coalition building, and planning. Lastly, psychopathy has statements that express antisocial behavior, erratic lifestyle, callousness, and short-term manipulations.

The Assessment of Sadistic Personality (ASP) is a 9-item measure of Everyday Sadism. Participants indicate their agreement on a scale (0 = Strongly disagree; 10 = Strongly agree) with statements that express subjugation, pleasure-seeking, and lack of empathy (Annex B).

Each dark personality trait (Narcissism, Machiavellianism, Psychopathy, and Sadism) is measured by the mean of the participants answers. Equation 19 shows the measurement.

$$\text{Dark Personality} = \frac{\Sigma(\text{Assertion})}{9} \quad (19)$$

Where: Personality = mean score for each dark personality trait; Assertion = score from each assertion for each dark personality trait.

To analyze the experiment with a comprehensive variable for dark personality, I ran a Factor Analysis with the result of Equation 19 for each dark personality trait.

As mentioned in section 3.1, the literature on the Dark Tetrad of Personality shows that (Paulhus, 2014; Paulhus & Jones, 2014) Narcissism, Machiavellianism, Psychopathy, and Sadism share similar characteristics and are correlated between themselves. So, I ran a Factor Analysis to create a comprehensive measure called Dark Tetrad of Personality (D4). First, it was necessary to calculate the Pearson correlation to demonstrate that Narcissism, Machiavellianism, Psychopathy, and Sadism are highly correlated. Table 12 shows the Pearson correlation within each dark personality.

Table 12 – Pearson correlation within each dark personality - Experiment

	NARC	PSYC	SAD	MACH
NARC	1			
PSYC	0.379***	1		
SAD	0.339***	0.687***	1	
MACH	0.346***	0.515***	0.416***	1

Source: Author.

Note: *** Significant at a level of 1%; NARC – narcissism; PSYC – psychopathy; MACH – Machiavellianism; SAD – Sadism.

The results in Table 12 confirm what the literature on dark personalities says, since each personality trait is highly correlated, and thus they share similar characteristics, such as callousness (Paulhus, 2014; Paulhus & Jones, 2014). This finding is similar to Book et al. (2016), which found that Psychopathy and Sadism are the most correlated personality traits, followed by Psychopathy and Machiavellianism, Machiavellianism and Sadism, Psychopathy and Narcissism, Machiavellianism and Narcissism, and then Narcissism and Sadism. Therefore, a Factor Analysis (Table 13) was run to create a variable called the Dark Tetrad of personality (D4).

Table 13 – Factor Analysis – Experiment

Bartlett's sphericity test				
Chi-square	113.23		p-value	0.000
Kaiser-Meyer-Olkin (KMO)	0.718			
Factor Analysis for Principal component factors				
Factor	Eigenvalue	Difference	Proportion	Cumulative
Factor1	2.36275	1.63089	0.5907	0.5907
Factor2	0.73186	0.12697	0.183	0.7737
Factor3	0.6049	0.30441	0.1512	0.9249
Factor4	0.30049	.	0.0751	1
Number of observations	101		Retained factors	1

Source: Author.

As expected, a unique variable was generated, in which the percentage of shared variance for all variables to create one factor is equal to 59.07%. Consequently, this variable shares all characteristics of each dark personality trait, which are callousness, impulsivity, manipulation, criminality, grandiosity, and enjoyment of cruelty (Paulhus, 2014).

Corporate Reputation is a variable that can change the relationship between the Dark Tetrad and Corporate Fraud. In the study, reputation is manipulated, in that a group of participants received information about a company with a strong reputation (scenario A) and another received information about a company with a weak reputation (scenario B).

Each scenario provided a description of the firm that included the following characteristics: (1) Innovation, (2) People Management, (3) Use of Corporate Assets, (4) Social Responsibility, (5) Quality of Management, (6) Financial Soundness, (7) Long-Term Investment Value, (8) Quality of Products/Services, and (9) Global Competitiveness. These are the same characteristics that Fortune uses for the World's Most Admired Companies. For scenario A, the firm characteristics are described in a positive way and in scenario B they are described in a negative way. These scenarios are based on Goldberg and Hartwick (1990) and Lafferty (2007). Hereafter, to assess manipulation, the participants were asked the following question: "In your opinion, what is the company's reputation?" Participants respond indicating their agreement on an anchored scale (0 = very weak and 10 = very strong). In general, all the participants thought that scenario A has a strong reputation and scenario B has a weak reputation.

The dependent variable (Corporate Fraud) is operationalized in two ways: attitudinal and behavioral. The attitudinal variable demonstrates, in general, how some individual thinks that he/she acts. On the other hand, the behavioral variable shows how some individual acts, and so the development of these two variables is different.

For the attitudinal assessment, the participants were instructed to play the role of CEO and they assessed 5 accounting decision-making scenarios related to disposition to commit fraud that were based on the literature (Johnson et al., 1993). The participants indicate their agreement in an accounting decision-making scenario by stipulating a value; however, if they change the original value, they are committing fraud. Thus, fraud is measured by the value given by the participants. The higher the value, the greater the disposition to commit fraud. In the accounting decision-making scenarios, the minimum value is 0 (zero) and the maximum is 150 (\$ 150,000.00). Hence, if the participants choose zero for all accounting decisions, they are not committing fraud.

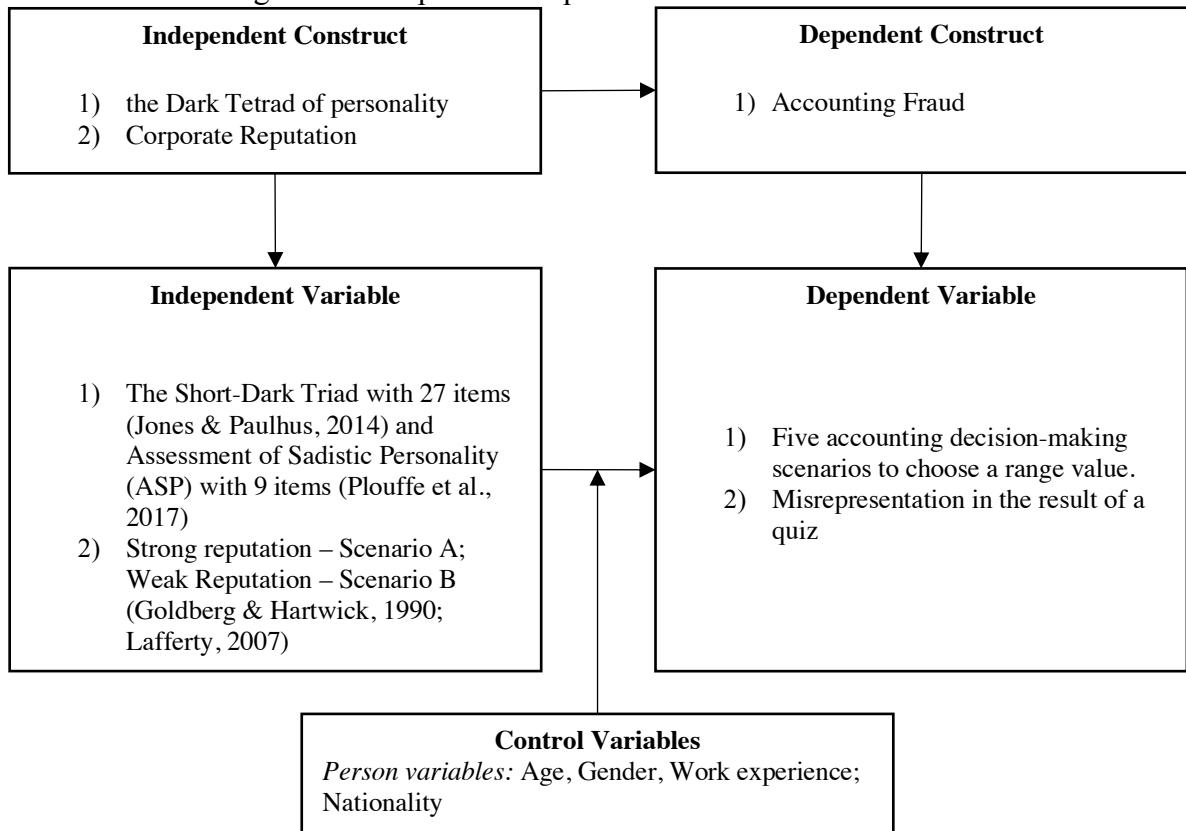
In this part, there is an incentive to commit fraud, which is the chance to win TWO TABLETs in a lottery. It is explained that the probability of winning is related to their compensation in the company. The participants are asked to pretend to be a CEO and their compensation as CEO equals a number to participate in a lottery for TWO TABLETs. The compensation is divided into fixed and variable. The fixed compensation is a number in a lottery. In turn, the variable compensation corresponds to the repeated amount of that number in the lottery, according to the net income of Genes (fictional company).

In the behavioral assessment, a task is applied which consists of five managerial questions, after which the participants were privately informed how many correct answers they had given, and then asked to report the number of correct answers. This variable was based on D'Souza and Lima (2015). Participants indicate their agreement with a question by indicating True or False. The difference between the real correct answer and reported correct answer is the disposition to commit fraud. In the study, it is called misrepresentation of the amount of the correct answers. As in the construction of the attitudinal variable, for the behavioral variable, there is an incentive to commit fraud, which is the chance to win two tablets in a lottery. It is explained that the probability of winning is related to the number of correct answers reported.

Therefore, both variables, attitudinal and behavioral, have a reward incentive for fraud, which is the lottery, and so the participants who meet the criteria presented in the experiment could increase their probability in the lottery.

The experiment involves a 2x2 between-subjects experiment design. The between-subjects manipulations are (1) the Dark Tetrad of personality and (2) company reputation (Strong reputation/Weak reputation). Figure 10 shows the research design in Libby Boxes.

Figure 10 – Experimental predictive validation framework



Source: Author.

Considering that age (AGE), gender (GEN), work experience (EXP), and nationality (NAT) potentially influence the decision-making behavior, they are control variables (Person variables).

Data collection was conducted through a questionnaire divided into four parts. Initially, the Term of Consent was presented, followed by: Part I - 36 questions that compose the personality measuring instrument (Dark Tetrad); Part II - 5 assertions for decision-making practices related to fraud; Part III - 5 managerial questions to check the CEO's willingness to commit business earnings fraud; and Part IV - survey demographics. This questionnaire was analyzed by the Institutional Review Board of the University of Texas at El Paso and the approval is in Annex C and the proposal is in Annex D.

3.2.3. Hypothesis tests

To verify the research hypothesis, the following statistical techniques are applied: descriptive, correlation, Ordinary Least Squares regression, and Poisson regression. The descriptive technique provided an opportunity for the calculation of averages, frequencies, and

standard deviations. In addition, differences between Americans and Brazilians are verified. The correlation and multiple linear regressions allow the relationship between the Dark Tetrad of personality and Corporate Reputation and willingness to commit fraud to be verified, controlling by person variables (age, gender, work experience, and nationality). Equation 20 represents the regression model for accounting fraud (FRAUD).

$$FRAUD_i = \beta_0 + \beta_1 D4_i + \beta_2 REP_i + \beta_3 D4_i \times REP_i + \Sigma \beta_n (Control)_i + \varepsilon_i \quad (20)$$

Where: FRAUD_i = Assessment of fraudulent decision-making; D4_i = Each dark personality trait and the Dark Tetrad of personality factor measured by the Short-Dark Triad and ASP; REP_i = Manipulation, which represents strong and weak corporate reputation; Control_i = age, gender, work experience, and nationality; ε_i = regression error.

Due to the variable constructions, a Poisson regression was applied to misrepresentation (behavioral fraud), since misrepresentation is count data. Equation 21 represents the regression model for misrepresentation (MISREP).

$$\ln(MISREP_i) = \beta_0 + \beta_1 D4_i + \beta_2 REP_i + \beta_3 D4_i \times REP_i + \Sigma \beta_n (Control)_i + \varepsilon_i \quad (21)$$

Where: MISREP_i = Misreporting the amount of correct answers; D4_i = Each dark personality and the Dark Tetrad of personality factor measured by the Short-Dark Triad and ASP; REP_i = Manipulation, which represents strong and weak corporate reputation; Control_i = age, gender, work experience, and nationality; ε_i = regression error.

The next section refers to the results for earnings management and fraud, which includes the archival and experimental methods.

4. RESULTS

As this dissertation uses two methods, archival and experimental, the results are divided into three parts, one for earnings management, one for fraud, and another for the discussion.

4.1. Archival analysis

This section is subdivided into four parts: (i) profile; (ii) descriptive analysis; (iii) Pearson's correlation; and (iv) regression analysis.

To identify the companies' profile regarding the Dark Tetrad of personality, I conducted a Correspondence Analysis. I also performed a Correspondence Analysis to verify associations between dependent and independent variables and industry.

4.1.1. Profile

To identify which variables are associated with the Dark Tetrad of personality (D4), I ran a Chi-square test for all the associations described in Table 14.

Table 14 – Chi-square test for the Dark Tetrad of personality

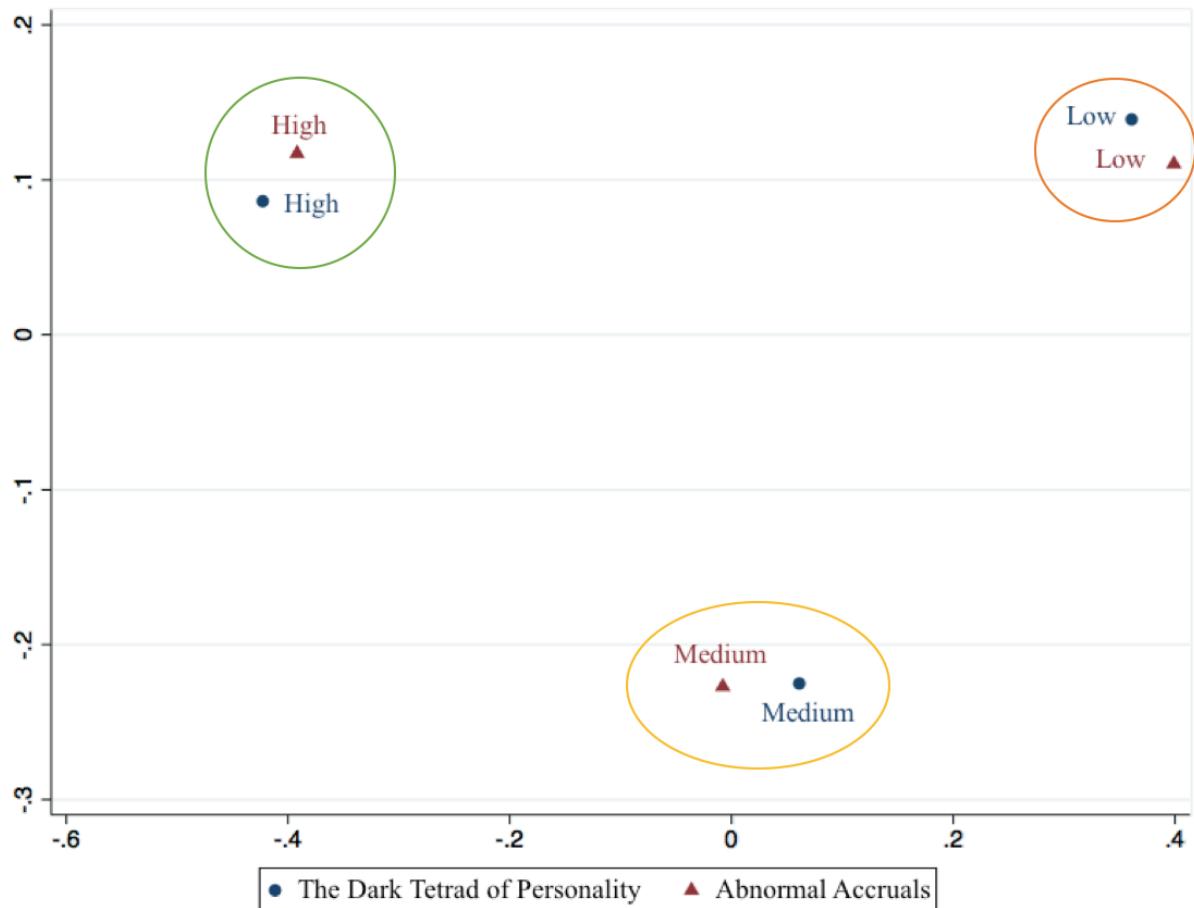
The Dark Tetrad of personality	D4	Chi-Square	Significance
Abnormal Accruals	AB	30.508	0.000
Real Earnings Management	REM	8.278	0.082
Classification Shifting	SHIF	18.342	0.001
Corporate Reputation	REP	17.380	0.002
CEO's Age	AGE	31.042	0.000
Firm Size	SIZE	32.049	0.000
Return on Assets	ROA	8.642	0.071
Market-to-Book	MTB	20.508	0.000
Sales Growth	GROW	5.507	0.239
Leverage	LEV	7.190	0.126

Source: Author.

Note: All variables were divided into three parts based on percentiles.

As can be seen in Table 14, only Sales Growth and Leverage do not have any association with the Dark Tetrad of Personality. Thus, a Correspondence Analysis could not be run these variables. The first association is between the Dark Tetrad of personality and Abnormal Accruals (Figure 11).

Figure 11 – Association between the Dark Tetrad of personality and Abnormal Accruals



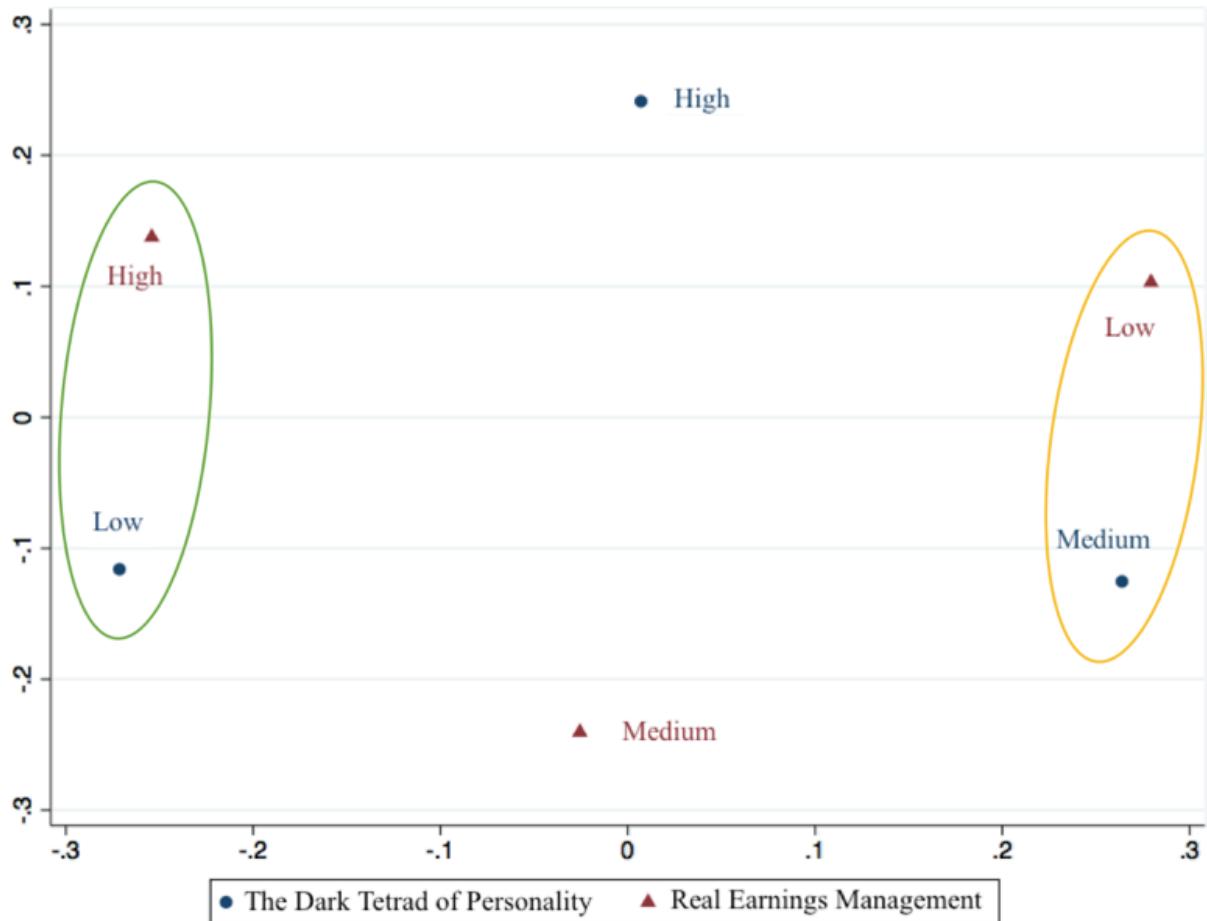
Source: Author.

We can note that each category of the two variables is positively associated. Considering only this result, hypothesis H₁ is not rejected, because CEO's with strong dark personalities engage more in earnings management via accruals.

Olsen et al. (2014) and Shafer and Wang (2011) say that CEO's with dark personalities are more prone to using accrual-based manipulations. In addition, the Correspondence Analysis shows that the distribution of the Dark Tetrad of personality traits follows the distribution of Abnormal Accruals, hence it is possible to infer that the higher the dark personality trait, the higher the earnings management by accruals.

The second association is between the Dark Tetrad of personality and Real Earnings Management (Figure 12).

Figure 12 – Association between the Dark Tetrad of personality and Real Earnings Management



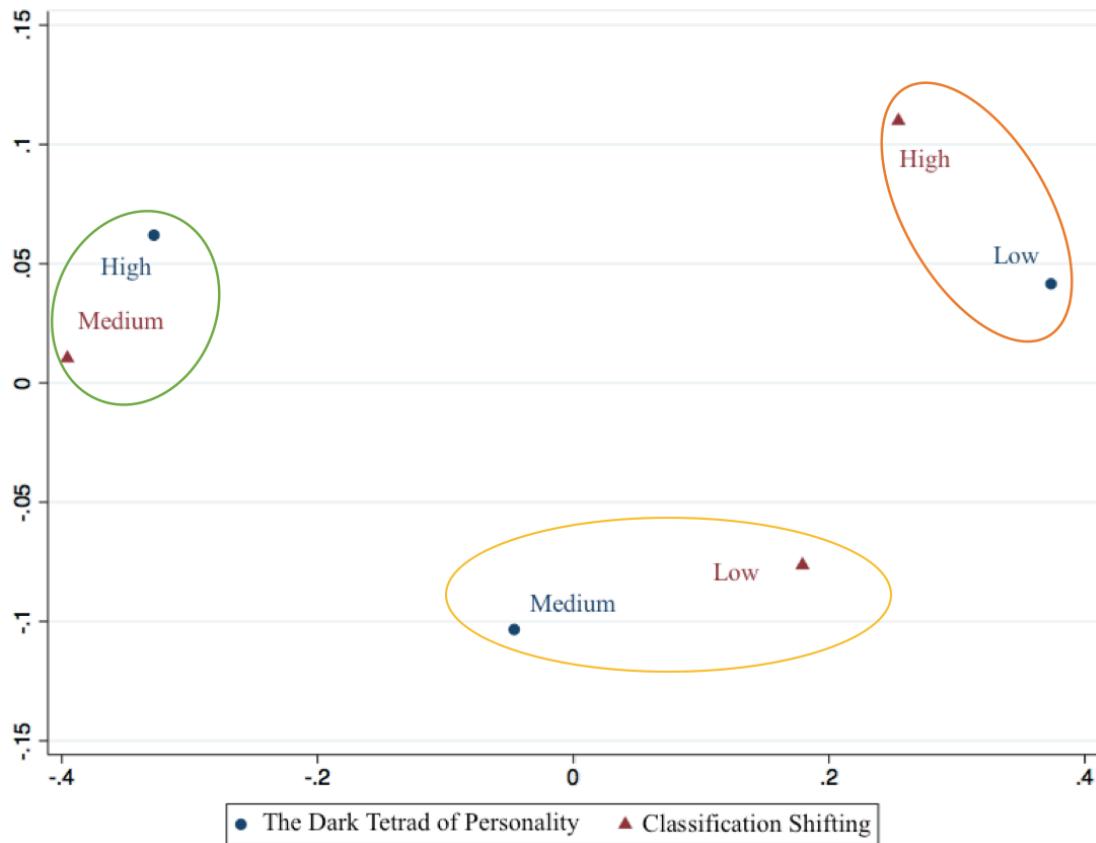
Source: Author.

Unlike the result in Figure 11, when the Dark Tetrad of personality and Real Earnings Management are compared, we note that the categories of each variable diverge. For example, a low dark personality is associated with high real earnings management. This result rejects hypothesis H₁, as it demonstrates a negative relationship with it.

As Zang (2012) argues, real earnings management and accruals quality are substitutes, and maybe the difference between the results in Figure 11 and 12 is due to that. If there is more manipulation by accruals, there would be less real earnings management.

The third association is between the Dark Tetrad of personality and another type of earnings management: Classification Shifting (Figure 13). Unlike the others, this type of earnings management does not change net income, only investor perception.

Figure 13 – Association between the Dark Tetrad of personality and Classification Shifting



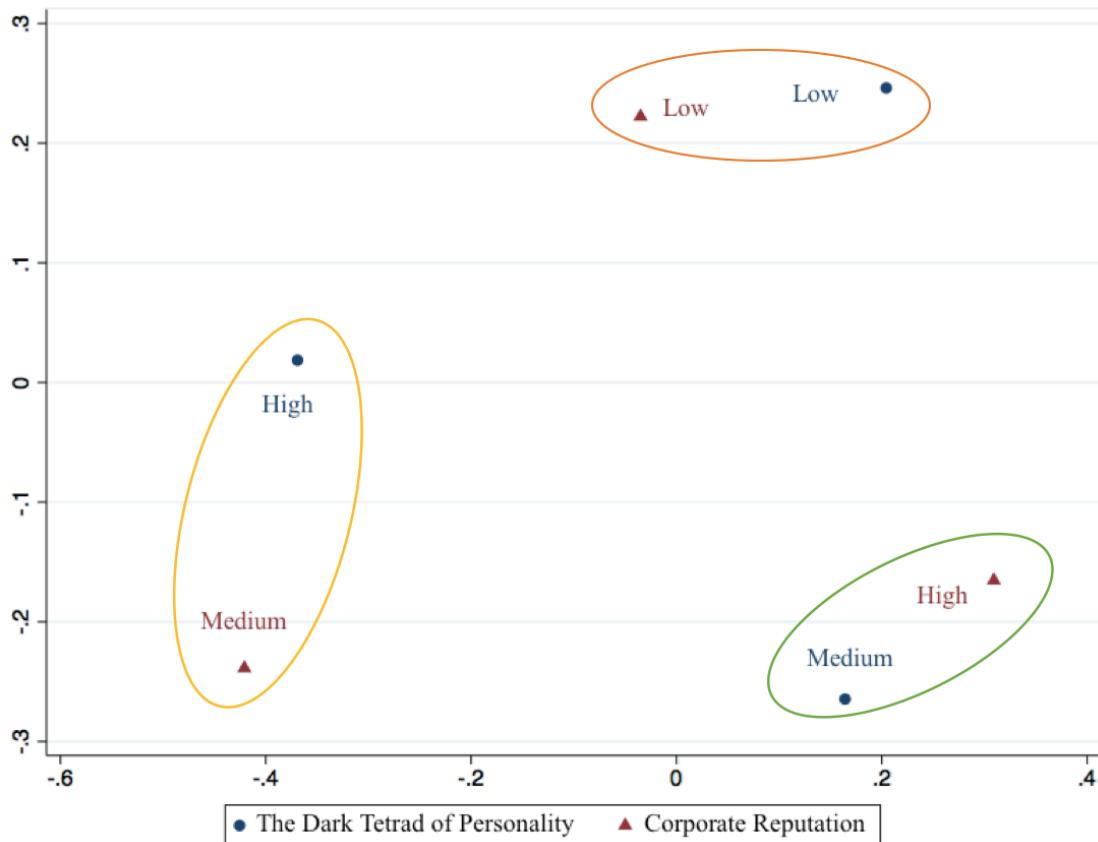
Source: Author.

According to Figure 13, CEOs with high dark personalities manage earnings in a moderate way; however, CEOs with low dark personalities manage earnings more. This is a contradictory result and totally diverges from the results regarding earnings management by accruals and operational activities.

A possible explanation involves the unique feature of earnings management by classification shifting. Since this type of earnings management does not change net income or cash flows (McVay, 2006), CEOs with strong dark personalities maybe have no interest in carrying out this manipulation because it does not affect their remuneration. Therefore, when only the relationship between dark personality and classification shifting is considered, hypothesis H₁ is rejected.

The fourth association is between the Dark Tetrad of personality and Corporate Reputation (Figure 14).

Figure 14 – Association between the Dark Tetrad of personality and Corporate Reputation



Source: Author.

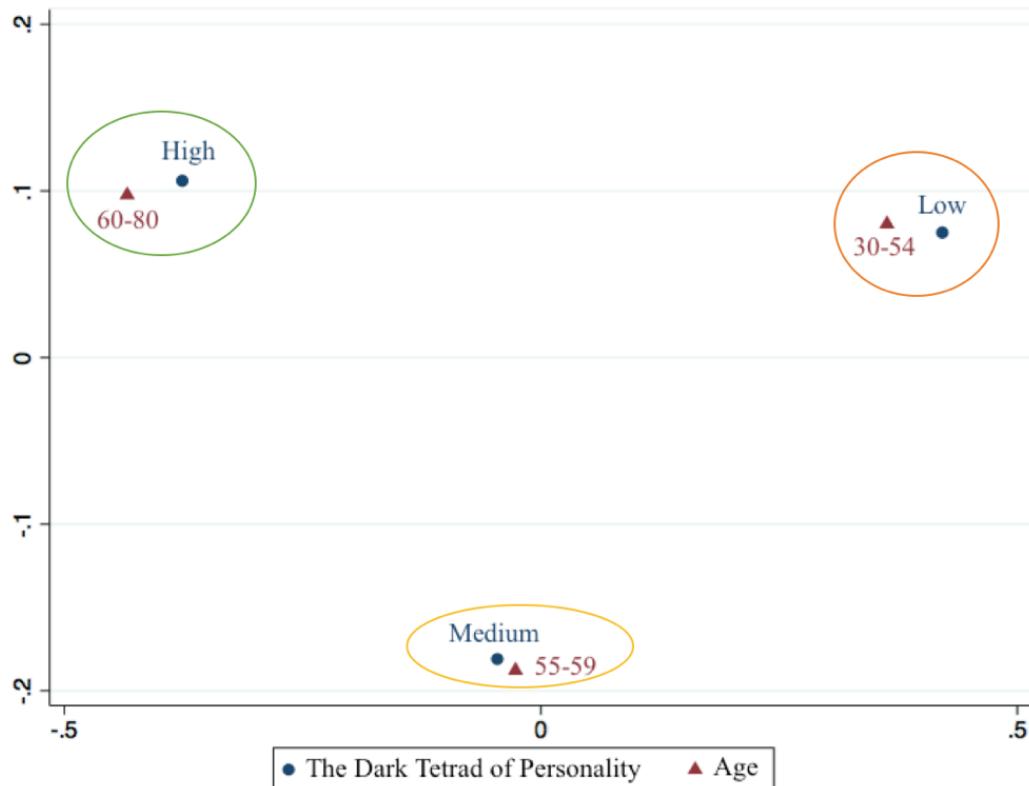
Note: Low reputation is composed of firms with an overall score of 0.0; Medium reputation is composed of firms with an overall score between 2.8 and 6.18; High reputation is composed of firms with an overall score between 6.19 and 8.8.

According to Figure 14, the Dark Tetrad of personality is disparate in relation to the categories of Corporate Reputation. The only similar values are for the low levels, and thus CEOs with low dark personalities tend to work in companies with low reputations. Hence, these CEOs do not enjoy the benefits of reputation, like more attention and visibility in the market, high remuneration, and competitiveness (Roberts & Dowling, 2002), which are especially related with narcissism.

In relation to the moderate level of the Dark Tetrad of personality, Spain, Harms, and LeBreton (2014) and D'Souza and Jones (2017) recognize the importance of this level, as the literature on dark personality uses the extreme levels and the effect of the moderate level is an incognita. Figure 14 shows CEOs with moderate levels of dark personality tend to work in companies with strong reputations, and so we can confirm the importance of verifying this level.

The fifth association is between the Dark Tetrad of personality and the CEO's age. This association seeks to analyze how personality behaves over time (Figure 15).

Figure 15 – Association between the Dark Tetrad of personality and CEO's Age

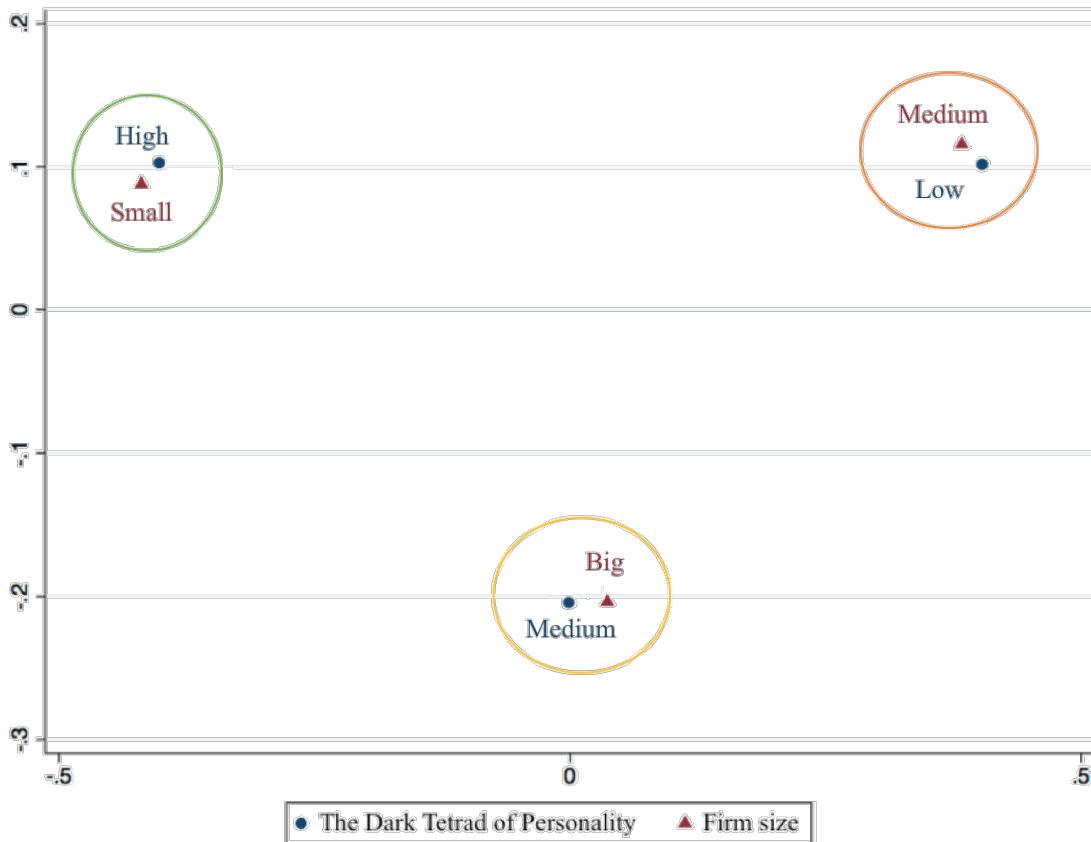


Source: Author.

CEO's age was divided in 30-54, 55-59, and 60-80, and when compared with dark personalities, we noted that the personality follows the age. Thus, the younger CEOs have low dark personality traits and the older CEOs have high dark personality traits. This result is different from Barlett and Barlett (2015), because for these authors, older CEOs have low dark personalities. Perhaps the divergence is due to the method applied and the sample: they used Mechanical Turk and this study uses CEOs from the most reputable companies in the world.

The sixth association is between the Dark Tetrad of personality and Firm Size. This association explores how personality is distributed within company size by total assets (Figure 16).

Figure 16 – Association between the Dark Tetrad of personality and Firm Size



Source: Author.

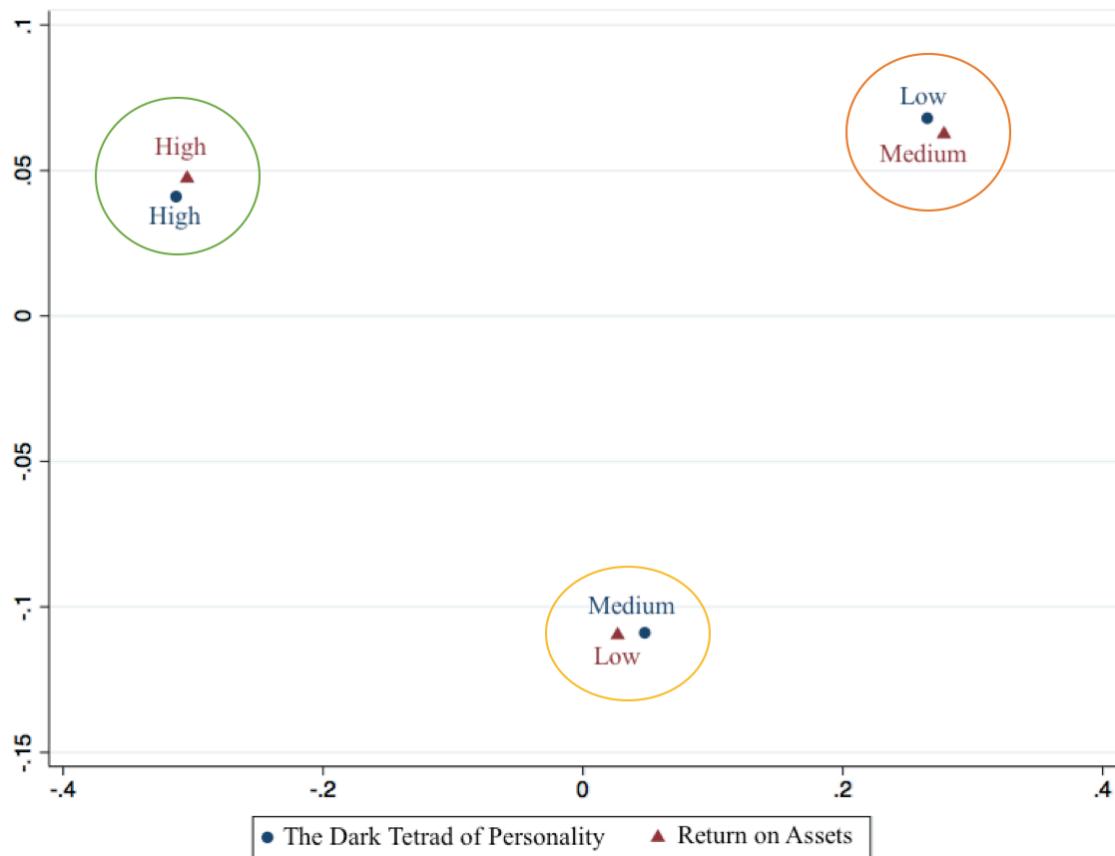
Note: Small firms have total assets of between \$197.4 and \$5,418.2; Medium firms have total assets of between \$5,427.3 and \$18,330.2; Big firms have total assets of between \$18,378.0 and \$403,821.0.

The Correspondence Analysis in Figure 16 shows that CEOs with high dark personalities work in small companies, maybe because some companies have more intangible assets than others, and so CEOs have more expectations with regards to these firms. In some cases, these companies offer high remuneration and visibility, which attracts narcissists. As Wallace and Baumeister (2002) state, narcissists seek jobs that provide opportunities for recognition and glory.

As mentioned by Spain et al. (2014) and D'Souza and Jones (2017), regarding the relationship between dark personality and firm size, the moderate level of dark personality presents an unusual result, because these CEOs work in big companies, even though CEOs with high dark personalities are supposed to work in them.

The seventh association is between the Dark Tetrad of personality and Return on Assets. This association explores how personality is distributed within company operational performance (Figure 17).

Figure 17 – Association between the Dark Tetrad of personality and Return on Assets



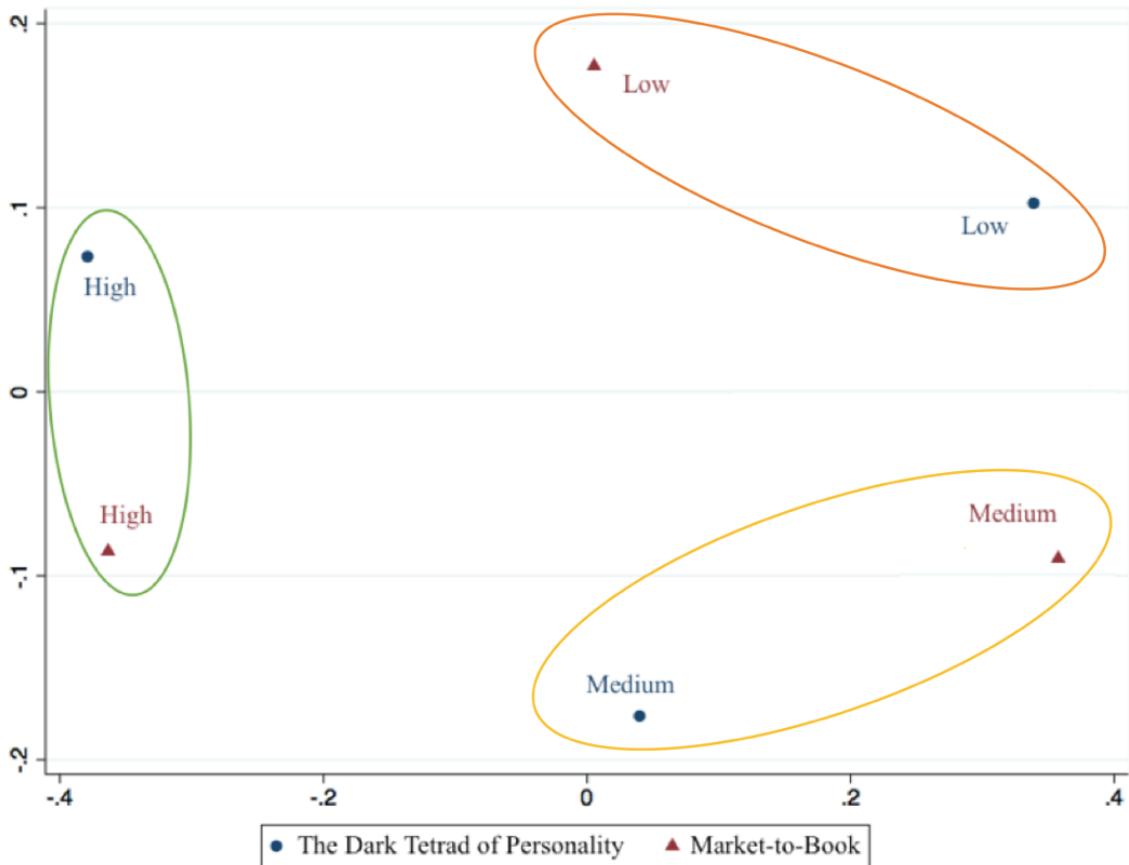
Source: Author.

Figure 17 shows that CEOs with high dark personalities are those who work in the most profitable companies. Boddy (2011) says that CEOs with high dark personalities are drawn to business performance because it provides visibility, power, and prestige.

However, Boddy (2005) states that when CEOs with high dark personalities have a different interest than the investor, business performance is severely affected, although the findings show an alignment between CEO and investor interests, because high performance is associated with high dark personality.

The eighth association is between the Dark Tetrad of personality and Market-to-Book. This association explores how personality is distributed within company market performance (Figure 18).

Figure 18 – Association between the Dark Tetrad of personality and Market-to-Book



Source: Author.

While Return on Assets is a proxy for operational performance, Market-to-book is a proxy for market performance. The difference is because with the former the company could predict the value since it is responsible for the performance. However, market performance is unpredictable because it is the market that assesses the company performance. Nevertheless, both attract the attention of CEOs with dark personalities since they are related to remuneration, prestige, and power (Boddy, 2011).

As the findings in Figure 16 show, CEOs with high dark personalities are those who work in highly profitable companies, considering market performance. In addition, we can note that there is a positive relationship between dark personality and market performance because similar categories are associated.

Therefore, after all these Correspondence Analyses, it is possible to describe a profile of firms with CEOs with dark personalities. These companies are those which have high abnormal accruals, high real earnings management, low classification shifting, medium reputations, older CEOs, are smaller in size, and have a high business performance, both operational and market.

Another important analysis is how the variables of interest in the study (Abnormal Accruals, Real Earnings Management, Classification Shifting, the Dark Tetrad of personality, and Corporate Reputation) are related to industry. Because each industry has its own peculiarities and so specific types of earnings management, either personality or level of reputation could be more prominent.

To identify which variables (Abnormal Accruals, Real Earnings Management, Classification Shifting, the Dark Tetrad of personality, and Corporate Reputation) are associated with Industry according to the Global Industry Classification Standard, I ran a Chi-square test for all associations, as described in Table 15.

Table 15 – Chi-square test for Industry

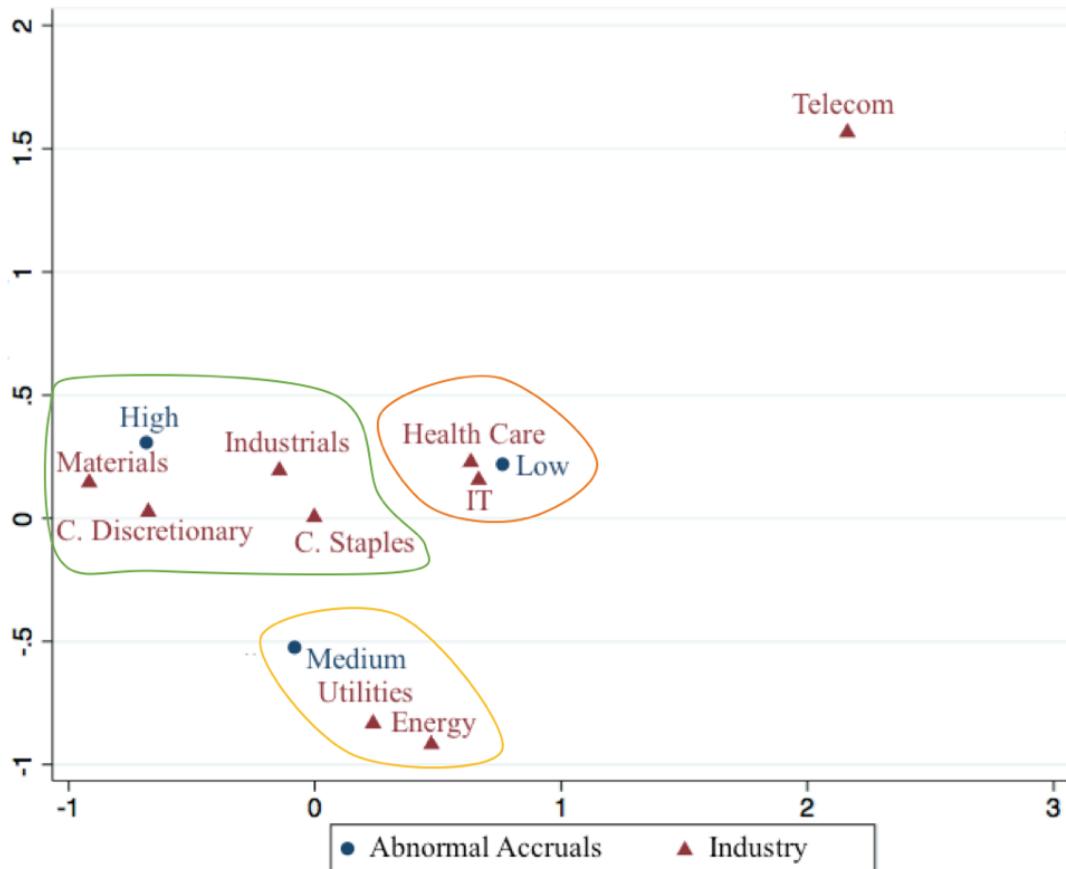
Industry	Chi-square	Significance
Abnormal Accruals	1500.000	0.000
Real Earnings Management	1100.000	0.000
Classification Shifting	523.059	0.000
The Dark Tetrad of personality	793.604	0.000
Corporate Reputation	805.561	0.000

Source: Author.

Note: All variables were divided into three parts based on percentiles. Industry is divided into nine categories according to the Global Industry Classification Standard: (1) Energy; (2) Materials; (3) Industrials; (4) C. Discretionary – Consumer Discretionary; (5) C. Staples – Consumer Staples; (6) Health Care; (7) IT – Information Technology; (8) Telecom – Telecommunication Services; and (9) Utilities.

According to Table 15, all variables (Abnormal Accruals, Real Earnings Management, Classification Shifting, the Dark Tetrad of personality, and Corporate Reputation) are associated with industry. Thus, a Correspondence Analysis can be run for these variables. The first association is between Industry and Abnormal Accruals, which is shown in Figure 19.

Figure 19 – Association between Industry and Abnormal Accruals



Source: Author.

Note: Industry is divided into nine categories according to the Global Industry Classification Standard: (1) Energy; (2) Materials; (3) Industrials; (4) C. Discretionary – Consumer Discretionary; (5) C. Staples – Consumer Staples; (6) Health Care; (7) IT – Information Technology; (8) Telecom – Telecommunication Services; and (9) Utilities.

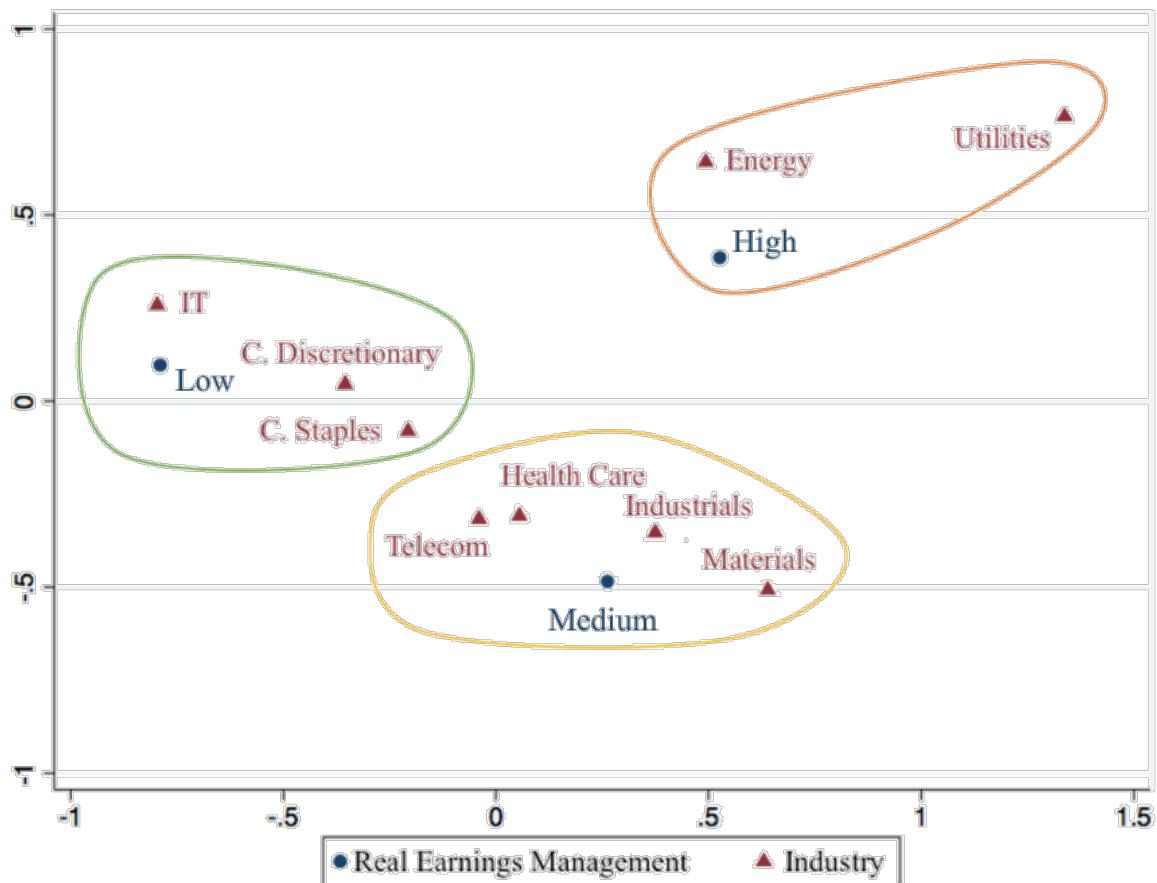
Only the Telecommunication Services industry does not have a noticeable association with Abnormal Accruals, which is perhaps due to this industry being the one that has the fewest companies in the sample.

Firms that manage earnings more via accruals belong to industries like Industrials, Materials, Consumer Discretionary, and Consumer Staples. These industries operate in all three sectors, therefore we can infer that abnormal accruals are common and present in practically all industries. In turn, the industries that have the lowest level of earnings management by abnormal accruals are Information Technology and Health Care.

Lastly, the industries that are highly regulated show a moderate level of abnormal accruals. Based on Healy and Wahlen (1999), these industries were expected to be those that have the most abnormal accruals, because they say that in regulated industries, managers have more incentives to manage earnings.

The second association is between Industry and Real Earnings Management, which are shown in Figure 20.

Figure 20 – Association between Industry and Real Earnings Management



Source: Author.

Note: Industry is divided into nine categories according to the Global Industry Classification Standard: (1) Energy; (2) Materials; (3) Industrials; (4) C. Discretionary – Consumer Discretionary; (5) C. Staples – Consumer Staples; (6) Health Care; (7) IT – Information Technology; (8) Telecom – Telecommunication Services; and (9) Utilities.

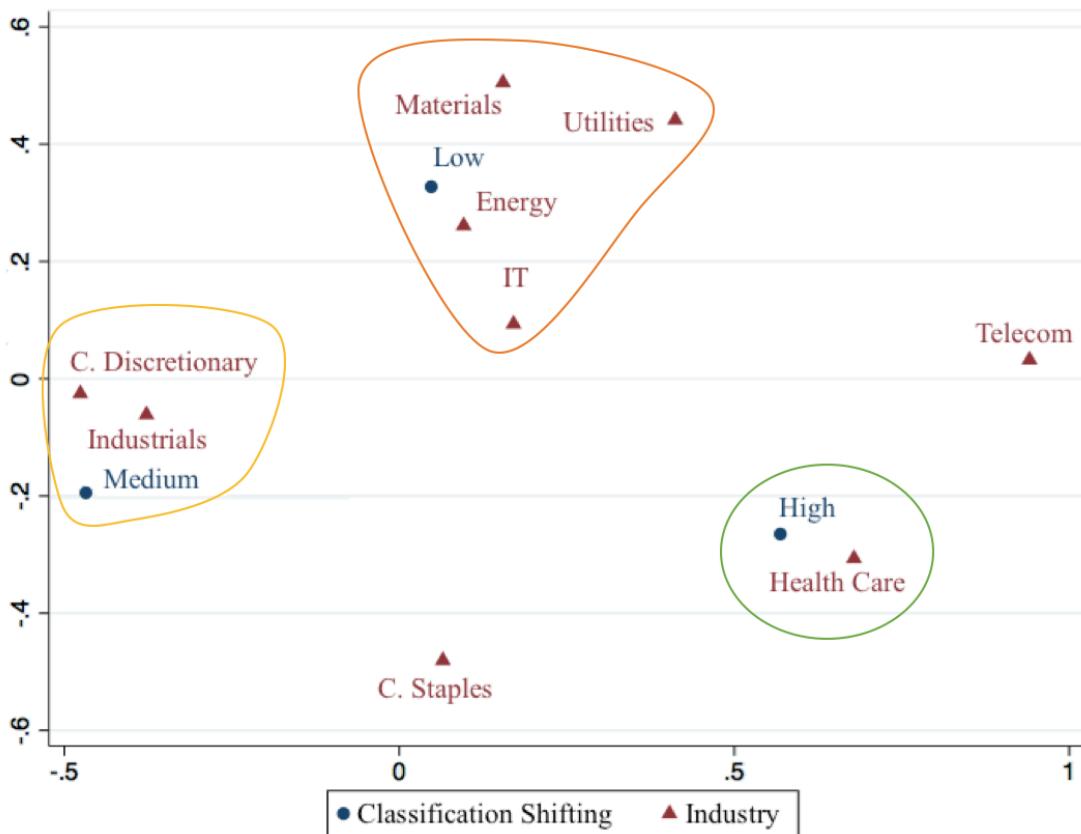
In relation to Real Earnings Management, CEOs who manage earnings via operational activities less are in Information Technology, Consumer Discretionary, and Consumer Staples. Firms in Information Technology were expected to manage real earnings more because this industry is highly innovative and has high research and development expenditures.

On the other hand, the highly regulated industries, Energy and Utilities, have high earnings management; therefore the finding is similar to Healy and Wahlen (1999), since these authors said that these industries tend to manage earnings more.

As for the moderate level of real earnings management, there is a high concentration of industries. These are Health Care, Telecommunication Services, Industrials, and Materials.

The third association is between Industry and Classification Shifting, which are shown in Figure 21.

Figure 21 – Association between Industry and Classification Shifting



Source: Author.

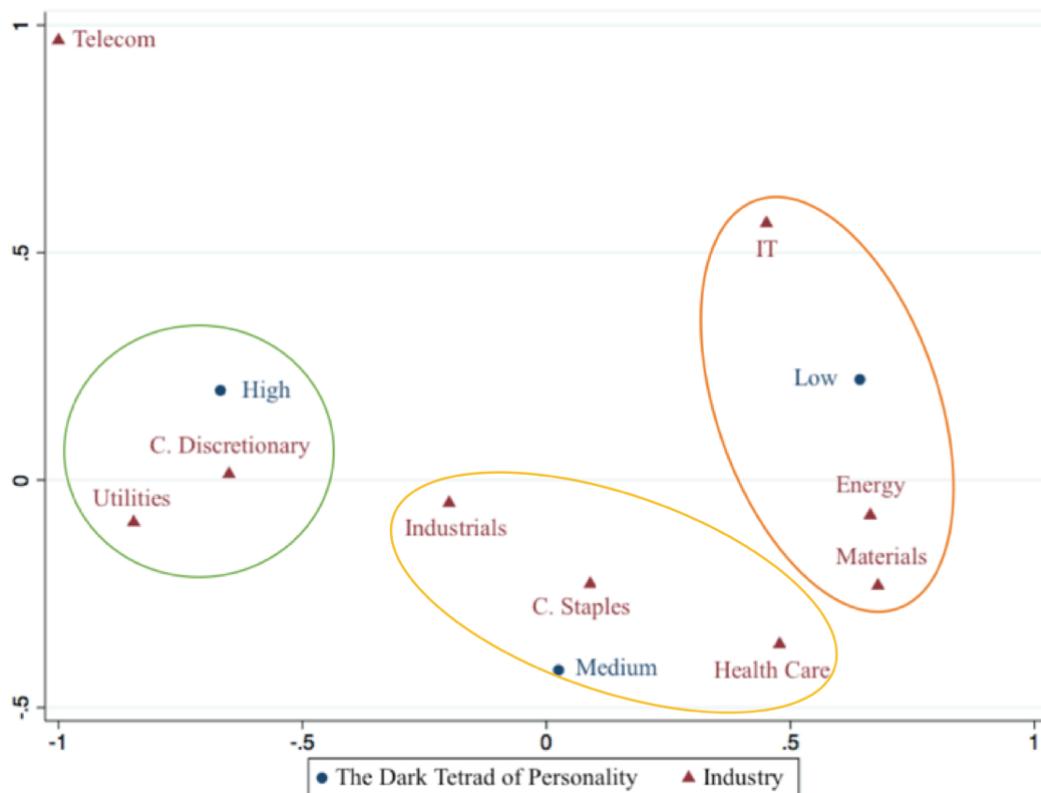
Note: Industry is divided into nine categories according to the Global Industry Classification Standard: (1) Energy; (2) Materials; (3) Industrials; (4) C. Discretionary – Consumer Discretionary; (5) C. Staples – Consumer Staples; (6) Health Care; (7) IT – Information Technology; (8) Telecom – Telecommunication Services; and (9) Utilities.

Only the Telecommunication Services and Consumer Staples industries do not have a noticeable association with Classification Shifting.

The firms that manage earnings by classification shifting more, and so do not change net income or cash flows, belong to Health Care. In turn, the industries that have the lowest levels of earnings management by classification shifting are Information Technology, Materials, Energy, and Utilities. Again, highly regulated industries diverge from Healy and Wahlen (1999). Therefore, American firms in highly regulated industries have low or moderate levels of earnings management, considering the three types (abnormal accruals, real earnings management, and classification shifting). In relation to the moderate level of classification shifting, firms that engage in this type of earnings management are in the Consumer Discretionary and Industrials industries.

The fourth association is between Industry and the Dark Tetrad of personality, which are shown in Figure 22.

Figure 22 – Association between Industry and the Dark Tetrad of personality



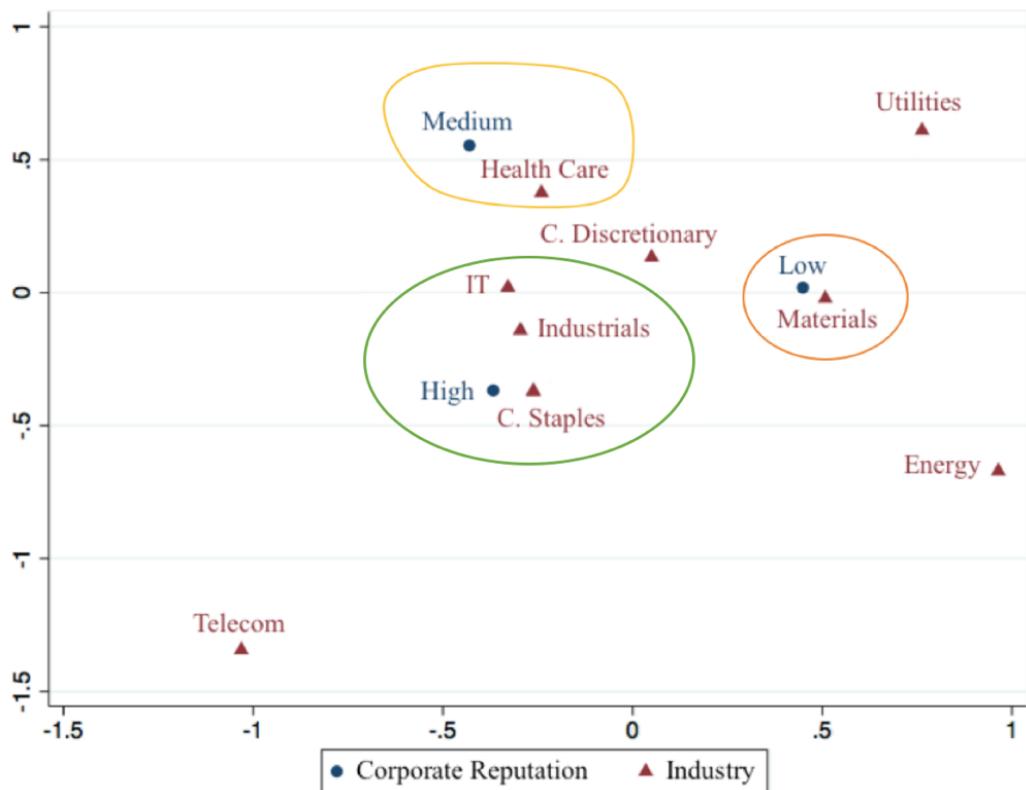
Source: Author.

Note: Industry is divided into nine categories according to the Global Industry Classification Standard: (1) Energy; (2) Materials; (3) Industrials; (4) C. Discretionary – Consumer Discretionary; (5) C. Staples – Consumer Staples; (6) Health Care; (7) IT – Information Technology; (8) Telecom – Telecommunication Services; and (9) Utilities.

CEOs with high dark personalities work in the Consumer Discretionary and Utilities industries. On the other hand, in industries like Energy, Materials, and Information Technology, there are CEOs with low dark personalities. In relation to CEOs with moderate levels of dark personalities, they work in Industrials, Consumer Staples, and Health Care industries. CEOs with high dark personalities were expected to work in the Information Technology industry, because this industry has more visibility in the market, is riskier, and profitable; however, the findings show the opposite. A possible explanation is based on reputation: all companies in the sample are or were listed in the World's Most Admired Companies ranking, and so all the companies have high visibility and prestige, thus attracting the CEOs with high dark personalities.

The fifth association is between Industry and Corporate Reputation, which is shown in Figure 23.

Figure 23 – Association between Industry and Corporate Reputation



Source: Author.

Note: Industry is divided into nine categories according to the Global Industry Classification Standard: (1) Energy; (2) Materials; (3) Industrials; (4) C. Discretionary – Consumer Discretionary; (5) C. Staples – Consumer Staples; (6) Health Care; (7) IT – Information Technology; (8) Telecom – Telecommunication Services; and (9) Utilities.

Highly regulated industries, including Energy, Utilities, and Telecommunication Services, do not have a noticeable association with any corporate reputation category. Firms with low reputations are in the Materials industry and those with moderate level reputations are in Health Care.

In relation to companies with high reputations, these are in the Information Technology, Consumer Staples, and Industrials industries. This finding resembles that of Melo and Garrido-Morgado (2012).

The next section presents the descriptive statistics of the variables used in all the regression models to reject the hypotheses or not.

4.1.2. Descriptive statistics – Archival

Table 16 provides descriptive statistics for the main variables for the sample, which is composed of American companies listed in the World's Most Admired Companies ranking between 2010 and 2016.

Table 16 – Descriptive statistics – Archival

Panel A					
Variable	Observations	Min.	Max.	Mean	Std. Dev.
AB	2645	0	0.001	0	0
DA	2645	-0.154	0.15	0.002	0.04
S_MANIP	2645	-0.22	0.254	0.001	0.069
R_DIXEP	2645	-0.354	0.61	0.012	0.186
OVERP	2645	-0.634	0.49	-0.01	0.192
REM	2645	-2.268	2.939	0.02	0.802
UE_CE	2645	-0.842	0.399	-0.001	0.054
SI	2645	0	0.289	0.015	0.031
D4	2645	-12.734	5.88	0.022	0.938
NARC	2645	0.56	0.719	0.658	0.01
PSYC	2645	0.437	0.597	0.546	0.008
MACH	2645	0.388	0.584	0.527	0.01
SAD	2645	0.441	0.627	0.573	0.009
REP	2645	0	8.8	3.412	3.243
SIZE	2645	5.421	12.681	9.224	1.343
ROA	2645	-0.287	0.344	0.104	0.068
MTB	2645	-0.007	0.011	0	0.001
GROW	2645	-0.514	0.815	0.054	0.147
LEV	2645	0	0.967	0.294	0.182
AGE	2645	30	82	56	6

Panel B					
Dummy Variables					
Variable	Category	Observation	Frequency (%)	Mean	Std. Dev.
BIG4	1	2606	98.53	0.985	0.121
	0	39	1.47		
LOSS	1	257	9.72	0.097	0.296
	0	2388	90.28		
GEN	1	2529	95.61	0.956	0.205
	0	116	4.49		
TURN	1	527	19.92	0.199	0.399
	0	2118	80.08		

Source: Author.

Note: AB – Abnormal Accruals; DA – Discretionary Accruals; S_MANIP – Sales Manipulation; R_DIXEP – Reduction of Discretionary Expenses; OVERP – Overproduction; REM – Real Earnings Management; UE_CE – Unexpected Change in Core Earnings; SI – Income-Decreasing Special Items as a Percentage of Sales; D4 – The Dark Tetrad of personality; NARC – Narcissism; PSYC – Psychopathy; MACH – Machiavellianism; SAD – Sadism; REP – Corporate Reputation; SIZE – Firm Size; ROA – Return on Assets; MTB – Market-to-Book; GROW – Sales Growth; LEV – Leverage; AGE – CEO's Age; LOSS – Firm Loss; BIG4 – Audit Quality; GEN – Gender; TURN – CEO turnover.

Due to manipulation by accruals containing noise in its measurement, two proxies are calculated, which are abnormal accruals (AB) and discretionary accruals (DA). Abnormal accruals (AB) have small values, in which the mean abnormal accruals are close to zero (0.0001164), but positive, although Francis and Wang (2008) found a negative mean. In turn, discretionary accruals (DA) also have values close to zero (0.002) and show similarities with Dechow et al. (1995) and Cohen et al. (2008).

Real earnings management has four proxies, which are sales manipulation (S_MANIP), reduction of discretionary expenditure (R_DIXEP), overproduction (OVERP), and the sum of these three, which is called real earnings management (REM). Sales manipulation (S_MANIP), reduction of discretionary expenditure (R_DIXEP), and real earnings management (REM) all have a mean close to zero and have a positive value, however overproduction (OVERP) has a negative value and is also close to zero. Only sales manipulation (S_MANIP) diverges from Cohen et al. (2008), because the mean found by them has a negative value.

Earning management by classification shifting is verified by the combination of Unexpected Change in Core Earnings (UE_CE) and Income-Decreasing Special Items (SI). Fan et al. (2010) and McVay (2006) found a positive value for the mean Unexpected Change in Core Earnings (UE_CE) and mean income-decreasing special items as a percentage of sales, of 2.59% and 2.7%, respectively. However, I found a negative value for the mean UE_CE and mean SI of 1.5%. Both Fan et al. (2010) and McVay (2006) investigated a period before the financial crisis, and maybe the differences that I found are due to the period covered, since I used a post-financial crisis period: 2010-2016.

The Dark Tetrad of personality (D4) has a mean close to zero and a high deviation, due to the Factor Analysis. In relation to each dark personality, narcissism (NARC) is the personality presented most in CEOs, considering the mean, followed by sadism (SAD), psychopathy (PSYC), and then Machiavellianism (MACH). As the sample is made up of the most reputable companies in the world, narcissism is expected to be the personality most present in CEOs because they seek jobs that provide opportunities for recognition and glory (Wallace & Baumeister, 2002).

The mean corporate reputation (REP) is 3.4, which is a low value, and so the sample, in general, has a low reputation. However, this is because the study considers zero when the company is no longer listed in the World's Most Admired Companies ranking. If I consider only the overall score, the mean corporate reputation is 6.38, which represents a medium-high reputation. This finding is similar to Moura-Leite and Padgett (2014), which found a mean reputation of 6.04 between 2004 and 2008.

Firm size (SIZE) has a mean of 9.22, which represents \$24,133.01 million in total assets, the minimum value being \$449.24 million and the maximum being \$321,686.0 million. So, the sample is made up of big firms, and is bigger than those of Cohen et al. (2008) and Roychowdhury (2006), and would therefore involve fewer incentives to manage earnings (Francis & Wang, 2008).

The mean return on assets (ROA) is 0.104, so the sample is profitable, and therefore involves fewer incentives to manage earnings (Francis & Wang, 2008). This finding is higher than that of Francis, LaFond, Olsson, and Schipper (2005), in which the mean ROA was 0.003, and higher than that of Behn et al. (2013), in which the mean ROA was 0.082. Although the sample mean is profitable, there are firms that are not profitable, since the minimum is -0.287.

The mean market-to-book (MTB), a proxy for growth opportunities, is close to zero, which differs from Roychowdhury (2006) and Francis et al. (2005), which found values above 1. So, in relation to MTB, the sample has a low market performance, and it consequently involves fewer incentives to manage earnings, since according to Barth et al. (1999) and Skinner and Sloan (2002), firms with high growth opportunities manage earnings more.

Based on the mean sales growth (GROW), the firms in the sample are considered to be growing (mean sales growth is 0.054), and so they have fewer incentives to manage earnings (Dechow et al., 2010). Francis et al. (2005), Behn et al. (2013), and Cohen et al. (2008) also found that their firms were growing; however, in their sample the value is higher than 0.1.

In general, the sample has low indebtedness (mean leverage (LEV) is 0.294), and thus it has a lower possibility of debt covenant violations, which do not create an incentive to increase reported earnings (Francis and Wang, 2008). Cohen et al. (2008) and Behn et al. (2013) found values of 0.41 and 0.55, respectively, so this sample's indebtedness is much lower than in their findings, but it is comparable with Francis et al. (2005), which found a mean leverage of 0.276.

The mean CEO age (AGE) is 56 years old. This result is similar to Huang, Rose-Green, and Lee (2012), which found that the mean CEO age is 54 years old. If I divide the sample into three parts, the mean CEO age is considered medium. Therefore, the sample manages earnings

in a moderate way, since according to Huang et al. (2012), CEO age is negatively related to earnings management.

Regarding the dummy variables (Panel B), we can note that almost all of the firms are audited by a Big Four company (BIG4), so they have a high audit quality. Therefore, the sample would manage earnings less (Francis & Wang, 2008; Cohen et al., 2008).

According to Francis and Wang (2008), firm losses (LOSS) reflect financial distress and bankruptcy risk. Therefore, firms with (high) losses have incentives to increase earnings. As 9.72% of the firms in the sample have a loss, 90.28% of them have a better performance, and consequently the sample would manage earnings less. Maybe this is due to these firms having a strong reputation, since they are ranked among the World's Most Admired Companies.

According to Wolfers (2006), in American companies there are more male CEOs. This result is possibly aligned with the concept of the glass ceiling, in which there is an invisible barrier to women reaching high positions in companies. Arun, Almahrog, and Aribi (2015) argue that female executives have greater risk aversion and ethical behavior; hence they are less likely to manage earnings. Therefore, the sample, which is predominantly male (GEN), involves more incentives to manage earnings.

Approximately 20% of the CEOs in the sample changed to another firm, however between 1992 and 1996, Goyal and Park (2002) found that 12% of CEOs changed in the United States, and so there is an increase in CEO turnover (TURN) over time. Choi, Kwak, and Choe (2014) argue that when CEOs are departing, they are more likely to engage in earnings management. Based on this, the sample would tend to manage earnings less because there are fewer cases of CEO turnover.

In relation to industry, Table 17 shows the frequency and percentage for each industry considering the Global Industry Classification Standard. In addition, it shows the sub-industry.

Table 17 – Industry frequency

	Industry	Frequency	Percentage
Energy	Energy Equipment & Services; Oil, Gas & Consumable Fuels	183	6.92
Materials	Chemicals; Construction Materials; Containers & Packaging; Metals & Mining; Paper & Forest Products	210	7.94
Industrials	Aerospace & Defense; Building Products; Construction & Engineering; Electrical Equipment; Industrial Conglomerates; Machinery; Trading Companies & Distributors; Commercial Services & Supplies; Professional Services; Air Freight & Logistics; Airlines; Marine; Road & Rail; Transportation Infrastructure	425	16.07
Consumer Discretionary	Auto Components; Automobiles; Household Durables; Leisure Products; Textiles, Apparel & Luxury Goods; Hotels, Restaurants & Leisure; Diversified Consumer Services; Media; Distributors; Internet & Direct Marketing Retail; Multiline Retail; Specialty Retail	610	23.06
Consumer Staples	Food & Staples Retailing; Beverages; Food Products; Tobacco; Household Products; Personal Products	265	10.02
Health Care	Health Care Equipment & Supplies; Health Care Providers & Services; Health Care Technology; Biotechnology; Pharmaceuticals; Life Sciences Tools & Services	325	12.29
Information Technology	Communications Equipment; Technology Hardware, Storage & Peripheral; Electronic Equipment, Instruments & Components; Semiconductors & Semiconductor Equipment	441	16.67
Telecommunication Services	Diversified Telecommunication Services; Wireless Telecommunication Services	21	0.79
Utilities	Electric Utilities; Gas Utilities; Multi-Utilities; Water Utilities; Independent Power and Renewable Electricity Producers	165	6.24
Total		2645	100

Source: Author.

Based on Table 17, the industry with the highest concentration is Consumer Discretionary (23.06%), followed by Information Technology (16.67%) and Industrials (16.07%). On the other hand, the industry with the lowest concentration is Telecommunication Services (0.79%), followed by Utilities (6.24%) and Energy (6.92%).

4.1.3. Pearson's correlations - Archival

Table 18 provides the Pearson's correlations among the dependent, independent and control variables.

Table 18 – Pearson's Correlation – Archival

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	1																							
2	0.02	1																						
3	0.07*	-0.39*	1																					
4	0.02	-0.18*	0.28*	1																				
5	-0.06*	0.25*	-0.53*	-0.88*	1																			
6	0.03†	-0.38*	0.85*	0.50*	-0.49*	1																		
7	-0.06*	0.01	0.20*	0.01	-0.12*	0.10*	1																	
8	-0.07*	-0.08*	-0.13*	0.01	0.03	-0.10*	-0.05°	1																
9	0.11*	0.03†	0.05*	-0.04°	-0.00	0.00	0.00	-0.11	1															
10	0.09*	0.02	0.06*	-0.03	-0.02	0.01	0.00	-0.10*	0.97*	1														
11	0.10*	0.03	0.05*	-0.03†	-0.01	0.01	0.00	-0.11*	0.99*	0.99*	1													
12	0.09*	0.02	0.04°	-0.02	-0.01	0.00	-0.01	-0.13*	0.97*	0.92*	0.96*	1												
13	0.13*	0.05°	0.04°	-0.07*	0.02	-0.01	0.01	-0.09*	0.95*	0.88*	0.92*	0.88 *	1											
14	-0.25*	-0.05°	0.19*	0.07*	-0.10*	0.12*	0.02	-0.10*	0.01	0.04†	0.02	0.01	-0.02	1										
15	-0.60*	0.00	0.03†	-0.16*	0.13*	0.01	0.10 *	0.11*	-0.06*	-0.05*	-0.06*	-0.07 *	-0.04°	0.38 *	1									
16	0.04°	-0.03†	0.70*	0.26*	-0.53*	0.49*	0.37 *	-0.19*	0.06*	0.07*	0.06*	0.05 *	0.05°	0.21 *	-0.08 *	1								
17	-0.02	-0.03	0.13*	0.09*	-0.12*	0.12*	0.04°	-0.02	0.02	0.02	0.02	0.01	0.07 *	0.01	0.16*	1								
18	-0.00	0.03	0.07*	0.06*	-0.05*	0.11*	-0.02	-0.15*	-0.00	0.01	-0.00	-0.02	-0.01	0.11 *	-0.02	0.17*	0.02	1						
19	0.02	0.07*	-0.18*	-0.14*	0.10*	-0.26*	-0.00	0.14*	0.04°	0.04°	0.04°	0.02	0.07*	-0.22 *	0.00	-0.12*	0.05*	-0.08*	1					
20	-0.01	0.06*	0.04°	-0.12*	0.04°	-0.04°	0.02	-0.02	0.13*	0.11*	0.12*	0.12 *	0.15*	0.00	0.03	0.07*	0.04°	-0.06*	0.03	1				
21	0.04°	-0.09*	-0.28*	0.04°	0.07*	-0.18*	-0.19*	0.43*	-0.06*	-0.06*	-0.06*	-0.05°	-0.05°	-0.18*	-0.06*	-0.42*	-0.04†	-0.18*	0.19*	-0.07*	1			
22	-0.07*	-0.02 †	0.07*	0.02	-0.05*	0.05°	0.05°	0.02	-0.00	-0.01	-0.00	0.01	0.00	0.03†	0.09*	0.06*	0.03†	-0.03	-0.01	0.06*	-0.02	1		
23	-0.00	-0.00	0.00	0.01	0.00	0.02	-0.04	0.01	0.01	0.01	0.01	0.01	0.01	0.02	-0.07*	-0.03†	-0.00	0.04°	-0.00	0.03	0.03	-0.03	1	
24	-0.02	0.07†	-0.03†	-0.00	-0.0	-0.05*	-0.00	0.01	0.04°	0.03†	0.04°	0.04°	0.05°	0.02	0.05*	-0.01	-0.01	0.01	-0.01	0.13*	0.03†	0.03	-0.00	1

Source: Author.

Note: In gray are the significant variables at a level of 1%; * Significant at a level of 1%; ° Significant at a level of 5%; † Significant at a level of 10%; 1: AB – Abnormal Accruals; 2: DA – Discretionary Accruals; 3: S_MANIP – Sales Manipulation; 4: R_DIXEP – Reduction of Discretionary Expenses; 5: OVERP – Overproduction; 6: REM – Real Earnings Management; 7: UE_CE – Unexpected Change in Core Earnings; 8: SI – Income-Decreasing Special Items as a Percentage of Sales; 9: D4 – the Dark Tetrad of personality; 10: NARC – Narcissism; 11: PSYC – Psychopathy; 12: MACH – Machiavellianism; 13: SAD – Sadism; 14: REP – Corporate Reputation; 15: SIZE – Firm Size; 16: ROA – Return on Assets; 17: MTB – Market-to-Book; 18: GROW – Sales Growth; 19: LEV – Leverage; 20: AGE – CEO's Age; 21: LOSS – Firm Loss; 22: BIG4 – Audit Quality; 22: GEN – Gender; 24: TURN – CEO turnover.

Based on Table 18, abnormal accruals (AB) are positively related to sales manipulation (S_MANIP), which shows that this type of real earnings management could be a substitute for abnormal accruals. However, when I consider discretionary accruals (DA), sales manipulation (S_MANIP) is not a substitute for them, which is similar to Cohen et al. (2008).

Abnormal accruals (AB) are negatively related to overproduction (OVERP), so they are substitutes, as found in Cohen et al. (2008), although discretionary accruals (DA) are positively related to overproduction, contradicting the findings of Cohen et al. (2008).

Only discretionary accruals (DA) are related with a reduction in discretionary expenditure (R_DIXEP), this relationship being negative. This finding is similar to that of Cohen et al. (2008), hence a reduction in discretionary expenditure would not be a substitute for discretionary accruals.

In relation to real earnings management (REM), abnormal and discretionary accruals show a divergent result: while abnormal accruals (AB) have a positive relationship with it, discretionary accruals (DA) have a negative relationship with it. Thus, abnormal accruals could be a substitute for real earnings management (Cohen et al., 2008).

Abnormal accruals (AB) have a negative relationship with Unexpected Change in Core Earnings (UE_CE), and so this result indicates that classification shifting is a substitute for abnormal accruals, which is a similar finding to that of Abernathy et al. (2014). In relation to Income-Decreasing Special Items as a Percentage of Sales (SI), both abnormal and discretionary accruals have a negative relationship with it.

Both abnormal and discretionary accruals have a positive relationship with the Dark Tetrad of personality (D4). This finding does not reject hypothesis H₁ and it is consistent with Kaplan et al. (2007), Shafer and Wang (2011), and Olsen et al. (2014). In addition, abnormal accruals show a positive relationship with narcissism (NARC), psychopathy (PSYC), Machiavellianism (MACH), and sadism (SAD). In turn, discretionary accruals only show a positive relationship with sadism.

Regarding corporate reputation (REP), both abnormal and discretionary accruals have a negative relationship with it. Agarwal et al. (2011), Cao et al. (2012), Garrett et al. (2014), and Luchs et al. (2009) found the same result. Thus, higher reputation companies provide higher quality financial reports. Consequently, hypothesis H₂ is not rejected.

Firm size (SIZE) and abnormal accruals (AB) have a negative relationship, so big firms have fewer incentives to engage in earnings management, which is consistent with Cohen et al. (2008), Francis and Wang (2008), and Roychowdhury (2006).

Abnormal and discretionary accruals are divergent regarding return on assets (ROA): while the former has a positive relationship with it, the latter has a negative one. Francis and Wang (2008) argue that profitable firms manage earnings less, so only discretionary accruals (DA) is aligned with it.

Discretionary accruals (DA) are positively related to leverage (LEV), so firms with a high leverage have more incentives to engage in earnings management in order not to violate debt covenants (Francis & Wang, 2008).

Huang et al. (2012) argue that CEO age (AGE) is negatively related to earnings management. Nonetheless, discretionary accruals (DA) are positively related to CEO age, so older CEOs manage earnings more than younger ones, thus contradicting previous findings.

Francis and Wang (2008) discuss that firm loss (LOSS) is similar to leverage (LEV), and thus firms with a (high) loss have incentives to increase earnings. However, the authors found the opposite result. Based on this, abnormal accruals (AB) are coherent with the argumentation, while discretionary accruals (DA) are coherent with the finding.

Abnormal and discretionary accruals are negatively related do audit quality (BIG4), therefore being audited by a Big Four audit company leads to higher accounting information quality, which confirms the findings of Cohen et al. (2008) and Francis and Wang (2008).

As CEO turnover (TURN) and discretionary accruals (DA) are positively related, this corroborates with the findings of Choi et al. (2014) that when CEOs are departing, they have incentives to engage in earnings management.

Sales manipulation (S_MANIP) is positively related to a reduction in discretionary expenditure (R_DIXEP) and real earnings management (REM); in turn, a reduction in discretionary expenditure is positively related to real earnings management (REM). Regarding the negative relationship, sales manipulation and a reduction in discretionary expenditure are negatively related to overproduction (OVERP); and overproduction is negatively related to real earnings management (REM). Cohen et al. (2008) found that real earnings management is positively correlated with all the proxies for manipulation by operational activities; sales

manipulation is negatively related to a reduction in discretionary expenditure and overproduction; and a reduction in discretionary expenditure is negatively related to overproduction.

Abernathy et al. (2014) state that manipulation by operational activities (S_MANIP, R_DIXEP, OVERP, and REM) is negatively related to classification shifting. As sales manipulation and real earnings management are inversely correlated with Income-Decreasing Special Items as a Percentage of Sales (SI) and positively related to Unexpected Change in Core Earnings (UE_CE), this result indicates that sales manipulation is a substitute for classification shifting. Only overproduction indicates not being a substitute for classifications shifting.

All dark personalities (D4, NARC, PSYC, MACH, and SAD) are positively related to sales manipulation (S_MANIP), thus when CEOs have strong dark personalities, they tend to engage less in manipulations via operational activities. Therefore, this result rejects hypothesis H₁. On the other hand, the Dark Tetrad of personality, Psychopathy, and Sadism are negatively related to a reduction in discretionary expenditure (R_DIXEP), and so for this type of manipulation via operational activities, hypothesis H₁ is not rejected, which is consistent with Kaplan et al. (2007), Shafer and Wang (2011), and Olsen et al. (2014).

Sales manipulation (S_MANIP) is positively related to corporate reputation (REP), thus higher reputation companies provide higher quality financial reports. Consequently, hypothesis H₂ is not rejected. The same result is seen for reductions in discretionary expenditure (R_DIXEP) and real earnings management (REM).

Sales manipulation (S_MANIP) and overproduction (OVERP) are positively related to firm size (SIZE), which is inconsistent with Cohen et al. (2008), Francis and Wang (2008), and Roychowdhury (2006). On the other hand, a reduction in discretionary expenditure (R_DIXEP) is negatively correlated with firm size, and so big firms tend to engage less in sales manipulations, but more in reductions in discretionary expenditure and overproduction.

Based on Table 18, profitable firms (ROA) engage less in earnings management involving sales manipulation (S_MANIP), reductions in discretionary expenses (R_DIXEP), overproduction (OVERP), and real earnings management (REM). The same result is found for growth opportunity (MTB), which is similar to the argumentation in Francis and Wang (2008).

Dechow et al. (2010), Francis et al. (2005), Behn et al. (2013), and Cohen et al. (2008) argue that growing firms (GROW) have fewer incentives to manage earnings. Based on Table 14, firms with high sales growth engage less in earnings management by sales manipulation (S_MANIP), reductions in discretionary expenditure (R_DIXEP), overproduction (OVERP), and real earnings management (REM).

Only overproduction (OVERP) has a positive relationship with leverage (LEV) and sales manipulation (S_MANIP). Reductions in discretionary expenditure (R_DIXEP) and real earnings management (REM) are negatively correlated with leverage. Thus, there is a higher possibility of debt covenant violation, which creates an incentive to increase reported earnings (Francis & Wang, 2008).

According to Francis and Wang (2008), firms with losses tend to manage earnings more. Based on this, only a reduction in discretionary expenditure (R_DIXEP) has an inverse result, so for this type of real operational activities, firms with losses manage earnings less.

Regarding audit quality (BIG4), all real operational activities (sales manipulation, reduction in discretionary expenditure, overproduction, and real earnings management) have significant correlations. So, firms with audit quality have fewer incentives to engage in real earnings management (Francis & Wang, 2008; Cohen et al., 2008).

CEO age (AGE) acts differently within the proxies for manipulation by operational activities. Younger CEOs engage more in sales manipulation (S_MANIP) and overproduction (OVERP). However, older CEOs engage more in reductions in discretionary expenditure (R_DIXEP) and real earnings management (REM). Huang et al. (2012) argue that CEO age is negatively related to earnings management. Therefore, only sales manipulation and overproduction are consistent with the literature.

Choi et al. (2014) argue that when CEOs are departing, they engage in earnings management. Based on Table 14, sales manipulation (S_MANIP) and real earnings management (REM) are inversely correlated with CEO turnover (TURN), so these types of manipulation via operational activities are similar to Choi et al. (2014).

Unexpected Change in Core Earnings (UE_CE) is positively related to firm size (SIZE), return on assets (ROA), market-to-book (MTB), and audit quality (BIG4), which is similar to Behn et al. (2013) and Abernathy et al. (2014). In turn, an unexpected change in core earnings is negatively related to income-decreasing special items as a percentage of sales (SI) and firm loss (LOSS), which is similar to Fan et al. (2010) and Behn et al. (2013).

Income-decreasing special items as a percentage of sales (SI) is positively related to firm size (SIZE), leverage (LEV), and firm loss (LOSS), which is divergent from Behn et al. (2013). On the other hand, income-decreasing special items as a percentage of sales is negatively correlated with all dark personality variables (D4, NARC, PSYC, MACH, and SAD), market-to-book (MTB), and sales growth (GROW).

4.1.4. Regression analysis – Archival

Table 19 shows the regression that considers the Dark Tetrad of personality, and so this test seeks to reject the hypothesis or not.

Table 19 – Regression for the Dark Tetrad of personality – Archival

Variable	AB	DA	REM	S_MANIP	R_DIXEP	OVERP	UE_CE
D4	0.000*	0.002	-0.033*	-0.001	-0.001	0.000	-0.002
	(0.000)	(0.001)	(0.017)	(0.001)	(0.001)	(0.002)	(0.001)
REP	-0.000*	0.000	-0.003	0.000	-0.001*	0.001*	-0.002***
	(0.000)	(0.000)	(0.005)	(0.000)	(0.000)	(0.001)	(0.001)
REP × D4	-0.000***	-0.000*	0.007**	0.000*	0.000	0.000	0.000
	(0.000)	(0.000)	(0.004)	(0.000)	(0.000)	(0.000)	(0.000)
SI						0.064	
						(0.104)	
SI × REP						-0.029	
						(0.032)	
SI × D4						0.143**	
						(0.059)	
SI × REP × D4						-0.021***	
						(0.010)	
SIZE	-0.000***	0.000	0.050**	0.004**	-0.015**	0.013*	0.007***
	(0.000)	(0.001)	(0.024)	(0.002)	(0.006)	(0.007)	(0.001)
ROA	0.000	-0.010	4.100***	0.626***	0.023	-0.785***	0.399***
	(0.000)	(0.018)	(0.538)	(0.040)	(0.040)	(0.069)	(0.060)
LOSS	-0.000***	-0.009***	-0.041	-0.006*	0.012***	-0.005	-0.007
	(0.000)	(0.003)	(0.045)	(0.003)	(0.005)	(0.006)	(0.006)
MTB	0.001	-0.268	6.255	0.836	1.547*	-3.019***	-0.831
	(0.001)	(0.914)	(10.555)	(0.676)	(0.885)	(1.120)	(0.846)
GROW	0.000***	0.007	-0.315***	-0.042***	0.027**	0.02	-0.034***
	(0.000)	(0.009)	(0.108)	(0.009)	(0.012)	(0.015)	(0.011)
LEV	0.000**	0.025***	-0.786***	-0.047***	-0.022	0.042*	0.011
	(0.000)	(0.008)	(0.120)	(0.010)	(0.018)	(0.024)	(0.007)
BIG4	0.000	-0.001	-0.131	-0.007	0.030	-0.015	0.003
	(0.000)	(0.009)	(0.143)	(0.013)	(0.025)	(0.034)	(0.004)
AGE	0.000	0.000	-0.001	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.003)	(0.000)	(0.000)	(0.000)	(0.000)
GEN	0.000	0.000	-0.004	0.001	0.000	-0.009	-0.003
	(0.000)	(0.003)	(0.074)	(0.005)	(0.006)	(0.011)	(0.007)
TURN	0.000	0.001	-0.058**	-0.004*	0.000	-0.002	0.002
	(0.000)	(0.002)	(0.025)	(0.002)	(0.002)	(0.003)	(0.002)
Constant	0.001***	-0.001	-0.715**	-0.071***	-0.038	0.059	-0.083***
	(0.000)	(0.016)	(0.307)	(0.024)	(0.070)	(0.079)	(0.016)
Industry and Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	2645	2645	2645	2645	2645	2645	2645
χ^2	184.2***	386.8***	379.6***	795.3***	773.4***	866.1***	312.1***
R ² overall	0.408	0.094	0.333	0.528	0.209	0.334	0.206
R ² within	0.13	0.038	0.115	0.297	0.041	0.250	0.260
R ² between	0.447	0.164	0.376	0.593	0.204	0.307	0.193

Source: Author.

Note: *** Significant at a level of 1%; ** Significant at a level of 5%; * Significant at a level of 10%; Robust standard error is given in brackets; AB – Abnormal Accruals; DA – Discretionary Accruals; S_MANIP – Sales Manipulation; R_DIXEP – Reduction of Discretionary Expenses; OVERP – Overproduction; REM – Real

Earnings Management; UE_CE – Unexpected Change in Core Earnings; SI – Income-Decreasing Special Items as a Percentage of Sales; D4 – the Dark Tetrad of personality; NARC – Narcissism; PSYC – Psychopathy; MACH – Machiavellianism; SAD – Sadism; REP – Corporate Reputation; SIZE – Firm Size; ROA – Return on Assets; MTB – Market-to-Book; GROW – Sales Growth; LEV – Leverage; AGE – CEO's Age; LOSS – Firm Loss; BIG4 – Audit Quality; GEN – Gender; TURN – CEO turnover.

The first model shows the result regarding abnormal accruals (AB), in which we can note that all variables of interest are significant.

The Dark Tetrad of personality (D4) is positively related to abnormal accruals (AB), so CEOs with strong dark personality traits (Narcissism, Psychopathy, Machiavellianism, and Sadism) tend to engage in earnings management by abnormal accruals. The same result was found by Shafer and Wang (2011). This finding does not reject hypothesis H₁. As Healy and Wahlen (1999) and Lo (2008) say, earnings management occurs when managers use judgment in financial reporting to alter financial reports in order to mislead some stakeholder about the underlying economic performance of the company for their own benefit, and so this is an unethical behavior and involves low moral judgment, and they manage earnings to achieve their objectives. D'Souza and Lima (2015) also emphasize that dark personalities affect manager judgment and decision-making and consequently manager perception about earnings management.

Corporate reputation (REP) is negatively related to abnormal accruals (AB), so highly reputable companies are not inclined to engage in earnings management. This finding does not reject hypothesis H₂. As earnings management is an agency problem, Cao et al. (2012) state that corporate reputation could be a reducer of agency problems and consequently a reducer of earnings management. Cao et al. (2015) emphasize this by saying that firms with strong reputations signal high quality, conveying competence and business conduct consistent with shareholder interests.

The interaction term (D4 × REP), which represents the Dark Tetrad of personality (D4) and corporate reputation (REP), shows a negative relationship with abnormal accruals (AB). Therefore, in companies with strong reputations, the CEOs with strong dark personalities engage less in earnings management. This is due to companies with strong reputations generating a competence halo based on accountability, credibility, and trustworthiness to stakeholders, and these values create a culture where the rules and traditions are unwritten (Agarwal et al., 2011; Cao et al. 2012). In addition, Cao et al. (2012) state that highly reputable companies may have greater incentives to protect their reputations, and so they inhibit their CEOs from engaging in opportunistic behavior or activities (Kim et al., 2012; Webb, 2002). This is also explained by Upper Echelons Theory, which predicts that the internal

environmental or organizational pressures, in this case corporate reputation, also have impacts on decision-making (Carpenter et al., 2004; Hambrick & Mason, 1984; Hiebl, 2014; Waldman et al. 2004; Yamak et al., 2013). Thus, as much as the dark personalities influence the decisions of the manager in a negative way, and thus the practice of earnings management, reputation is capable of affecting this behavior, reducing earnings management by accruals manipulation, measured by abnormal accruals. This finding does not reject hypothesis H₃.

Regarding the control variables, only firm size (SIZE), firm loss (LOSS), sales growth (GROS), and leverage (LEV) show a significant relationship with abnormal accruals.

As shown in the correlation analysis, firm size (SIZE) and abnormal accruals (AB) have a negative relationship, so big firms have fewer incentives to engage in earnings management, which is consistent with Cohen et al. (2008), Francis and Wang (2008), and Roychowdhury (2006).

Firm loss (LOSS) is negatively related to abnormal accruals (AB), hence highly leveraged firms have fewer incentives to engage in earnings management, which is consistent with the findings of Francis and Wang (2008).

Dechow et al. (2010), Francis et al. (2005), Behn et al. (2013), and Cohen et al. (2008) argue that growing firms have fewer incentives to manage earnings. However, in relation to abnormal accruals (AB), sales growth (GROW) is positively related to abnormal accruals.

Abnormal accruals (AB) are positively related to leverage (LEV), so firms with a high leverage have more incentives to engage in earnings management in order not to violate debt covenants (Francis & Wang, 2008).

As mentioned by Dechow et al. (2010), there is too much noise in earnings management by accruals manipulation. For this reason, I ran a second model for discretionary accruals (DA), and the main result is consistent with abnormal accruals (AB). Therefore, considering discretionary accruals, hypothesis H₃ is not rejected.

The third model shows the result regarding real earnings management (REM). We can note that of the variables of interest, only the Dark Tetrad of personality (D4) and the interaction term (D4 × REP) are significant.

Real earnings management (REM) needs to be inversely interpreted, as the Dark Tetrad of personality (D4) is negatively related to real earnings management, so CEOs with strong dark personality traits (Narcissism, Psychopathy, Machiavellianism, and Sadism) tend to engage more in earnings management by real earnings management. This finding does not reject hypothesis H₁. Therefore, as noted in abnormal accruals, real activities manipulation occurs when CEOs need to improve firm performance for their own benefit, which is

emphasized by the dark personality, because it is related to unethical behavior and poor moral judgment (Healy & Wahlen, 1999; Lo, 2008; Shafer & Wang, 2011; D'Souza & Lima, 2015; D'Souza & Jones, 2017).

Corporate reputation (REP) is not related to real earnings management (REM), thus rejecting hypothesis H₂. However, when we look at the model for reductions in discretionary expenditure and overproduction, corporate reputation shows significance and hypothesis H₂ is not rejected. Therefore, corporate reputation increases the quality of accounting information (Cao et al., 2012; Cao et al., 2015).

The interaction term (D4 × REP), which represents the Dark Tetrad of personality (D4) and corporate reputation (REP), shows a positive relationship with real earnings management (REM). Therefore, in companies with strong reputations, CEOs with strong dark personalities engage less in real earnings management. The same result is found for the model for sales manipulation (S_MANIP). As observed for abnormal accruals, corporate reputation creates a halo which reduces opportunistic behavior (Agarwal et al., 2011; Cao et al. 2012), and so this finding does not reject hypothesis H₃.

Regarding the control variables, only firm size (SIZE), return on assets (ROA), sales growth (GROS), leverage (LEV), and CEO turnover (TURN) show a significant relationship with real earnings management.

Real earnings management (REM) is positively related to firm size (SIZE), which is consistent with Cohen et al. (2008), Francis and Wang (2008), and Roychowdhury (2006). Hence, big firms tend to engage less in real activities manipulation. The same was found for sales manipulation (S_MANIP). However, for reductions in discretionary expenditure (R_DIXEP) and overproduction (OVERP), big firms engage more in these types of real earnings management.

Dechow et al. (2010) argue that only unprofitable firms engage in manipulation by accruals. The same result was found for real earnings management, and so profitable firms (ROA) engage less in earnings management involving real activities manipulation (REM). The same result was also found for sales manipulation (S_MANIP) and overproduction (OVERP).

Regarding firm loss (LOSS), which is supposed to be positively related to earnings management (Francis & Wang, 2008), it only shows this result for sales manipulation (S_MANIP), while reductions in discretionary expenditure (R_DIXEP) decrease in firms with losses, perhaps due to reductions in discretionary expenditure having a greater potential to create value.

As with return on assets (ROA), market-to-book (MTB) demonstrates the firm's market performance. Thus, profitable firms engage less in earnings management (Dechow et al. 2010). The same was found for reductions in discretionary expenditure (R_DIXEP) and overproduction (OVERP).

Dechow et al. (2010), Francis et al. (2005), Behn et al. (2013), and Cohen et al. (2008) argue that growing firms (GROW) have fewer incentives to manage earnings, and only a reduction in discretionary expenditure (R_DIXEP) is consistent with the literature. However, real earnings management (REM) and sales manipulation (S_MANIP) have an inverse result.

Highly leveraged firms (LEV) engage more in real earnings management (REM), sales manipulation (S_MANIP), and overproduction (OVERP). Thus, there is a higher possibility of debt covenant violation, which creates an incentive to increase reported earnings (Francis & Wang, 2008).

Choi et al. (2014) argue that when CEOs are departing, they engage in earnings management. Based on Table 14, real earnings management (REM) and sales manipulation (S_MANIP) are correlated with CEO turnover (TURN), so the presence of CEO turnover involves more manipulation through operational activities.

The seventh model seeks to verify how dark personalities and reputation affect earnings management by classification shifting. For this model, if Income-Decreasing Special Items as a Percentage of Sales (SI) shows a positive relationship with unexpected changes in core earnings (UE_CE), then managers engage in earnings management by classification shifting, transferring items from core earnings to special items and deceiving stakeholders. Therefore, the variables of interest are SI, SI × REP, SI × D4, and SI × REP × D4. SI and SI × D4 are expected to have a positive relationship with unexpected changes in core earnings; however, SI × REP and SI × REP × D4 should have a negative relationship with unexpected changes in core earnings.

SI × D4 and SI × REP × D4 are as expected. Hence, firms that have CEOs with strong dark personalities engage more in earnings management by classification shifting. So, they deceive investors by changing the accounting information, and so the investors' perception of the firm's performance would be modified, affecting valuation (McVay, 2006; Shafer & Wang, 2011; D'Souza & Lima, 2015).

While SI × D4 is positively related to unexpected changes in core earnings (UE_CE), SI × REP × D4 is negatively related to it. Therefore, corporate reputation conveys credibility and trustworthiness to stakeholders (Agarwal et al., 2011; Cao et al. 2012), and also inhibits CEOs from engaging in opportunistic behavior or activities (Kim et al., 2012; Webb, 2002).

Carpenter et al. (2004), Hambrick and Mason (1984), and Hiebl (2014) predict that both personality and the organizational environment have impacts on decision-making. Although CEOs with strong dark personalities (D4) manage earnings more, corporate reputation (REP) is capable of affecting this behavior, reducing earnings management by classification shifting. Consequently, this finding does not reject hypothesis H₃.

Since corporate reputation shows its moderating effect in the relationship between unexpected changes in core earnings (UE_CE) and the Dark Tetrad personality (D4), corporate reputation was expected to have a negative relationship with unexpected changes in core earnings. As predicted, corporate reputation reduces unexpected changes in core earnings.

Regarding the control variables, only firm size (SIZE), return on assets (ROA), and sales growth (GROS) show a significant relationship with unexpected changes in core earnings (UE_CE).

Unexpected change in core earnings (UE_CE) is positively related to firm size (SIZE), which is consistent with Behn et al. (2013). Hence, big firms tend to engage more in classification shifting.

Dechow et al. (2010) argues that only unprofitable firms engage in manipulation through accruals. An inverse result was found for classification shifting. Thus, profitable firms (ROA) engage more in earnings management involving classification shifting (Behn et al., 2013).

Dechow et al. (2010), Francis et al. (2005), and Cohen et al. (2008) argue that growing firms (GROW) have fewer incentives to manage earnings. Regarding classification shifting, growing firm have less unexpected change in core earnings (UE_CE). The same finding was made by Alfonso, Cheng, and Pan (2015).

After performing the analysis for a comprehensive variable of dark personality (the Dark Tetrad of personality), I ran models to show how each dark personality trait (Narcissism, Psychopathy, Machiavellianism, and Sadism) is related to earnings management. The models are in Appendices B, C, D, and E.

It was noticed that all the variables of the models remained constant, except for corporate reputation (REP) in manipulation by accruals. For this type of earnings management, in general, reputable firms engage more in manipulation by accruals. However, when CEOs have strong dark personalities, reputable firms manage earnings less.

Another difference found is related to the models for classification shifting. For each dark personality trait hypothesis H₁ is rejected, because, in general, CEOs with dark personalities engage less in earnings management by classification shifting.

Lastly, when comparing the magnitude of the coefficient of the dark personalities, I noted that CEOs with high psychopathy tend to engage more in earnings management by accruals and real operational activities than CEOs with high narcissism, Machiavellianism, and sadism. However, CEOs with high narcissism tend to engage more in earnings management by classification shifting than CEOs with high psychopathy, Machiavellianism, and sadism.

Therefore, this result reinforces the idea of the destructive power that a CEO can have when he has a high Dark Tetrad and reinforces the halo effect of reputation, in which the values, culture, and perceptions built over time protect the company in crises or against opportunistic actions. Hence, corporate reputation is a moderator in the relationship between earnings management (abnormal accruals, real earnings management, and classification shifting) and the Dark Tetrad of personality (Narcissism, Psychopath, Machiavellianism, and Sadism), because reputation is able to change the behavior of CEOs. Thus, it is important for firms to engage in strategies that enhance their reputations, like innovation, governance, human capital, quality of products/services etc., since these strategies convey credibility and trustworthiness to stakeholders (Agarwal et al., 2011; Cao et al. 2012).

For earnings management, it was identified that psychopathy is the personality that influences manipulation by accruals and real operational activities the most. This finding is supported by Boddy (2010), who said that there are psychopaths in firms and they create a toxic workplace environment, influencing productivity and organizational constraints. In addition, the presence of psychopaths in upper echelons has a negative impact on corporate social responsibility, which reduces corporate reputation (Boddy, 2010).

4.2. Experiment analysis

This section is divided into three parts: descriptive statistics, Pearson's correlation, and regression analysis, to reject the research hypotheses or not relating to fraud.

4.2.1. Descriptive statistics – Experiment

To reject the research hypotheses or not, the Ordinary Least Squares regression and Poisson regression were performed. But first, the data were analyzed using the descriptive statistics and Pearson's correlation. Table 20 shows descriptive statistics for the main variables, separating the sample into Americans and Brazilians.

Table 20 – Descriptive statistics – Experiment

PANEL A							
Variable	Sample	Obs.	Min.	Max.	Mean	Std. Dev.	t-test
FRAUD	Brazilians	54	0.00	135.16	41.37	33.17	0.69
	Americans	47	0.00	125.21	36.67	35.56	
MISREP	Brazilians	54	0.00	3.00	0.69	0.95	-0.54
	Americans	47	0.00	3.00	0.79	0.95	
NARC	Brazilians	54	2.78	7.78	4.81	1.19	0.94
	Americans	47	1.33	8.01	4.56	1.48	
PSYC	Brazilians	54	0.53	5.03	2.27	0.93	0.46
	Americans	47	0.08	6.19	2.16	1.51	
SAD	Brazilians	54	0.00	3.4	0.96	0.9	-1.91***
	Americans	47	0.00	6.97	1.45	1.62	
MACH	Brazilians	54	1.77	7.78	4.6	1.61	0.57
	Americans	47	1.77	8.76	4.42	1.54	
D4	Brazilians	54	-1.45	2.23	-0.00	0.81	-0.05
	Americans	47	-1.71	2.78	0.01	1.19	
AGE	Brazilians	54	24	54	35.04	8.95	4.40***
	Americans	47	2	44	28.34	5.73	
EXP	Brazilians	54	0.00	25.00	4.31	6,00	2.86***
	Americans	47	0.00	15.00	1.49	3.33	

PANEL B						
Dummy variables	Sample	Frequency	Percent	Cumulative	χ^2	
Weak Reputation	Brazilians	24	51.06	51.06		
Strong Reputation		23	48.94	100	0.41	
Weak Reputation	Americans	31	57.41	57.41		
Strong Reputation		23	42.59	100		
Female	Brazilians	22	40.74	40.74		
Male		32	59.26	100	0.00	
Female	Americans	19	40.43	40.43		
Male		28	59.57	100		

Source: Author.

Note: *** Significant at a level of 1%; FRAUD – Attitudinal fraud or accounting fraud; MISREP – Behavioral fraud or misrepresentation; NARC – Narcissism; PSYC – Psychopathy; SAD – Sadism; MACH – Machiavellianism; D4 – the Dark Tetrad of personality; AGE – Age; EXP – Work-experience.

The sample is composed of 101 participants from Brazil and The United States of America, in which 54 participants are Brazilian and 47 are American. In addition, the sample is composed of 40.6% females (22 Brazilians and 19 Americans) and 59.4% males (32 Brazilians and 28 Americans). According to the Chi-square (χ^2) test, there is no association

between gender (GEN) and nationality (NAT), so we can infer that there is no difference between the samples.

Regarding age (AGE), the participants are between 21 and 54 years old, but the average sample age is approximately 32 years old, and according to the t-test, there are differences between the Americans and Brazilians, with the Brazilian sample being older than the American sample.

Regarding work experience (EXP), the participants have work experience of between 0 and 25 years; however, the average for the sample is approximately 3 years. In general, they work or have worked in the Service sector (33.66%), Industrial sector (15.84%), Financial sector (12.87%), Commerce sector (3.96%), and other sectors (33.66%). In addition, they have held or hold the following management positions: Manager (16.83%), Coordinator (11.88%), Supervisor (10.89%), Director (6.93%), Analyst (5.94%), Controller (2.97%), and other positions (44.56%).

Corporate reputation is a manipulation which is randomly assigned to the participants. Of the total sample, 55 participants (54.46%), 31 Americans and 24 Brazilians, received scenario B, which is related to a weak corporate reputation. On the other hand, 46 participants (45.54%), 23 Americans and 23 Brazilians, received scenario A, which is related to a strong corporate reputation. The Chi-square (χ^2) test does not show any association between corporate reputation (REP) and nationality (NAT), so we can infer that there is no difference between the samples.

Accounting fraud (FRAUD) is a variable ranging between 0 and 150, where 0 (zero) represents the inexistence of accounting fraud. Based on Table 20, there are participants that do not engage in fraud (15 participants, of which 11 are Americans and 4 are Brazilians). Thus, 85.15% of the sample committed fraud and the mean value is 39.18 considering the complete sample, and 46.02 considering only the participants who committed fraud. If accounting fraud (FRAUD) is divided into three parts by percentiles, and not tabulated, the mean value of fraud (39.18 or 46.02) is considered moderated fraud.

Misrepresentation (MISREP) is a variable ranging between 0 and 5, where 0 (zero) represents the inexistence of misrepresentation. Based on Table 20, there are participants that do not engage in fraud by misrepresentation (56 participants, of which 24 are Americans and 32 are Brazilians). Thus, 44.55% of the sample committed fraud and the mean value is 0.73 considering the complete sample, and 1.64 considering only the participants who committed fraud by misrepresentation.

In relation to the dark personalities, narcissism (NARC), psychopathy (PSYC), Machiavellianism (MACH), and sadism (SAD) have a low score, as the highest mean is 4.81 (narcissism in the Brazilian sample). In general, the samples are more narcissistic, followed by Machiavellian, psychopathic, and sadistic personalities. The same order was found by Craker and March (2016), but different scales were used. Plouffe et al. (2017) used the same scales, the only difference is that Plouffe et al. (2017) found that the sample was more Machiavellian, followed by narcissistic, psychopathic and sadistic personalities. When the dark personalities are compared between Americans and Brazilians, only sadism shows any difference, with Americans being more sadistic than Brazilians.

The next section shows the bivariate relationship between the dependent, independent, and control variables.

4.2.2. Pearson's correlations - Experiment

Table 21 shows the Pearson's correlations among the dependent, independent, and control variables.

Table 21 – Pearson's Correlation – Experiment

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
(1)	1											
(2)	0.01	1										
(3)	0.09	0.01	1									
(4)	0.20**	0.18*	0.38***	1								
(5)	0.18*	0.18*	0.34***	0.69***	1							
(6)	0.31***	0.14	0.35***	0.51***	0.42***	1						
(7)	0.26***	0.18*	0.63***	0.87***	0.82***	0.74***	1					
(8)	0.02	0.07	-0.03	0.08	0.14	-0.08	0.04	1				
(9)	-0.01	-0.21**	0.05	0.29***	0.29***	0.12	0.26***	0.03	1			
(10)	0.04	-0.12	0.10	0.11	-0.06	-0.07	0.02	-0.21**	0.26***	1		
(11)	0.09	-0.08	-0.04	0.05	-0.08	-0.11	-0.06	-0.18*	0.31***	0.66***	1	
(12)	-0.07	0.05	-0.09	-0.05	0.19*	-0.06	0.01	0.06	0.00	-0.40***	-0.28***	1

Source: Author.

Note: *** Significant at a level of 1%; ** Significant at a level of 5%; * Significant at a level of 10%; (1) FRAUD – Attitudinal fraud or accounting fraud; (2) MISREP – Behavioral fraud or misrepresentation; (3) NARC – Narcissism; (4) PSYC – Psychopathy; (5) SAD – Sadism; (6) MACH – Machiavellianism; (7) D4 – the Dark Tetrad of personality; (8) REP – Corporate Reputation; (9) GEN – Gender; (10) AGE – Age; (11) EXP – Work-experience; (12) NAT - Nationality.

According to Table 21, the proxies for fraud are not correlated, so accounting fraud (FRAUD) and misrepresentation (MISREP) are not substitutive and they measure different concepts of fraud.

Both accounting fraud and misrepresentation have a positive relationship with the Dark Tetrad of personality (D4), psychopathy (PSYC), and Sadism (SAD); however, only accounting fraud is positively correlated with Machiavellianism (MACH). This finding does not reject hypothesis H₁ and it is consistent with Kaplan et al. (2007), Shafer and Wang (2011), and Olsen et al. (2014). Highly narcissistic CEOs engage in challenging or bold actions to obtain frequent praise and admiration and they are prone to committing fraud (Rijssenbilt & Commandeur, 2013). However, CEO reputation is aligned to corporate reputation (Love et al., 2017), and narcissists are more sensitive to this question and not losing their reputation, and so they do not commit fraud.

Regarding corporate reputation (REP), accounting fraud and misrepresentation do not have any relationship with it. Agarwal et al. (2011), Cao et al. (2012), Garrett et al. (2014), and Luchs et al. (2009) found that companies with stronger reputations provide higher quality financial reports, and so engage in less fraud. Consequently, hypothesis H₂ is rejected.

Regarding the control variables, none of them are related to accounting fraud, but gender (GEN) is negatively related to misrepresentation. Hence, female participants engage more in fraud. According to Cumming, Leung, and Rui (2015), with the presence of females on boards, firms tend not to commit fraud, and so this study diverges from Cumming et al. (2015).

Gender (GEN) is positively related to psychopathy (PSYC), sadism (SAD), and the Dark Tetrad of personality (D4). Therefore, male participants have more dark personality traits than female participants, which is found by Smoker and March (2017). In addition, the participant's age and work experience (EXP) are positively related to gender (GEN), so the older participants are male and have extensive work experience.

Participant's age (AGE) is negatively related to corporate reputation (REP). Thus, the younger participants were attributed to companies with weak reputations. Also, participants with extensive work experience (EXP) were attributed to companies with weak reputations.

Lastly, nationality (NAT) is negatively related to work experience (EXP), with the American participants having less experience than the Brazilian participants.

The next section shows the multivariate relationship between the dependent, independent, and control variables.

4.2.3. Regression analysis – Experiment

Fraud in this dissertation is divided into two proxies: accounting fraud and misrepresentation, each with different features. The first is a continuous variable and the second is a discrete variable (count data). Therefore, different models are required. The first is an Ordinary Least Squares regression and the second is a Poisson regression. Also, for each fraud variable there is a model for each dark personality trait.

Table 22 shows the regression that considers accounting fraud and narcissism. There are four models: (1) Model 1 considers only narcissism and the control variables; (2) Model 2 considers narcissism, corporate reputation, and the control variables; (3) Model 3 considers narcissism, corporate reputation, the interaction between narcissism and corporate reputation, and the control variables; and (4) Model 4 considers all dark personalities, corporate reputation, the interaction between narcissism and corporate reputation, and the control variables.

Table 22 – Regression for Accounting Fraud and Narcissism

	Model 1	Model 2	Model 3	Model 4
NARC	3.272 (1.25)	3.341 (1.26)	4.161 (1.13)	0.329 (0.08)
PSYC				1.929 (0.45)
SAD				2.951 (0.83)
MACH				6.187** (2.22)
REP		4.475 (0.65)	13.678 (0.53)	16.731 (0.61)
NARC × REP			-1.97 (-0.39)	-2.392 (-0.45)
GEN	-1.808 (-0.24)	-2.279 (-0.29)	-2.224 (-0.29)	-9.122 (-1.15)
AGE	-0.437 (-0.68)	-0.39 (-0.61)	-0.404 (-0.64)	-0.257 (-0.43)
EXP	0.926 (1.11)	0.97 (1.15)	0.979 (1.15)	1.262 (1.48)
NAT	-4.97 (-0.73)	-4.816 (-0.71)	-4.818 (-0.71)	-4.236 (-0.58)
Intercept	35.495* (1.71)	31.667 (1.43)	28.138 (1.08)	8.072 (0.30)
R ²	0.101	0.105	0.107	0.226
F	1.593	1.406	1.253	2.527***
N	101	101	101	101

Source: Author.

Note: *** Significant at a level of 1%; ** Significant at a level of 5%; * Significant at a level of 10%; Robust standard error is given in brackets; NARC – Narcissism; PSYC – Psychopathy; SAD – Sadism; MACH – Machiavellianism; REP – Corporate Reputation; GEN – Gender; AGE – CEO's Age; EXP – Work-experience; NAT - Nationality.

Among the models regarding narcissism (NARC), only Model 4 is significant. However, only Machiavellianism is positively related to fraud, which is aligned with the literature (Shafer & Wang, 2011; D'Souza & Lima, 2015; D'Souza & Jones, 2017).

Regarding narcissism, Chatterjee and Hambrick (2011) show that highly narcissistic CEOs are especially bolstered by social praise and they are worried about their reputation. Therefore, if they engage in accounting fraud, which harms the company's reputation, their own reputation is affected because there is an alignment between CEO reputation and company reputation (Love et al., 2017).

If only narcissism is considered, all the hypotheses are rejected, so narcissism, corporate reputation (REP), and its interaction (NARC × REP) are not related to accounting fraud.

Table 23 shows the regression that considers accounting fraud and psychopathy. There are four models: (1) Model 1 considers only psychopathy and the control variables; (2) Model 2 considers psychopathy, corporate reputation, and the control variables; (3) Model 3 considers psychopathy, corporate reputation, the interaction between psychopathy and corporate reputation, and the control variables; and (4) Model 4 considers all dark personalities, corporate reputation, the interaction between psychopathy and corporate reputation, and the control variables.

Table 23 – Regression for Accounting Fraud and Psychopathy

	Model 1	Model 2	Model 3	Model 4
NARC				-0.662 (-0.21)
PSYC	8.226*** (3.17)	8.149*** (3.14)	6.865* (1.78)	2.213 (0.50)
SAD				2.751 (0.77)
MACH				6.106** (2.18)
REP		2.893 (0.44)	-1.943 (-0.17)	5.5 (0.44)
PSYC × REP			2.196 (0.47)	0.013 0.00
GEN	-7.23 (-0.92)	-7.47 (-0.95)	-7.739 (-0.98)	-9.183 (-1.15)
AGE	-0.463 (-0.75)	-0.43 (-0.69)	-0.4 (-0.65)	-0.245 (-0.41)
EXP	0.97 (1.08)	0.995 (1.10)	0.979 (1.11)	1.247 (1.48)
NAT	-5.001 (-0.76)	-4.914 (-0.75)	-4.694 (-0.72)	-4.159 (-0.57)

Intercept	36.124** (1.99)	33.934* (1.80)	35.862* (1.84)	12.422 (0.52)
R ²	0.162	0.164	0.165	0.224
F	3.411***	3.047***	2.702***	2.53***
N	101	101	101	101

Source: Author.

Note: *** Significant at a level of 1%; ** Significant at a level of 5%; * Significant at a level of 10%; Robust standard error is given in brackets; NARC – Narcissism; PSYC – Psychopathy; SAD – Sadism; MACH – Machiavellianism; REP – Corporate Reputation; GEN – Gender; AGE – CEO's Age; EXP – Work-experience; NAT - Nationality.

All the models are significant, so it is possible to make an interpretation about the effect of psychopathy (PSYC) in accounting information quality. In Model 1, only psychopathy is significantly related to accounting fraud (FRAUD), the relationship being positive. Therefore, highly psychopathic CEOs are more prone to committing fraud, and so hypothesis H₁ is not rejected (Shafer & Wang, 2011; D'Souza & Lima, 2015; D'Souza & Jones, 2017).

Model 2 seeks to explain the effect of corporate reputation (REP) on accounting fraud. However, corporate reputation is not significantly related to fraud when psychopathy is considered. Thus, hypothesis H₂ is rejected, and reputation does not have an inhibitory effect of fraud. But psychopathy is again positively related to accounting fraud.

Model 3 seeks to explain the joint effect of corporate reputation and psychopathy on accounting fraud. As in Model 2, corporate reputation is not significantly related to fraud when psychopathy is considered, thus rejecting hypothesis H₂. In addition, the interaction between corporate reputation and psychopathy (PSYC × REP) is not significantly related to fraud, thus hypothesis H₃ is rejected. This finding confirms that for psychopaths, corporate reputation is not able to reduce their intention to engage in accounting fraud.

Model 4 is similar to Model 3, but is distinguished by controlling the model for the other dark personality variables. The result in this model is the same as that found in Table 22, in which the personality variable of interest is not significant, but Machiavellianism (MACH) shows a positive relationship with accounting fraud. This result shows that this personality trait is a good predictor of accounting fraud (Murphy, 2012). And so again hypothesis H₃ is rejected. Table 24 shows the regression that considers accounting fraud and sadism. There are four models: (1) Model 1 considers only sadism and the control variables; (2) Model 2 considers sadism, corporate reputation, and the control variables; (3) Model 3 considers sadism, corporate reputation, the interaction between sadism and corporate reputation, and the control variables; and (4) Model 4 considers all dark personalities, corporate reputation, the interaction between sadism and corporate reputation, and the control variables.

Table 24 – Regression for Accounting Fraud and Sadism

	Model 1	Model 2	Model 3	Model 4
NARC				-0.495 (-0.16)
PSYC				2.166 (0.53)
SAD	7.337*** (3.36)	7.244*** (3.29)	5.013 (1.28)	1.315 (0.28)
MACH				6.026** (2.18)
REP		2.272 (0.34)	-1.464 (-0.17)	3.089 (0.36)
SAD × REP			3.265 (0.77)	2.123 (0.53)
GEN	-7.539 (-0.93)	-7.691 (-0.94)	-7.208 (-0.87)	-8.823 (-1.09)
AGE	-0.377 (-0.59)	-0.351 (-0.55)	-0.322 (-0.51)	-0.232 (-0.39)
EXP	1.042 (1.25)	1.059 (1.27)	1.01 (1.24)	1.219 (1.46)
NAT	-8.688 (-1.28)	-8.576 (-1.26)	-8.693 (-1.26)	-4.247 (-0.58)
Intercept	44.832** (2.50)	43.066** (2.31)	44.381** (2.37)	13.086 (0.54)
R ²	0.153	0.154	0.157	0.225
F	3.23***	2.821***	2.83***	2.602***
N	101	101	101	101

Source: Author.

Note: *** Significant at a level of 1%; ** Significant at a level of 5%; * Significant at a level of 10% level; Robust standard error is given in brackets; NARC – Narcissism; PSYC – Psychopathy; SAD – Sadism; MACH – Machiavellianism; REP – Corporate Reputation; GEN – Gender; AGE – CEO's Age; EXP – Work-experience; NAT - Nationality.

It is possible to make some interpretation regarding the effect of sadism (SAD) in accounting information quality because all the models are significant. In Model 1, of all the variables, only sadism is significantly related to accounting fraud (FRAUD) and the relationship is positive. Therefore, highly sadistic CEOs are more prone to committing fraud, and so hypothesis H₁ is not rejected (Shafer & Wang, 2011; D'Souza & Lima, 2015; D'Souza & Jones, 2017).

In turn, Model 2 includes the effect of corporate reputation (REP) in explaining accounting fraud. However, corporate reputation is not significantly related to fraud when sadism is considered. Therefore, hypothesis H₂ is rejected, and reputation does not have an inhibitory effect on fraud. But sadism is again positively related to accounting fraud, reaffirming hypothesis H₁.

In Model 3, the interaction between corporate reputation and sadism (SAD × REP) is inserted to explain the joint effect of corporate reputation and sadism on accounting fraud.

Again, corporate reputation is not significantly related to fraud when sadism is considered, thus rejecting hypothesis H₂. In addition, the interaction between corporate reputation and sadism is not significantly related to fraud, and thus hypothesis H₃ is rejected. This finding confirms that for sadists, corporate reputation is not able to reduce their intention to engage in accounting fraud.

The last model is controlled for all the dark personality variables. The result in Model 4 can be found in Table 22 and Table 23, showing that the personality variable of interest is not significant, but Machiavellianism (MACH) shows a positive relationship with accounting fraud. This result reinforces the idea that this personality trait is a good predictor of accounting fraud (Murphy, 2012). So again hypothesis H₃ is rejected.

Table 25 shows the regression that considers accounting fraud and Machiavellianism. There are four models: (1) Model 1 considers only Machiavellianism and the control variables; (2) Model 2 considers Machiavellianism, corporate reputation, and the control variables; (3) Model 3 considers Machiavellianism, corporate reputation, the interaction between Machiavellianism and corporate reputation, and the control variables; and (4) Model 4 considers all dark personalities, corporate reputation, the interaction between Machiavellianism and corporate reputation, and the control variables.

Table 25 – Regression for Accounting Fraud and Machiavellianism

	Model 1	Model 2	Model 3	Model 4
NARC				-1.233 (-0.42)
PSYC				3.055 (0.78)
SAD				3.715 (1.07)
MACH	7.424*** (3.52)	7.726*** (3.57)	10.911*** (3.91)	9.774*** (3.12)
REP		7.299 (1.09)	35.620* (1.93)	41.882** (2.23)
MACH × REP			-6.262 (-1.64)	-8.179** (-2.09)
GEN	-5.503 (-0.73)	-6.424 (-0.84)	-5.829 (-0.78)	-9.392 (-1.20)
AGE	-0.263 (-0.47)	-0.181 (-0.32)	-0.166 (-0.30)	-0.239 (-0.41)
EXP	1.13 (1.48)	1.212 (1.59)	1.219 (1.59)	1.254 (1.46)
NAT	-2.686 (-0.41)	-2.337 (-0.36)	-2.697 (-0.41)	-5.298 (-0.74)
Intercept	12.404	5.141	-10.424	-4.488

	(0.63)	(0.24)	(-0.43)	(-0.18)
R ²	0.196	0.207	0.227	0.256
F	3.785***	3.443***	3.895***	3.096***
N	101	101	101	101

Source: Author.

Note: *** Significant at a level of 1%; ** Significant at a level of 5%; * Significant at a level of 10% level; Robust standard error is given in brackets; NARC – Narcissism; PSYC – Psychopathy; SAD – Sadism; MACH – Machiavellianism; REP – Corporate Reputation; GEN – Gender; AGE – CEO's Age; EXP – Work-experience; NAT - Nationality.

All the models are significant, and so it is possible to make an interpretation about the effect of Machiavellianism (MACH) on accounting information quality. As shown in Tables 22 to 24, dark personality is the only significant variable in Model 1. Hence, Machiavellianism shows a positive relationship with accounting fraud (FRAUD). Therefore, highly Machiavellian CEOs are more prone to committing fraud, and so hypothesis H₁ is not rejected (Shafer & Wang, 2011; D'Souza & Lima, 2015; D'Souza & Jones, 2017).

In turn, Model 2 includes the effect of corporate reputation (REP) in explaining accounting fraud. However, corporate reputation is not significantly related to fraud when Machiavellianism is considered. Therefore, hypothesis H₂ is rejected, and reputation does not have an inhibitory effect on fraud. But Machiavellianism is again positively related to accounting fraud, reaffirming hypothesis H₁.

In Model 3, the interaction between corporate reputation and Machiavellianism (MACH × REP) is inserted to explain the joint effect of corporate reputation and Machiavellianism on accounting fraud. Unlike in Model 2, corporate reputation is positively and significantly related to fraud when the interaction term (MACH × REP) is considered, thus rejecting hypothesis H₂, since reputation was expected to have a negative relationship with fraud. This is because reputation reduces agency problems by inducing behavior that is in the interest of the principal even in the absence of a formal contract (Ball, 2009; Cao et al., 2014) and it can inhibit a firm and its CEO from engaging in opportunistic behavior or activities (Kim et al., 2012; Webb, 2002). Despite corporate reputation having a significant relationship with fraud, the interaction between corporate reputation and Machiavellianism is not significantly related to fraud, and thus hypothesis H₃ is rejected. This finding confirms that for Machiavellians corporate reputation is not able to reduce their intention to engage in accounting fraud.

The last model is controlled for all the dark personality variables. Unlike the other dark personality variables, the interaction term (MACH × REP) shows a significant and negative relationship with fraud. Therefore, when the model is controlled for all the dark personality variables, highly Machiavellian CEOs are less prone to committing fraud when they work in

reputable companies. This is due to companies with strong reputations generating a competence halo based on accountability, credibility, and trustworthiness for stakeholders, and these values create a culture where the rules and traditions are unwritten (Agarwal et al., 2011; Cao et al. 2012). In addition, Cao et al. (2012) state that highly reputable companies may have greater incentives to protect their reputations, so they inhibit their CEOs from engaging in opportunistic behavior or activities (Kim et al., 2012; Webb, 2002). This is also explained by Upper Echelons Theory, which predicts that internal environmental or organizational pressures, in this case corporate reputation, also have impacts on decision-making (Carpenter et al., 2004; Hambrick & Mason, 1984; Hiebl, 2014; Waldman et al. 2004; Yamak et al., 2013). Thus, as much as the dark personalities influence manager decisions in a negative way, and thus the practice of fraud, reputation is capable of affecting this behavior and reducing accounting fraud. This finding does not reject hypothesis H₃.

As demonstrated in Models 1 to 3, Machiavellianism is positively related to accounting fraud, emphasizing that this personality trait is a good predictor of accounting fraud (Murphy, 2012). For that reason, this type of personality could be dangerous to companies, because highly Machiavellian CEOs have an extremely selfish orientation in which they are willing to use whatever means are necessary to attain their goals, such as fraud or earnings management (Zeigler-Hill & Marcus, 2016).

Again, individually, corporate reputation is positively related to accounting fraud, which diverges from Cao et al. (2012). These authors state that firms with stronger reputations are less likely to commit fraud, but firms are prone to committing fraud even if they have a good reputation.

The result in Model 4 can be found in Tables 22 to 24, in which Machiavellianism (MACH) shows a positive relationship with accounting fraud. This result reinforces the idea that this personality trait is a good predictor of accounting fraud (Murphy, 2012).

Table 26 shows the regression that considers accounting fraud and the Dark Tetrad of personality. There are three models: (1) Model 1 considers only the Dark Tetrad of personality and the control variables; (2) Model 2 considers the Dark Tetrad of personality, corporate reputation, and the control variables; and (3) Model 3 considers the Dark Tetrad of personality, corporate reputation, the interaction between the Dark Tetrad of personality and corporate reputation, and the control variables.

Table 26 – Regression for Accounting Fraud and the Dark Tetrad of personality

	Model 1	Model 2	Model 3
D4	11.928*** (3.84)	11.920*** (3.88)	13.290*** (2.78)
REP		4.014 (0.62)	4.008 (0.62)
D4 × REP			-2.347 (-0.42)
GEN	-8.354 (-1.08)	-8.76 (-1.11)	-8.693 (-1.11)
AGE	-0.46 (-0.77)	-0.416 (-0.69)	-0.435 (-0.73)
EXP	1.222 (1.39)	1.258 (1.44)	1.279 (1.43)
NAT	-5.314 (-0.84)	-5.187 (-0.82)	-5.207 (-0.82)
Intercept	54.414*** (3.30)	51.215*** (2.93)	51.730*** (2.97)
R ²	0.194	0.197	0.199
F	3.96***	3.53***	3.03***
N	101	101	101

Source: Author.

Note: *** Significant at a level of 1%; ** Significant at a level of 5%; * Significant at a level of 10%; Robust standard error is given in brackets; D4 – the Dark Tetrad of personality; REP – Corporate Reputation; GEN – Gender; AGE – CEO's Age; EXP – Work-experience; NAT - Nationality.

All the models are significant, so it is possible to make an interpretation about the effect of the Dark Tetrad of personality (D4) on accounting information quality. The Dark Tetrad of personality is a comprehensive variable that captures the characteristics of narcissism, psychopathy, Machiavellianism, and sadism, which, in general, involve a lack of empathy and callousness.

In all the models, the Dark Tetrad of personality is positively related to accounting fraud (FRAUD). Thus, CEOs with strong dark personalities are more prone to committing fraud, and so hypothesis H₁ is not rejected (Shafer & Wang, 2011; D'Souza & Lima, 2015; D'Souza & Jones, 2017).

Regarding reputation, Model 2 includes the effect of corporate reputation (REP) in explaining accounting fraud. However, corporate reputation is not significantly related to fraud when the Dark Tetrad of personality is considered. Thus, hypothesis H₂ is rejected, and reputation does not have an inhibitory effect on fraud.

In Model 3, the interaction between corporate reputation and the Dark Tetrad of personality (D4 × REP) is inserted to explain the joint effect of corporate reputation and the Dark Tetrad of personality on accounting fraud. As shown in Tables 22 to 24, the interaction between corporate reputation and dark personality is not significantly related to fraud, and thus

hypothesis H₃ is rejected. Although Machiavellianism is a good predictor of fraud, and when Machiavellianism interacts with corporate reputation, fraud is reduced, Machiavellianism is not strong enough in the Dark Tetrad of personality to produce a significant interaction with corporate reputation.

Therefore, Psychopathy, Machiavellianism, Sadism, and the Dark Tetrad of personality increase accounting fraud. However, if highly Machiavellian CEOs work in reputable companies, then the accounting fraud is lower.

Table 27 shows the regression that considers misrepresentation and narcissism. There are four models: (1) Model 1 considers only narcissism and the control variables; (2) Model 2 considers narcissism, corporate reputation, and the control variables; (3) Model 3 considers narcissism, corporate reputation, the interaction between narcissism and corporate reputation, and the control variables; and (4) Model 4 considers all dark personalities, corporate reputation, the interaction between narcissism and corporate reputation, and the control variables.

Table 27 – Regression for Misrepresentation and Narcissism

	Model 1	Model 2	Model 3	Model 4
NARC	0.015 (0.17)	0.016 (0.18)	0.037 (0.30)	-0.08 (-0.63)
PSYC				0.106 (0.70)
SAD				0.099 (0.78)
MACH				0.118 (1.23)
REP		0.21 (0.87)	0.419 (0.48)	0.51 (0.56)
NARC × REP			-0.044 (-0.25)	-0.073 (-0.40)
GEN	-0.644** (-2.49)	-0.675** (-2.58)	-0.677*** (-2.58)	-0.887*** (-3.31)
AGE	-0.008 (-0.36)	-0.005 (-0.20)	-0.004 (-0.20)	-0.005 (-0.23)
EXP	0.015 (0.44)	0.016 (0.47)	0.016 (0.47)	0.019 (0.56)
NAT	0.048 (0.19)	0.051 (0.20)	0.053 (0.20)	-0.001 (-0.00)
Intercept	0.455 (0.58)	0.27 (0.33)	0.171 (0.19)	-0.087 (-0.09)
Pseudo R ²	0.055	0.059	0.059	0.091
χ^2	13.242**	14.005*	14.067*	21.805**
N	101	101	101	101

Source: Author.

Note: *** Significant at a level of 1% level; ** Significant at a level of 5% level; * Significant at a level of 10% level; Robust standard error is given in brackets; NARC – Narcissism; PSYC – Psychopathy; SAD – Sadism;

MACH – Machiavellianism; REP – Corporate Reputation; GEN – Gender; AGE – CEO's Age; EXP – Work-experience; NAT - Nationality.

All the models in Table 27 are significant; however none of the variables of interest are significant. Therefore, we cannot infer the effect of narcissistic CEOs (NARC) and corporate reputation (REP) on misrepresentation (MISREP). The same result was found in Table 22.

Chatterjee and Hambrick (2011) show that highly narcissistic CEOs are especially bolstered by social praise worry about their reputation. Therefore, if they engage in misrepresentation, which harms the company's reputation, their own reputation is affected because there is an alignment between CEO reputation and company reputation (Love et al., 2017).

Based on that, for narcissism, all the hypotheses (H_1 , H_2 and H_3) are rejected, and so narcissism and reputation are not related to misrepresentation, not even the interaction term.

Regarding the control variables, gender (GEN) shows a negative relationship with misrepresentation: female CEOs are more prone to committing fraud by misrepresentation than male CEOs, thus diverging from Cumming et al. (2015), which found that with the presence of females on boards, firms tend not to commit fraud.

Table 28 shows the regression that considers misrepresentation and psychopathy. There are four models: (1) Model 1 considers only psychopathy and the control variables; (2) Model 2 considers psychopathy, corporate reputation, and the control variables; (3) Model 3 considers psychopathy, corporate reputation, the interaction between psychopathy and corporate reputation, and the control variables; and (4) Model 4 considers all dark personalities, corporate reputation, the interaction between psychopathy and corporate reputation, and the control variables.

Table 28 – Regression for Misrepresentation and Psychopathy

	Model 1	Model 2	Model 3	Model 4
NARC				-0.085 (-0.80)
PSYC	0.221** (2.29)	0.214** (2.22)	0.046 (0.29)	0.029 (0.16)
SAD				0.063 (0.49)
MACH				0.099 (1.03)
REP		0.167 (0.69)	-0.452 (-0.90)	-0.222 (-0.42)
PSYC× REP			0.26	0.166

			(1.39)	(0.82)
GEN	-0.789*** (-2.97)	-0.813*** (-3.02)	-0.853*** (-3.13)	-0.884*** (-3.29)
AGE	-0.012 (-0.53)	-0.008 (-0.38)	-0.005 (-0.23)	-0.004 (-0.17)
EXP	0.018 (0.54)	0.018 (0.55)	0.017 (0.50)	0.018 (0.52)
NAT	0.053 (0.21)	0.056 (0.22)	0.057 (0.22)	0.02 (0.07)
Intercept	0.094 (0.13)	-0.041 (-0.06)	0.268 (0.35)	0.181 (0.20)
Pseudo R ²	0.076	0.078	0.086	0.093
χ^2	18.254***	18.724***	20.673***	22.321**
N	101	101	101	101

Source: Author.

Note: *** Significant at a level of 1%; ** Significant at a level of 5%; * Significant at a level of 10% level; Robust standard error is given in brackets; NARC – Narcissism; PSYC – Psychopathy; SAD – Sadism; MACH – Machiavellianism; REP – Corporate Reputation; GEN – Gender; AGE – CEO's Age; EXP – Work-experience; NAT - Nationality.

All the models are significant; however, psychopathy (PSYC) shows significance only in two models. In addition, corporate reputation (REP) and the interaction term (PSYC × REP) do not show a significant relationship.

In both Model 1 and Model 2, psychopathy is positive and significantly related to misrepresentation (MISREP). Therefore, highly psychopathic CEOs are more prone to committing fraud, and so hypothesis H₁ is not rejected (Shafer & Wang, 2011; D'Souza & Lima, 2015; D'Souza & Jones, 2017).

Regarding reputation, in Model 2, Model 3, and Model 4, corporate reputation (REP) is not significantly related to fraud by misrepresentation. Thus, hypothesis H₂ is rejected, and reputation does not have an inhibitory effect on fraud.

In Model 3 and Model 4 there are the joint effects of corporate reputation and psychopathy (PSYC × REP) on misrepresentation. However, in both models, the interaction term is not significantly related to fraud, and thus hypothesis H₃ is rejected. This finding confirms that for psychopaths, corporate reputation is not able to reduce their intention to engage in misrepresentation.

As for narcissism, gender (GEN) shows a positive relationship with misrepresentation: female CEOs engage more in misrepresentation than male CEOs, which contradicts Cumming et al. (2015).

Table 29 shows the regression that considers misrepresentation and sadism. There are four models: (1) Model 1 considers only sadism and control variables; (2) Model 2 considers

sadism, corporate reputation, and the control variables; (3) Model 3 considers sadism, corporate reputation, the interaction between sadism and corporate reputation, and the control variables; and (4) Model 4 considers all dark personalities, corporate reputation, the interaction between sadism and corporate reputation, and the control variables.

Table 29 – Regression for Misrepresentation and Sadism

	Model 1	Model 2	Model 3	Model 4
NARC				-0.102 (-0.98)
PSYC				0.117 (0.80)
SAD	0.194** (2.36)	0.185** (2.21)	0.091 (0.53)	0.031 (0.15)
MACH				0.109 (1.15)
REP		0.119 (0.48)	-0.027 (-0.08)	0.073 (0.21)
SAD × REP			0.119 (0.63)	0.074 (0.38)
GEN	-0.812*** (-3.04)	-0.820*** (-3.06)	-0.795*** (-2.94)	-0.864*** (-3.17)
AGE	-0.008 (-0.38)	-0.006 (-0.28)	-0.005 (-0.22)	-0.005 (-0.22)
EXP	0.02 (0.59)	0.02 (0.59)	0.017 (0.50)	0.018 (0.52)
NAT	-0.08 (-0.29)	-0.077 (-0.28)	-0.081 (-0.30)	-0.003 (-0.01)
Intercept	0.371 (0.54)	0.276 (0.38)	0.327 (0.46)	0.09 (0.10)
Pseudo R ²	0.076	0.077	0.079	0.091
χ^2	18.253***	18.482***	18.893**	21.793**
N	101	101	101	101

Source: Author.

Note: *** Significant at a level of 1%; ** Significant at a level of 5%; * Significant at a level of 10%; Robust standard error is given in brackets; NARC – Narcissism; PSYC – Psychopathy; SAD – Sadism; MACH – Machiavellianism; REP – Corporate Reputation; GEN – Gender; AGE – CEO's Age; EXP – Work-experience; NAT - Nationality.

All the models are significant; however, sadism (SAD) shows significance only in two models. In addition, corporate reputation (REP) and the interaction term (SAD × REP) do not show significance.

In both Model 1 and Model 2, sadism is positive and significantly related to misrepresentation (MISREP). Therefore, highly sadistic CEOs are more prone to committing fraud, and so hypothesis H₁ is not rejected (Shafer & Wang, 2011; D'Souza & Lima, 2015; D'Souza & Jones, 2017).

Regarding reputation, in Model 2, Model 3, and Model 4, corporate reputation (REP) is not significantly related to fraud by misrepresentation. Thus, hypothesis H₂ is rejected, and reputation does not have an inhibitory effect on fraud.

In Model 3 and Model 4 there are the joint effects of corporate reputation and sadism (SAD × REP) on misrepresentation. However, in both models, the interaction term is not significantly related to fraud, and thus hypothesis H₃ is rejected. This finding confirms that for sadists, corporate reputation is not able to reduce their intention to engage in misrepresentation.

As for narcissism and psychopathy, gender (GEN) shows a positive relationship with misrepresentation: female CEOs engage more in misrepresentation than male CEOs, which contradicts Cumming et al. (2015).

Table 30 shows the regression that considers misrepresentation and Machiavellianism. There are four models: (1) Model 1 considers only Machiavellianism and the control variables; (2) Model 2 considers Machiavellianism, corporate reputation, and the control variables; (3) Model 3 considers Machiavellianism, corporate reputation, the interaction between Machiavellianism and corporate reputation, and the control variables; and (4) Model 4 considers all dark personalities, corporate reputation, the interaction between Machiavellianism and corporate reputation, and the control variables.

Table 30 – Regression for Misrepresentation and Machiavellianism

	Model 1	Model 2	Model 3	Model 4
NARC				-0.115 (-1.13)
PSYC				0.131 (0.87)
SAD				0.104 (0.83)
MACH	0.152** (2.01)	0.162** (2.15)	0.176 (1.57)	0.152 (1.32)
REP		0.279 (1.15)	0.396 (0.53)	0.606 (0.79)
MACH × REP			-0.024 (-0.16)	-0.096 (-0.62)
GEN	-0.742*** (-2.86)	-0.789*** (-3.00)	-0.788*** (-2.99)	-0.890*** (-3.31)
AGE	-0.007 (-0.34)	-0.003 (-0.13)	-0.003 (-0.13)	-0.007 (-0.30)
EXP	0.019 (0.56)	0.02 (0.61)	0.02 (0.61)	0.02 (0.59)
NAT	0.094 (0.36)	0.102 (0.39)	0.101 (0.38)	-0.018 (-0.07)
Intercept	-0.168	-0.459	-0.523	-0.117

	(-0.22)	(-0.56)	(-0.58)	(-0.12)
Pseudo R ²	0.072	0.077	0.078	0.092
χ^2	17.194***	18.507***	18.534**	22.024**
N	101	101	101	101

Source: Author.

Note: *** Significant at a level of 1%; ** Significant at a level of 5%; * Significant at a level of 10% level; Robust standard error is given in brackets; NARC – Narcissism; PSYC – Psychopathy; SAD – Sadism; MACH – Machiavellianism; REP – Corporate Reputation; GEN – Gender; AGE – CEO's Age; EXP – Work-experience; NAT - Nationality.

All the models are significant; however, Machiavellianism (MACH) shows significance only in two models. In addition, corporate reputation (REP) and the interaction term (MACH × REP) do not show significance.

In both Model 1 and Model 2, sadism is positive and significantly related to misrepresentation (MISREP). Therefore, highly Machiavellian CEOs are more prone to committing fraud, and so hypothesis H₁ is not rejected (Shafer & Wang, 2011; D'Souza & Lima, 2015; D'Souza & Jones, 2017).

Regarding reputation, in Model 2, Model 3, and Model 4, corporate reputation (REP) is not significantly related to fraud by misrepresentation. Thus, hypothesis H₂ is rejected: reputation does not have an inhibitory effect of fraud.

In Model 3 and Model 4 there is the joint effect of corporate reputation and Machiavellianism (MACH × REP) on misrepresentation. However, in both models, the interaction term is not significantly related to fraud, and thus hypothesis H₃ is rejected. This finding confirms that for Machiavellians, corporate reputation is not able to reduce their intention to engage in misrepresentation.

As for narcissism, psychopathy, and sadism, gender (GEN) shows a positive relationship with misrepresentation: female CEOs engage more in misrepresentation than male CEOs, which contradicts Cumming et al. (2015).

Table 31 shows the results of the regression that considers misrepresentation and the Dark Tetrad of personality. There are three models: (1) Model 1 considers only the Dark Tetrad of personality and the control variables; (2) Model 2 considers the Dark Tetrad of personality, corporate reputation, and the control variables; and (3) Model 3 considers the Dark Tetrad of personality, corporate reputation, the interaction between the Dark Tetrad of personality and corporate reputation, and the control variables.

Table 31 – Regression for Misrepresentation and the Dark Tetrad of personality

	Model 1	Model 2	Model 3
D4	0.262** (2.30)	0.255** (2.25)	0.164 (0.88)
REP		0.184 (0.76)	0.161 (0.65)
D4 × REP			0.139 (0.61)
GEN	-0.797*** (-3.01)	-0.820*** (-3.07)	-0.816*** (-3.06)
AGE	-0.01 (-0.45)	-0.007 (-0.30)	-0.006 (-0.26)
EXP	0.021 (0.63)	0.022 (0.64)	0.02 (0.60)
NAT	0.033 (0.12)	0.033 (0.13)	0.028 (0.11)
Intercept	0.576 (0.84)	0.414 (0.57)	0.395 (0.55)
Pseudo R ²	0.076	0.079	0.08
χ^2	18.25***	18.82***	19.20**
N	101.00	101.00	101.00

Source: Author.

Note: *** Significant at a level of 1%; ** Significant at a level of 5%; * Significant at a level of 10%; Robust standard error is given in brackets; D4 – the Dark Tetrad of personality; REP – Corporate Reputation; GEN – Gender; AGE – CEO's Age; EXP – Work-experience; NAT - Nationality.

All the models are significant; however, the Dark Tetrad of personality (D4) shows significance only in two models. In addition, corporate reputation (REP) and the interaction term (D4 × REP) do not show significance.

In both Model 1 and Model 2, the Dark Tetrad of personality is positive and significantly related to misrepresentation (MISREP). Therefore, CEOs with strong dark personalities are more prone to committing a fraud, and so hypothesis H₁ is not rejected (Shafer & Wang, 2011; D'Souza & Lima, 2015; D'Souza & Jones, 2017).

Regarding reputation, in Model 2, Model 3, and Model 4, corporate reputation (REP) is not significantly related to fraud by misrepresentation. Thus, hypothesis H₂ is rejected: reputation does not have an inhibitory effect on fraud.

In Model 3 and Model 4 there are the joint effects of corporate reputation and the Dark Tetrad of personality (D4 × REP) on misrepresentation. However, in both models the interaction term is not significantly related to fraud, and thus hypothesis H₃ is rejected. This finding confirms that for dark personalities, corporate reputation is not able to reduce the intention to engage in misrepresentation.

As for all dark personalities, gender (GEN) shows a positive relationship with misrepresentation: female CEOs engage more in misrepresentation than male CEOs, which contradicts Cumming et al. (2015).

Therefore, Psychopathy, Machiavellianism, Sadism, and the Dark Tetrad of personality increase misrepresentation; however, corporate reputation does not reduce the opportunistic behavior of CEOs regarding misrepresentation.

4.3. Discussion

Upper Echelons Theory explains that the external or internal situation is the trigger for psychological aspects of CEOs to interfere in decision-making, so depending on the firm and CEO characteristics, there are fewer or more chances of distorted decisions, possibly reducing accounting information quality (Hambrick & Mason, 1984; Carpenter et al., 2004; Yamak et al., 2013). This theory states that CEOs and organizational characteristics are linked to certain decision-making. In the context of this dissertation, I considered the Dark Tetrad of personality and corporate reputation to be the constructs that are able to affect accounting information quality.

Regarding dark personalities, I developed hypothesis H₁, in which the presence of individuals with strong traits of the Dark Tetrad is positively related to earnings management and fraud.

The Dark Tetrad of personality (D4) shows a positive relationship with abnormal accruals (AB), real earnings management (REM), and classification shifting (SHIF), and so CEOs with strong dark personality traits (narcissism, psychopathy, Machiavellianism, and sadism) tend to engage in earnings management. I do not reject hypothesis H₁ for earnings management, because CEOs with strong dark personalities use judgment and discretion to alter financial reports to mislead some stakeholder in order to achieve their objectives (Hegarty & Sims Jr., 1979; Healy & Wahlen, 1999; Elias, 2002; Kaplan et al., 2007; Lo, 2008; Duchon & Drake, 2009; Shafer & Wang, 2011; Stevens et al., 2012; Olsen et al., 2014; D'Souza & Lima, 2015; Blair et al., 2017).

On the other hand, psychopathy (PSYC), sadism (SAD), Machiavellianism (MACH), and the Dark Tetrad of personality (D4) show a positive relationship with accounting fraud (FRAUD) and misrepresentation (MISREP) when the models do not consider the interaction term, except for Machiavellianism, which shows positive significance in all the models. Thus, CEOs with high dark personality variables (Psychopathy, Machiavellianism, Sadism, and the

Dark Tetrad of personality) tend to commit fraud. Therefore, I do not partially reject hypothesis H₁ for fraud because CEOs with these personalities are more prone to engaging in unethical behavior (Hegarty & Sims Jr., 1979; Bickle et al., 2006; Duchon & Drake, 2009; Shafer & Wang, 2011; Stevens et al., 2012; Rijsenbilt & Commandeur, 2013; Driesch et al., 2015; D'Souza & Lima, 2015; Oesterle et al., 2016; Waldman et al., 2004; Wang et al., 2012; Zeigler-Hill & Marcus, 2016; Blair et al., 2017).

Regarding corporate reputation, I developed hypothesis H₂, in which corporate reputation is negatively related to earnings management and fraud.

Corporate reputation (REP) is negatively related to abnormal accruals (AB), so in highly reputable companies, CEOs do not use accounting judgment to increase or decrease earnings. Therefore, corporate reputation could be a reducer of agency problems and consequently a reducer of earnings management, emphasizing that a strong reputation signals high quality and conveying competence and business conduct that is consistent with shareholder interests (Cao et al., 2012; Cao et al., 2015). However, for real earnings management and classification shifting, there is no relationship with corporate reputation, and thus these findings partially reject hypothesis H₂. For fraud, there is also no relationship with corporate reputation (accounting fraud and misrepresentation), thus rejecting the hypothesis H₂.

On the other hand, in relation to the interaction term (D4 × REP), I developed hypothesis H₃, in which the presence of individuals with strong Dark Tetrad traits is positively related to earnings management and fraud, this relationship being lower when corporate reputation is strong.

Although corporate reputation only shows a negative relationship with abnormal accruals, CEOs with strong dark personalities that work in reputable companies engage less in earnings management (abnormal accruals, real earnings management, and classification shifting). Thus, corporate reputation generates a competence halo that protects firms and CEOs with dark personalities are inhibited from acting in an opportunistic way (Webb, 2002; Dyck et al., 2008; Agarwal et al., 2011; Cao et al. 2012; Kim et al., 2012). Regarding fraud, only highly Machiavellian CEOs are discouraged from committing fraud by a strong reputation, maybe because they do not think short-term, they act in the right moment, and rationalize financial misbehaviors (Jonason & Tost, 2010; Rauthmann & Will, 2011; Murphy, 2012; Jones, 2016). Therefore, hypothesis H₃ is not partially rejected.

Table 32 shows a summary of the previously described findings, showing which hypothesis is rejected or not rejected for each dark personality variable and interaction variable.

Table 32 – Summary of findings

Variables	Hypothesis	Earnings Management			Fraud	
		Abnormal Accrual	Real Earnings Management	Classification Shifting	Accounting Fraud	Misrepresentation
NARC	H ₁	Not rejected	Not rejected	Rejected	Rejected	Rejected
PSYC	H ₁	Not rejected	Not rejected	Rejected	Not rejected	Not rejected
SAD	H ₁	Not rejected	Not rejected	Rejected	Not rejected	Not rejected
MACH	H ₁	Not rejected	Not rejected	Rejected	Not rejected	Not rejected
D4	H ₁	Not rejected	Not rejected	Not rejected	Not rejected	Not rejected
REP	H ₂	Not rejected	Rejected	Rejected	Rejected	Rejected
NARC × REP	H ₃	Not rejected	Not rejected	Not rejected	Rejected	Rejected
PSYC × REP	H ₃	Not rejected	Not rejected	Not rejected	Rejected	Rejected
SAD × REP	H ₃	Not rejected	Not rejected	Not rejected	Rejected	Rejected
MACH × REP	H ₃	Not rejected	Not rejected	Not rejected	Not rejected	Rejected
D4 × REP	H ₃	Not rejected	Not rejected	Not rejected	Rejected	Rejected

Source: Author.

Note: NARC – Narcissism; PSYC – Psychopathy; SAD – Sadism; MACH – Machiavellianism; D4 – The Dark Tetrad of personality; REP – Corporate Reputation.

From Table 32 we can note Upper Echelons Theory is confirmed and expanded, since dark personalities influence CEO decision-making and their engaging in unethical and opportunistic actions that damage firms in several ways, these actions being earnings management and fraud. The theory is expanded because Hambrick & Mason (1984) did not include the effect of psychological characteristics in their decision-making model, but instead only considered the background factors (age, experience, etc.) that can indirectly explain the effects of an executive's behavior.

This result reinforces the idea that the accounting literature should also consider an individual's factors in its analyses, because, as demonstrated, the strategies and practices of firms derive from individual factors such as personality and not just market factors.

Corporate reputation shows a weak relationship with accounting information quality, as it is only related to abnormal accruals. Therefore, firms must invest in more protection that inhibits the opportunistic behavior of CEOs, such as corporate governance

Despite the weak relationship with accounting information quality, corporate reputation was shown to be a moderator, especially of earnings management. Thus, CEOs feel constrained from acting opportunistically through earnings management when they are in reputable

companies, perhaps because these firms convey greater credibility and trust to stakeholders and have greater visibility in the market. In addition, earnings management is a practice that is difficult to detect and occurs within laws and accounting norms, and so it does not involve as much risk for CEOs. Thus, reputation can have a greater inhibitory effect.

On the other hand, fraud is a high-risk action for CEOs, because when it is detected, they and their companies are penalized with fines, penalties, loss of reputation, and boycotts, and in the CEO's case, loss of position. Therefore, fraud would be the last option that CEOs would use to meet their goals. Perhaps that is why reputation has a weak moderating effect on fraud, and is inhibitive only when CEOs have a strong Machiavellian personality. Thus, this dissertation complements the literature on fraud, which does not consider psychological aspects in predicting future fraud.

Therefore, the main assumption of this dissertation is confirmed, with some restrictions: CEOs with strong Dark Tetrad traits manage earnings more and they are more likely to commit fraud, however in companies with a strong reputation, earnings management and the occurrence of fraud are lower due to the values, structures, and (formal or informal) rules built around corporate reputation and because the CEOs do not want to lose their own reputation.

Nevertheless, firms need to improve their reputation because this can attract and retain employees, even top executives, and create value, so that these firms can win over stakeholders. But reputation alone cannot safeguard the integrity of firms. They must invest in corporate ethics by adopting ethical codes at all levels of power, and they must adopt best corporate governance practices and have quality audits. All these aspects, together with corporate reputation, help firms to have accounting information quality.

5. CONCLUSIONS

The purpose of this dissertation was to investigate the moderating effect of corporate reputation on the relationship between the Dark Tetrad of personality and accounting information quality. For this, I developed three hypotheses seeking to demonstrate the effect of the Dark Tetrad of personality, corporate reputation, and their interaction, on accounting information quality.

To reject the research hypotheses or not, I adopted two research methods, one archival and another experimental, in which the archival method analyzed earnings management and the experimental method analyzed fraud.

For the archival method, all public companies listed in Fortune's World's Most Admired Companies in at least one year between 2010 and 2017 were used. The first year of the sample, 2010, was chosen to eliminate the effect of the financial crisis that occurred between 2007 and 2009 (deHaan, 2017). However, due to a lack of data in CRSP, Wharton Research Data Services Capital IQ, and the Seeking Alpha website, the final sample was composed of 434 firms (2,645 observations) with headquarters in the United States. To test the hypothesis, I applied a Multiple Linear Regression using panel data with random effects controlled by industry and year. Earnings management (EM) was used as in Francis and Wang (2008), Dechow et al. (1995), Roychowdhury (2006), Cohen et al. (2008) and McVay (2006), defined as abnormal accruals, real earnings management, and classification shifting. Corporate reputation was measured by the overall score in Fortune's World's Most Admired Companies. In turn, the Dark Tetrad of personality was a new metric based on speeches.

For the experimental method, I used a 2x2 between-subjects experiment design involving 101 MBA students who, in general, have had experience in management, from Brazil and The United States of America. To test the hypothesis, I applied Ordinary Least Squares regressions and Poisson regressions. To measure the Dark Tetrad of personality, I used The Short-Dark Triad with 27 items (Jones & Paulhus, 2014) and the Assessment of Sadistic Personality (ASP) with 9 items (Plouffe et al., 2017). For reputation, I adapted the scenarios of Goldberg and Hartwick, (1990) and Lafferty (2007). And for fraud, I developed two proxies: the first with five situations based on the literature addressing accounting issues and the other based on D'Souza and Lima (2015).

As mentioned before, the hypotheses are not partially rejected, so dark personalities have a positive relationship with earnings management and fraud, corporate reputation is negatively related to earnings management by abnormal accruals, and corporate reputation

reduces the effects of dark personalities on earnings management and fraud. Therefore, corporate reputation is important for accounting information quality, as well as the dark personality or other behavioral factors.

Besides the regressions and analysis between the Dark Tetrad of personality, corporate reputation, and accounting information quality, I developed some secondary analyses (archival method) focusing on dark personalities. First, CEOs with low dark personalities tend to work in companies with low reputations, maybe because these companies do not attract CEOs with high dark personality traits since they do not have visibility in the market, high remuneration, and competitiveness. Second, younger CEOs have low dark personality traits and older CEOs have high dark personality traits. Third, CEOs with high dark personalities work in small companies. Fourth, CEOs with high dark personalities are those who work in highly profitable companies, especially because these companies provide visibility, power, and prestige. Lastly, CEOs with high dark personalities work in the Consumer Discretionary and Utilities industries, and not in industries like Energy, Materials, and Information Technology.

In the experiment, it was analyzed whether there are differences between Americans and Brazilians regarding fraud, dark personalities, and reputation, and I found that Americans are more sadistic than Brazilians, maybe because Brazil is considered a collectivist country (Hofstede, 2011), and so Brazilians are more concerned with others, while Americans are more individualistic and think more about themselves.

This study contributes to the literature in several ways. First, I show how the Dark Tetrad of personality in CEOs can be measured and that narcissism, psychopathy, sadism, and Machiavellianism are correlated, which is confirmation of the validity of the construct, since Paulhus and Williams (2002) and Paulhus and Jones (2014) demonstrated that they share characteristics.

Second, this is the first study to empirically confirm that corporate reputation inhibits the psychological perspective of dark personalities that causes a reduction in accounting information quality (earnings management and fraud).

Third, this is the first study to empirically confirm that sadism has implications for businesses, in which sadists are more prone to reducing accounting information quality via earnings management and fraud.

Fourth, this dissertation fosters Behavioral Accounting with a focus on Financial Accounting, especially in Brazil, where there are few studies on Behavioral Accounting.

The findings may be relevant for shareholders, executive board members, non-executive board members, accountants, regulators, investors, employees, analysts, auditors, and society

in general. As mentioned by Rijsenbilt and Commandeur (2013), all stakeholders that have some involvement with a company must be aware of the potentially destructive behavior resulting from high levels of dark personalities in CEOs.

For stakeholders and shareholders, it is important to know who is in power and how they can act is important for taking short and long-term investment decisions. Choosing someone to make decisions in their place is extremely important for shareholders, however these decisions affect the board members, because they are the ones who work with CEOs, and individuals with strong dark personalities are hard to work with.

For regulators, it may be relevant to know that a CEO's personality distorts CEO decision-making in accounting, so they can review the restrictions of the discretion in accounting earnings management, affecting the work of accountants.

For unsophisticated investors and employees, the paper is valuable because it is crucial for the former to know in which firm they can invest without being expropriated and for the latter to know in which firm they will find a quality workplace.

The study is important for analysts and auditors because they do not consider the effect of personality in the target firm and client, and so some analyst predictions are incomplete and auditors have no notion of the risk of client fraud, and therefore their assumptions may be distorted.

The expected finding would help analysts in their predictions, because they do not consider behavioral aspects of managers. Company earnings have possibly been different from their predictions due to the dark personalities of top management, since managers with strong personality traits of Dark Tetrad are impulsive and unpredictable.

For auditors, the research would assist in assessing the risk of client fraud. The auditing standards say that auditors should consider the risk of fraud that the client may cause. Therefore, if the expected finding is confirmed, auditors should create tools and processes in companies with low reputations, because in those companies managers with a strong dark personality trait would tend to report fraudulent financial information.

In addition to these contributions, academically, the dissertation should foster Behavioral Accounting with a focus on Financial Accounting. In Brazil, there are few studies in this area, so this dissertation should be a guiding study for the area in Brazil. Internationally, it will add the dark side of management to Accounting. The study also contributes to developing a metric for analyzing the Dark Tetrad through content and linguistic analysis of Earnings Conference Calls. This new metric will help in archival studies, because the usual metrics for the Dark Tetrad are survey ones, and it will instigate studies in the (behavioral) accounting area.

This dissertation has some limitations. The first limitation is the sample, because in the archival method, due to the construction of the measure of the Dark Tetrad of personality, only American firms were analyzed, because they have transcriptions on the Seeking Alpha website in the years of analysis. There were firms from other countries, but there were few observations for each country, and that was the reason for using only The United States of America. The experimental sample is also a limitation. Although considered a large sample according to Wooldridge (2013), this study could have more individuals to generate a stratified analysis. In addition, perhaps with a larger sample the control variables would have some relationship with fraud.

The second limitation is the dark personalities measurement in the archival method, because it is a new variable that considers the Big Five personalities measured by Personality Insights and the findings of the dark personality literature.

The third limitation is the metrics for earnings management, as Dechow et al. (2010) state that there is noise in the models that measure accruals quality or accruals discretion. In addition, there are several models that seek to measure the same thing, so there is no complete and comprehensive variable.

The fourth limitation is the corporate reputation used in the archival and experimental methods. In the archival method, I used the overall score in Fortune's World's Most Admired Companies ranking, which is not the best measurement for reputation, but it is the most widely used (Fombrun, 2007). In the experimental method, the way the reputation was developed might not have been effectively understood by the participants since they were asked to place themselves in a company with a strong or weak reputation.

For future studies, corporate governance could be used instead of corporate reputation. Both increase accounting information quality, but governance is a formal institution and firms can change their governance, while for reputation they cannot, because it is the stakeholders that attribute it.

Studies could also analyze how dark personalities are related to accounting information quality in several countries, considering the effects of national culture on it. For example, one aspect of national culture is individualism (Hofstede, 2011). This aspect can influence the existence of more narcissists, since narcissists find it difficult to work in groups, and so in individualistic countries there would be more narcissists, and thus the accounting information quality would be lower in such circumstances.

Lastly, the literature on dark personality always focuses on strong and weak traits, but moderate traits are almost forgotten. Thus, for future research, it would be interesting to analyze how this level of dark personality affects accounting information quality.

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ANNEX

Annex A – The Short-Dark Triad

Short-Dark Triad	Meaning
Machiavellianism items	
1. It's not wise to tell your secrets.	Reputation
2. I like to use clever manipulation to get my way.	Cynicism
3. Whatever it takes, you must get the important people on your side.	Coalition building
4. Avoid direct conflict with others because they may be useful in the future.	Coalition building
5. It's wise to keep track of information that you can use against people later.	Planning
6. You should wait for the right time to get back at people.	Planning
7. There are things you should hide from other people to preserve your reputation.	Reputation
8. Make sure your plans benefit yourself, not others.	Planning
9. Most people can be manipulated.	Cynicism
Narcissism items	
1. People see me as a natural leader.	Leadership
2. I hate being the center of attention. (Reversal)	Exhibitionism
3. Many group activities tend to be dull without me.	Grandiosity
4. I know that I am special because everyone keeps telling me so.	Grandiosity
5. I like to get acquainted with important people.	Entitlement
6. I feel embarrassed if someone compliments me. (Reversal)	Exhibitionism
7. I have been compared to famous people.	Grandiosity
8. I am an average person. (Reversal)	Grandiosity
9. I insist on getting the respect I deserve.	Entitlement
Psychopathy items	
1. I like to get revenge on authorities.	Antisocial behavior
2. I avoid dangerous situations. (Reversal)	Erratic lifestyle
3. Payback needs to be quick and nasty.	Callous affect
4. People often say I'm out of control.	Erratic lifestyle
5. It's true that I can be mean to others.	Callous affect
6. People who mess with me always regret it.	Antisocial behavior
7. I have never gotten into trouble with the law. (Reversal)	Antisocial behavior
8. I like to pick on losers.	Callous affect
9. I'll say anything to get what I want.	Short-term manipulation

Note: Jones and Paulhus (2014)

Annex B – Assessment of Sadistic Personality

Assessment of Sadistic Personality	Meaning
Sadism items	
1. I have made fun of people so that they know I am in control.	Subjugation
2. I never get tired of pushing people around.	Subjugation
3. I would hurt somebody if it meant that I would be in control.	Subjugation
4. When I mock someone, it is funny to see them get upset.	Pleasure-seeking
5. Being mean to others can be exciting.	Pleasure-seeking
6. I get pleasure from mocking people in front of their friends.	Pleasure-seeking
7. Watching people get into fights excites me.	Pleasure-seeking
8. I think about hurting people who irritate me.	Unempathic
9. I would not purposely hurt anybody, even if I didn't like them. (Reversal)	Unempathic

Note: Plouffe et al. (2017)

Annex C – Ethical issues: Approval



THE UNIVERSITY OF TEXAS AT EL PASO
 Office of the Vice President for Research and Sponsored Projects

Institutional Review Board

El Paso, Texas 79968-0587
 phone: 915 747-8841 fax: 915 747-5931

FWA No: 00001224

DATE: May 24, 2017

TO: Daniel Jones

FROM: University of Texas at El Paso IRB

STUDY TITLE: [1046289-1] Personality and Accounting

IRB REFERENCE #: College of Liberal Arts

SUBMISSION TYPE: New Project

ACTION: APPROVED

APPROVAL DATE: May 24, 2017

EXPIRATION DATE: May 23, 2018

REVIEW TYPE: Expedited Review

Thank you for your submission of New Project materials for this research study. University of Texas at El Paso IRB has APPROVED your submission. This approval is based on an appropriate risk/benefit ratio and a study design wherein the risks have been minimized. All research must be conducted in accordance with this approved submission.

This study has received Expedited Review based on the applicable federal regulation.

Please remember that informed consent is a process beginning with a description of the study and insurance of participant understanding followed by a signed consent form. Informed consent must continue throughout the study via a dialogue between the researcher and research participant. Federal regulations require each participant receive a copy of the signed consent document.

Please note that any revision to previously approved materials must be approved by this office prior to initiation. Please use the appropriate revision forms for this procedure.

All SERIOUS and UNEXPECTED adverse events must be reported to this office. Please use the appropriate adverse event forms for this procedure. All FDA and sponsor reporting requirements should also be followed.



Please report all NON-COMPLIANCE issues or COMPLAINTS regarding this study to this office.

Please note that all research records must be retained for a minimum of three years after termination of the project.

Based on the risks, this project requires Continuing Review by this office on an annual basis. Please use the appropriate renewal forms for this procedure.

If you have any questions, please contact the IRB Office at (915) 747-8841 or irb.orsp@utep.edu. Please include your study title and reference number in all correspondence with this office.

cc:

Annex D – Ethical issues: Proposal

Research Proposal

I. Title

Personality and Accounting

II. Investigators (co-investigators)

Alan Diógenes Góis, Ph. D. Student

Daniel Jones, Ph. D.

III. Hypothesis, Research Questions, or Goals of the Project

Hypothesis 1: Individuals with high trait of Dark Tetrad are positively related to disposition to fraud when they do not work in companies with a good corporate reputation

Hypothesis 2: Individuals with moderate trait of Dark Tetrad are related to disposition to fraud when they do not work in companies with a good corporate reputation.

IV. Background and Significance:

In the organizational context where there is information asymmetry, the accounting information quality disclosed to the market serves as a mechanism to reduce this asymmetry. Accounting information quality is negatively related to earnings management and fraud which there is a, honest or dishonest, discretion when applying an accounting policy or a misrepresentation, thus an intentional manipulation reduces the accounting information quality and damages forecast of investors and analysts. CEOs may use the discretionary choices in an opportunistic manner or manipulate accounting number outside the laws and accounting standard to increase their own compensation, conceal poor performance, or improve the informational value of earnings.

Upper Echelons Theory advocates that decision maker characteristics – cognitive models, personality factors, knowledge, values, biases, familiarities, and preferences – importantly may influence decision making, as well as, environment. In this way, dark personality of CEO affects the accounting information quality which in this research is analyzed by fraud.

Dark personality traits are related to some features as callousness, impulsivity, manipulation, criminality, grandiosity, enjoyment of cruelty and misconduct, these traits include narcissism, Machiavellianism, psychopathy and sadism.



Approved on: 05/24/2017
 Expires on: 05/23/2018
 Study Number: 1046289-1

However, not only the personality influence in decision making or the accounting information quality, but also the internal environment that in this research is considered the corporate reputation. Companies with higher reputations emphasize accountability, credibility, and trustworthiness, and build these values into their cultures so that these values are reflected not only through formal rules and structures, but also through unwritten rules and traditions. So, strong corporate reputation creates an ethical and trustworthiness environmental which it may reduce the behavior related to dark personality traits favoring the accounting information quality. Moreover, CEO reputation is aligned to corporate reputation, thus whether a CEO has tried to mislead its stakeholders, investor confidence in the trustworthiness of accounting information from the CEO is diminished. Hence, CEOs with high dark personalities will think twice before making a decision since they want to maintain their prestige position.

The main assumption is that CEOs with high Dark Tetrad traits are more likely to commit fraud, however, in companies with strong reputation, occurrence of fraud are lower due to the values, structures and (formal or informal) rules built on corporate reputation and because the CEOs do not want lose their own reputation. This implies that companies with strong reputation tend to suppress the opportunistic actions of CEO, enabling better the accounting information quality.

I. Research Method, Design, and Proposed Statistical Analysis:

Data collection will be conducted on the online survey platform *Qualtrics* divided into four parts: Part I - 36 questions that compose the personality measuring instrument (Dark Tetrad); Part II - 5 assertions of decision-making practices related to fraud; Part III - 5 trivia questions about management to check the disposal to fraud; and Part IV – Demographic profile.

Participants will be asked to assume that they have recently been contracted to serve as CEO in a company. Then, they will be asked to answer several assertions related to their attitudes or behavior as a manager, which corresponds to personality traits. Personality traits are Dark Tetrad personality that contains 36 assertions divided in two sub-instruments: Short-form measures of Dark Triad and Assessment of Sadistic Personality - ASP.

After personality measurement, a scenario of strong or weak reputation will be randomly assigned. Each scenario provided a description of the firm that included the following characteristics: (1) Innovation, (2) People Management, (3) Use of Corporate Assets, (4) Social Responsibility, (5) Quality of Management, (6) Financial Soundness, (7) Long-Term Investment Value, (8) Quality of Products/Services, and (9) Global Competitiveness. These are the same characteristics that Fortune uses for World's Most Admired Companies. Hereafter, it will be asked participants the following question: "In

your opinion, how is the company's reputation?", to evaluate their perception of the company reputation.

Then, it will be informed to participants that their company will have a loss and it was expected a positive outcome. It will be given five accounting facts to them that can improve the company outcome. These five accounting facts are related to accounting fraud. In this part, it will have an incentive to fraud that is chance to gain two tablets in a lottery. It will be explained that the probability of gaining is related to their compensation in the company. The participants are asked to pretend to be a CEO and their compensation as CEO is equals a number to participate in a lottery for TWO TABLETS. The compensation is divided in fixed and variable. The fixed compensation is a number in a lottery. In turn, the variable compensation corresponds to the repeat amount of that number in the lottery, according to the net income of the Genes (fictional company).

Next part is a quiz about management. It will be given the chance to participants to misrepresent the result of the quiz. Here this also an incentive to misrepresentation that works the same of the previous part.

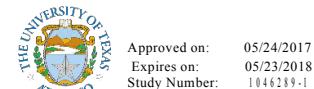
After completing this part, it will applied the demographic questions (gender, age, work experience, management position and industry of actual job).

I. Human Subject Interactions

Participants will be recruited by email, it will be requested to department of accountancy chair to send the experiment to MBA students from UTEP and University of São Paulo. Thus, the study will be conducted in English and Portuguese. It will be compared the results between Brazil and the USA, this is due to the accounting between Brazil and the USA has some differences. Participants will indicate their consent at the outset of the online portion of the study. Data will be collected such that data cannot be associated with participants' names. The data will only be handled by the primary investigator and trained research assistants.

II. Potential Risks

It is possible that the participants in the Part I will be uncomfortable answering the personality questions. To address this the researcher will emphasize that the participant is free to withdraw from the study at any time without penalty. Data will be collected and maintained in a manner to assure confidentiality. This study does involve deception insofar as both participants are told they will invest for the others, there is no expectation that this deception will harm the participants.



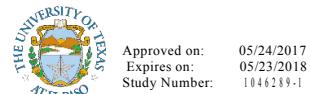
Approved on: 05/24/2017
 Expires on: 05/23/2018
 Study Number: 1046219-1

I. Potential Benefits

Participants will have the opportunity to earn raffle entries for two tablets at the end of the study. Benefits to society include addressing the importance of corporate reputation related to personality on accounting decision-making. Given the importance of these decisions the potential benefits to this project clearly out-weight the risks associated with this type of project.

II. Research Project Site

This study will take online.



PART I

You were recently hired to work as CEO of the publicly traded company Genes since the current CEO died. The following assertions may be related to your attitudes or behavior as a manager. There are no right or wrong answers. Please, assign a score from 0 to 10 (0 = strongly disagree, 10 = strongly agree) in the slider.

0 (zero) is the default response. If this is your choice, you must drag the bar to another number and return to 0 (zero).

1. It's not wise to tell your secrets.
2. Generally speaking, people won't work hard unless they have to.
3. Whatever it takes, you must get the important people on your side.
4. Avoid direct conflict with others because they may be useful in the future.
5. It's wise to keep track of information that you can use against people later.
6. You should wait for the right time to get back at people.
7. There are things you should hide from other people because they don't need to know.
8. Make sure your plans benefit you, not others.
9. Most people can be manipulated.
10. People see me as a natural leader.
11. I hate being the center of attention.
12. Many group activities tend to be dull without me.
13. I know that I am special because everyone keeps telling me so.
14. I like to get acquainted with important people.
15. I feel embarrassed if someone compliments me.
16. I have been compared to famous people.
17. I am an average person.
18. I insist on getting the respect I deserve.
19. I like to get revenge on authorities.
20. I avoid dangerous situations.
21. Payback needs to be quick and nasty.
22. People often say I'm out of control.
23. It's true that I can be mean to others.
24. People who mess with me always regret it.
25. I have never gotten into trouble with the law.
26. I like to pick on losers.
27. I'll say anything to get what I want.
28. I have made fun of people so that they know I am in control.
29. I never get tired of pushing people around.
30. I would hurt somebody if it meant that I would be in control.
31. When I mock someone, it is funny to see them get upset.
32. Being mean to others can be exciting.
33. I get pleasure from mocking people in front of their friends.
34. Watching people get into fights excites me.
35. I think about hurting people who irritate me.
36. I would not purposely hurt anybody, even if I didn't like them.

PART II

Genes, a company that you recently hired to work as a CEO, has a centralized structure where you make various decisions, including about accounting.

The following is a description of Genes that was posted on the front page of The Wall Street Journal in an edition of this semester.

Scenario A: Strong reputation

Genes was established in 1882. Several of its brands have been on the market for at least 50 years. Last year, its sales surpassed \$ 600 million with 42% participation in its market share. Exports to North America, Europe and Asia are growing rapidly in which it earned \$ 70 million last year. Investment in research and development of new products is considered by financial analysts as cutting edge, being Genes cited in industry publications as possessing above-average quality products. The company employs more than 70,500 people in its five factories. Forbes magazine named Genes as one of America's 100 Largest Citizen Companies. Genes continually contributes more than 1 million a year to industry-related studies at more than six major US universities and supports community and environmental issues in the areas where its factories are located. In addition, Genes executives have created and adhere to a code of ethics, as well as Corporate Governance standards.

Scenario B: Weak reputation

Genes was established in 1977. Most of its brands have been in the market for only two or three years. Its sales stagnated at just under 4% market share. Rather than producing its own products, Genes buys most of it from a wide variety of suppliers. Investment in new product research and development is considered by financial analysts to be lower than its competitors, being Genes cited in industry publications as having below-average quality products. Currently, the company employs 1,000 people in its sole factory, and according to industry sources, poor working conditions have led to recurring strike threats. Genes appears to be facing various difficulties, so it canceled its contribution to scholarship funds at various universities. Forbes magazine has named Genes as one of the companies that could improve its social awareness as it does not support the community or environmental issues in the areas where its factory is located. In addition, Genes and its executives were recently investigated by the Securities and Exchange Commission for irregularities in relation to the sale of their shares, in which representatives who fired themselves the company deny these allegations.

At the end of this reading of The Wall Street Journal, what rating would you give to the Genes' reputation for this year? Assign a score from 0 to 10 (0 = very poor, 10 = excellent) in the slider.

0 (zero) is the default response. If this is your choice, you must drag the bar to another number and return to 0 (zero).

In the last quarter, you verify with the accounting division that the company will have a negative outcome (loss of \$100,000), and analysts predicted a positive outcome. When you check the report of the recorded accounting facts, you note that certain decisions can be taken to improve the outcome.

Your decisions as CEO will impact your performance, the possibility of being fired and the dismissal of employees who work directly with you. It is important to note that the decisions you make will be confidential. In addition, your decisions will affect the reputation of the company as well as yours.

At its first meeting as CEO, it was determined that the executive directors will have a variable compensation on the value of the net income, in addition to the fixed compensation.

Suppose your compensation equals a number to participate in a lottery for TWO TABLETS. Imagine that your fixed compensation is that number. In turn, the variable compensation corresponds to the repeat amount of that number in the lottery, according to the net income of the Genes (see table).

Net Income	Repeat amount of your number
\$40,000.01 to \$50,000.00	5
\$30,000.01 to \$40,000.00	4
\$20,000.01 to \$30,000.00	3
\$10,000.01 to \$20,000.00	2
\$0.00 to \$10,000.00	1

Below is an example of the compensation system.

Your fixed compensation is represented by the number 79 in the lottery. As you were able to reverse the loss of Genes for a profit of \$30,000.00, the number 79 will be repeated 3 more times in the lottery. Therefore, the number 79 will appear 4 times in the lottery, once due to fixed compensation and 3 times due to variable compensation.

The following are five situations that you verified that you will able to modify the outcome of the company.

The balance of account receivable is \$35,000. The cash payment is to be received two months after the end of the fiscal year and the publication of financial statements, with an equivalent journal entry in Sales Revenue. If you advance the recognition (partial or total) of this account receivable, you could increase revenues in the current period by up to \$35,000. What value would you recognize in advance? (You must assign a value between \$0.00 and \$35,000 in the slider).

0 (zero) is the default response. If this is your choice, you must drag the bar to another number and return to 0 (zero). The amounts are in thousands of dollars.

Repair and maintenance work for a total amount of \$10,000 was carried out during the current period. You could delay recognizing this expense by capitalizing it (transferring the amount to the intangible asset). This way you would be able to recognize that amount as an expense in the following period, reducing current period expenses by up to \$10,000. What value would you delay that would help your current net income? (You must assign a value between \$0.00 and \$10,000 in the slider).

0 (zero) is the default response. If this is your choice, you must drag the bar to

another number and return to 0 (zero). The amounts are in thousands of dollars.

You could talk to a friend client and agree to issue an invoice for a sale in this period that will be reversed in the future, creating a revenue for the current period that will be reversed in the future. With this invoice, you would be able to increase the current period by up to \$30,000. What is the value in the invoice that you would issue? (You must assign a value between \$0.00 and \$30,000 in the slider).

0 (zero) is the default response. If this is your choice, you must drag the bar to another number and return to 0 (zero). The amounts are in thousands of dollars.

In the evaluation of the impairment test, you noticed that a relevant set of fixed assets X suffered devaluation, generating an impairment loss of \$50,000. If you decide not to fully recognize the loss of the recoverable amount of the set of fixed assets X, you would reduce the loss by up to

\$50,000, and increase the net income of the period for the same amount. What value would you choose in not recognizing the loss related to the impairment test? (You must assign a value between \$0.00 and \$50,000 in the slider).

0 (zero) is the default response. If this is your choice, you must drag the bar to another number and return to 0 (zero). The amounts are in thousands of dollars.

You have noticed that advertising and research expenses are a significant portion of gross profit and significantly reduce your net income. You could make cuts in the areas of advertising and research expenses saving a significant amount of advertising expenses for the period, up to \$25,000. [Probably, the reduction in advertising expenses will hurt sales revenue in the future].

How much would you decide to cut advertising expenses? (You must assign a value between \$0.00 and \$25,000 in the slider).

0 (zero) is the default response. If this is your choice, you must drag the bar to another number and return to 0 (zero). The amounts are in thousands of dollars.

Genes' net income is \$ XXX thousands of dollars.

PART III

After the end of the fiscal year and the publication of financial statements, your secretary shows you with some questions (true or false) about issues that may be discussed at the meeting with directors and shareholders. The result of this meeting will generate a report that will be widely publicized in the media.

Your performance at this meeting is also evaluated and you will be rewarded.

Your bonus will be represented by repeat amount of your number in the lottery for TWO TABLET.

Below are five questions that will be able to be addressed at this meeting.

Is Altman Z-score an indicator that demonstrates the company's market risk and the higher its value, the greater the company's risk?

- True

- False

Is comprehensive income intended to present the adjustments made in Shareholders' Equity as if it were an income of the company?

- True
- False

Can the CAPM beta be described as a measure of relative volatility between the stock and a portfolio (S&P500 index, Ibovespa etc.)?

- True
- False

Does EBIT represent how much the company generates resources only in its operational activities, without considering the financial, depreciation and tax effects?

- True
- False

Does generally if interest rates go up stock prices also go up?

- True
- False

You got X questions.

It is highlighted that performance does not necessarily consider the amount of questions correctly answered, but rather, what you say is right, because good speech (represented by what you inform) is an essential characteristic of a CEO. Therefore, if you say that you got one (1) question, your number in the lottery for TWO TABLETS will be repeated once, and so on.

0 (zero) is the default response. If this is your choice, you must drag the bar to another number and return to 0 (zero).

How many questions do you report that you got it? Assign a score from 0 to 5 (0 = none, 5 = all) in the slider

PART IV

Gender

- Female
- Male

Age

Have you worked or Do you work in management positions? If so, how long?

What is the category of your management position?

- President
- Director
- Manager
- Controller
- Coordinator
- Supervisor
- Other _____

What is the industry of the company that you acted/act as manager? Consider the last experience in management position.

- Financial
- Manufacturing
- Services
- Industrial
- Agribusiness
- Other _____

To participate in the lottery, please enter your email address below. We inform you that your email will be treated confidentially and will only be used to publicize the result of the lottery.

Do you want to get information about the get information on results of the study?

- Yes
- No

Thank you for your participation in this survey. Your answer has been recorded.

APPENDIX

Appendix A – Regression models of earnings management

	DA	S_MANIP	R_DIXEP	OVERP	UE_CE
	ACCRAUALS/A _{t-1}	CFO/A _{t-1}	DISEXP/A _{t-1}	PROD/A _{t-1}	CE _t
1/A _{t-1}	-0.568 (2.091)	4.479 (3.854)	39.259*** (10.429)	-48.547*** (11.486)	
ΔSALES/A _{t-1}	0.035*** (0.005)	0.064*** (0.008)		-0.052** (0.025)	
PPE/A _{t-1}	-0.036*** (0.002)				
SALES/A _t		-0.004** (0.002)	0.069*** (0.004)	0.927*** (0.005)	
ΔSALES _{t-1} /A _{t-1}				-0.091*** (0.021)	
CE _{t-1}					0.751*** (0.012)
ATO _t					-0.002*** (0.000)
ACCRAUALS _{t-1}					-0.154*** (0.025)
ACCRAUALS _t					-0.153*** (0.024)
ΔSALES _t					0.060*** (0.011)
NEG_ΔSALES _t					0.071*** (0.022)
Intercept	-0.020*** (0.001)	0.111*** (0.002)	0.132*** (0.006)	-0.237*** (0.007)	0.036*** (0.003)
N	2645	2645	2645	2645	2645
R ²	0.134	0.023	0.139	0.950	0.748

Note: Note: *** Significant at a level of 1%; ** Significant at a level of 5%; * Significant at a level of 10% level; Standard error is given in brackets; In bold are the results that are similar to Dechow et al. (1995), McVay (2006) and Roychowdhury (2006); DA: Discretionary accruals; S_MANIP: Sales manipulation; R_DIXEP: Reduction in discretionary expenditure; OVERP: Overproduction; UE_CE: Unexpected change in core earnings; ACCRAUALS: Total accruals; CFO: Cash flows from operations; DISEXP: Discretionary expenditure (Research and Development, Advertising, and Selling, General and Administrative); PROD: Production costs; CE: Core earnings; A: Total assets; SALES: Sales; ΔSALES: Change in sales; PPE: Gross Property, Plant and Equipment; ATO: Asset turnover ratio; NEG_ΔSALES: Percent change in sales if ΔSALES less than 0, and 0 otherwise.

Appendix B – Regression models for Narcissism

Variable	AB	DA	REM	S_MANIP	R_DIXEP	OVERP	UE_CE
NARC	0.001*	0.136	-3.183*	-0.122	-0.010	-0.038	0.035
	(0.000)	(0.103)	(1.731)	(0.113)	(0.159)	(0.221)	(0.115)
REP	0.000***	0.027*	-0.493**	-0.028*	0.004	-0.001	0.028
	(0.000)	(0.014)	(0.227)	(0.016)	(0.021)	(0.029)	(0.019)
REP × NARC	-0.000***	-0.040*	0.744**	0.041*	-0.007	0.004	-0.045
	(0.000)	(0.022)	(0.344)	(0.024)	(0.032)	(0.044)	(0.030)
SI						0.158	
SI × REP						-0.110	
SI × NARC						-0.138*	
SI × REP × NARC						0.114**	
						(0.058)	
SIZE	-0.000***	0.000	0.050**	0.004**	-0.015**	0.013*	0.007***
	(0.000)	(0.001)	(0.024)	(0.002)	(0.006)	(0.007)	(0.001)
ROA	0.000	-0.010	4.101***	0.626***	0.023	-0.785***	0.403***
	(0.000)	(0.018)	(0.537)	(0.040)	(0.040)	(0.069)	(0.061)
LOSS	-0.000***	-0.009***	-0.042	-0.006*	0.012***	-0.005	-0.006
	(0.000)	(0.003)	(0.045)	(0.003)	(0.005)	(0.006)	(0.006)
MTB	0.001	-0.270	6.291	0.838	1.550*	-3.018***	-0.936
	(0.001)	(0.914)	(10.589)	(0.677)	(0.886)	(1.121)	(0.861)
GROW	0.000***	0.007	-0.316***	-0.042***	0.027**	0.020	-0.032***
	(0.000)	(0.009)	(0.108)	(0.009)	(0.013)	(0.015)	(0.012)
LEV	0.000**	0.025***	-0.784***	-0.047***	-0.022	0.042*	0.011
	(0.000)	(0.008)	(0.120)	(0.010)	(0.018)	(0.024)	(0.007)
BIG4	0.000	-0.001	-0.133	-0.007	0.030	-0.015	0.003
	(0.000)	(0.009)	(0.143)	(0.013)	(0.025)	(0.033)	(0.004)
AGE	0.000	0.000	-0.001	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.003)	(0.000)	(0.000)	(0.000)	(0.000)
GEN	0.000	0.000	-0.002	0.001	-0.001	-0.009	-0.003
	(0.000)	(0.003)	(0.074)	(0.005)	(0.007)	(0.011)	(0.007)
TURN	0.000	0.001	-0.058**	-0.004*	0.000	-0.002	0.002
	(0.000)	(0.002)	(0.025)	(0.002)	(0.002)	(0.003)	(0.002)
Constant	0.001***	-0.091	1.380	0.009	-0.030	0.083	-0.109
	(0.000)	(0.068)	(1.188)	(0.077)	(0.128)	(0.165)	(0.079)
Industry and Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	2645	2645	2645	2645	2645	2645	2645
χ^2	184.7***	385.2***	381.3***	798.6***	763.9***	854.8***	322.2***
R ² overall	0.408	0.093	0.333	0.528	0.209	0.334	0.205
R ² within	0.130	0.039	0.115	0.297	0.041	0.250	0.264
R ² between	0.447	0.163	0.376	0.593	0.204	0.307	0.187

Source: Author.

Note: *** Significant at the 1% level; ** Significant at the 5% level; * Significant at the 10% level; AB – Abnormal Accruals; DA – Discretionary Accruals; S_MANIP – Sales Manipulation; R_DIXEP – Reduction of Discretionary Expenses; OVERP – Overproduction; REM – Real Earnings Management; UE_CE – Unexpected Change in Core Earnings; SI – Income-Decreasing Special Items as a Percentage of Sales; D4 – the Dark Tetrad of personality; NARC – Narcissism; PSYC – Psychopathy; MACH – Machiavellianism; SAD – Sadism; REP – Corporate Reputation; SIZE – Firm Size; ROA – Return on Assets; MTB – Market-to-Book; GROW – Sales Growth; LEV – Leverage; AGE – CEO's Age; LOSS – Firm Loss; BIG4 – Audit Quality; GEN – Gender; TURN – CEO turnover.

Appendix C – Regression models for Psychopathy

Variable	AB	DA	REM	S_MANIP	R_DIXEP	OVERP	UE_CE
PSYC	0.001*	0.168	-3.673*	-0.152	-0.034	-0.012	0.087
	(0.000)	(0.113)	(1.977)	(0.123)	(0.166)	(0.237)	(0.135)
REP	0.000***	0.025*	-0.460**	-0.027*	-0.001	0.000	0.034*
	(0.000)	(0.013)	(0.218)	(0.015)	(0.020)	(0.027)	(0.020)
REP × PSYC	-0.000***	-0.045*	0.836**	0.048*	0.000	0.002	-0.066*
	(0.000)	(0.025)	(0.399)	(0.027)	(0.037)	(0.050)	(0.036)
SI						0.158	
SI × REP						(0.136)	
SI × PSYC						-0.110	
SI × REP × PSYC						(0.068)	
GROW						-0.167*	
						(0.101)	
SIZE	-0.000***	0.000	0.050**	0.004**	-0.015**	0.013*	0.007***
	(0.000)	(0.001)	(0.024)	(0.002)	(0.006)	(0.007)	(0.001)
ROA	0.000	-0.010	4.101***	0.626***	0.023	-0.785***	0.403***
	(0.000)	(0.018)	(0.538)	(0.040)	(0.040)	(0.069)	(0.061)
LOSS	-0.000***	-0.009***	-0.042	-0.006*	0.012***	-0.005	-0.006
	(0.000)	(0.003)	(0.045)	(0.003)	(0.005)	(0.006)	(0.006)
MTB	0.001	-0.270	6.253	0.836	1.547*	-3.019***	-0.926
	(0.001)	(0.914)	(10.564)	(0.676)	(0.885)	(1.120)	(0.859)
GROW	0.000***	0.007	-0.315***	-0.042***	0.027**	0.020	-0.032***
	(0.000)	(0.009)	(0.108)	(0.009)	(0.012)	(0.015)	(0.012)
LEV	0.000**	0.025***	-0.785***	-0.047***	-0.022	0.042*	0.011
	(0.000)	(0.008)	(0.120)	(0.010)	(0.018)	(0.024)	(0.007)
BIG4	0.000	-0.001	-0.132	-0.007	0.030	-0.015	0.003
	(0.000)	(0.009)	(0.143)	(0.013)	(0.025)	(0.034)	(0.004)
AGE	0.000	0.000	-0.001	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.003)	(0.000)	(0.000)	(0.000)	(0.000)
GEN	0.000	0.000	-0.003	0.001	0.000	-0.009	-0.003
	(0.000)	(0.003)	(0.074)	(0.005)	(0.007)	(0.011)	(0.007)
TURN	0.000	0.001	-0.058**	-0.004*	0.000	-0.002	0.002
	(0.000)	(0.002)	(0.025)	(0.002)	(0.002)	(0.003)	(0.002)
Constant	0.001***	-0.093	1.292	0.012	-0.018	0.065	-0.134*
	(0.000)	(0.062)	(1.129)	(0.070)	(0.117)	(0.151)	(0.076)
Industry and Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	2645	2645	2645	2645	2645	2645	2645
χ^2	184.2***	386.2***	380.9***	796.8***	775.9***	860.9***	325.8***
R ² overall	0.408	0.093	0.333	0.528	0.209	0.334	0.205
R ² within	0.130	0.039	0.115	0.297	0.041	0.250	0.264
R ² between	0.447	0.164	0.376	0.593	0.204	0.307	0.187

Source: Author.

Note: *** Significant at the 1% level; ** Significant at the 5% level; * Significant at the 10% level; AB – Abnormal Accruals; DA – Discretionary Accruals; S_MANIP – Sales Manipulation; R_DIXEP – Reduction of Discretionary Expenses; OVERP – Overproduction; REM – Real Earnings Management; UE_CE – Unexpected Change in Core Earnings; SI – Income-Decreasing Special Items as a Percentage of Sales; D4 – the Dark Tetrad of personality; NARC – Narcissism; PSYC – Psychopathy; MACH – Machiavellianism; SAD – Sadism; REP – Corporate Reputation; SIZE – Firm Size; ROA – Return on Assets; MTB – Market-to-Book; GROW – Sales Growth; LEV – Leverage; AGE – CEO’s Age; LOSS – Firm Loss; BIG4 – Audit Quality; GEN – Gender; TURN – CEO turnover.

Appendix D – Regression models for Machiavellianism

Variable	AB	DA	REM	S_MANIP	R_DIXEP	OVERP	UE_CE
MACH	0.000*	0.146	-3.463**	-0.142	-0.055	-0.029	0.100
	(0.000)	(0.092)	(1.672)	(0.099)	(0.134)	(0.188)	(0.123)
REP	0.000***	0.017	-0.318*	-0.019*	-0.001	-0.004	0.034*
	(0.000)	(0.011)	(0.176)	(0.011)	(0.016)	(0.021)	(0.018)
REP × MACH	-0.000***	-0.033	0.597*	0.035	0.001	0.009	-0.069**
	(0.000)	(0.020)	(0.333)	(0.022)	(0.031)	(0.041)	(0.034)
SI						0.157	
						(0.135)	
SI × REP						-0.107	
						(0.065)	
SI × MACH						-0.170*	
						(0.102)	
SI × REP × MACH						0.136**	
						(0.065)	
SIZE	-0.000***	0.000	0.050**	0.004**	-0.015**	0.013*	0.007***
	(0.000)	(0.001)	(0.024)	(0.002)	(0.006)	(0.007)	(0.001)
ROA	0.000	-0.010	4.103***	0.626***	0.023	-0.785***	0.402***
	(0.000)	(0.018)	(0.539)	(0.040)	(0.040)	(0.069)	(0.061)
LOSS	-0.000***	-0.009***	-0.041	-0.006*	0.012***	-0.005	-0.006
	(0.000)	(0.003)	(0.045)	(0.003)	(0.005)	(0.006)	(0.006)
MTB	0.001	-0.277	6.363	0.842	1.548*	-3.020***	-0.924
	(0.001)	(0.914)	(10.540)	(0.674)	(0.885)	(1.121)	(0.854)
GROW	0.000***	0.007	-0.315***	-0.042***	0.027**	0.020	-0.032***
	(0.000)	(0.009)	(0.108)	(0.009)	(0.012)	(0.016)	(0.012)
LEV	0.000**	0.025***	-0.788***	-0.047***	-0.022	0.042*	0.011
	(0.000)	(0.008)	(0.119)	(0.010)	(0.018)	(0.024)	(0.007)
BIG4	0.000	-0.001	-0.130	-0.007	0.030	-0.015	0.002
	(0.000)	(0.009)	(0.144)	(0.013)	(0.025)	(0.034)	(0.004)
AGE	0.000	0.000	-0.001	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.003)	(0.000)	(0.000)	(0.000)	(0.000)
GEN	0.000	0.001	-0.006	0.001	0.000	-0.009	-0.003
	(0.000)	(0.003)	(0.074)	(0.005)	(0.006)	(0.011)	(0.007)
TURN	0.000	0.001	-0.058**	-0.004*	0.000	-0.002	0.002
	(0.000)	(0.002)	(0.025)	(0.002)	(0.002)	(0.003)	(0.002)
Constant	0.001***	-0.078	1.108	0.004	-0.009	0.074	-0.139**
	(0.000)	(0.050)	(0.942)	(0.056)	(0.103)	(0.124)	(0.069)
Industry and Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	2645	2645	2645	2645	2645	2645	2645
χ^2	184.6***	387.8***	379.6***	795.6***	770.5***	860.4***	337.9***
R ² overall	0.408	0.094	0.333	0.528	0.209	0.334	0.205
R ² within	0.130	0.038	0.115	0.297	0.041	0.250	0.263
R ² between	0.446	0.164	0.377	0.593	0.204	0.307	0.188

Source: Author.

Note: *** Significant at the 1% level; ** Significant at the 5% level; * Significant at the 10% level; AB – Abnormal Accruals; DA – Discretionary Accruals; S_MANIP – Sales Manipulation; R_DIXEP – Reduction of Discretionary Expenses; OVERP – Overproduction; REM – Real Earnings Management; UE_CE – Unexpected Change in Core Earnings; SI – Income-Decreasing Special Items as a Percentage of Sales; D4 – the Dark Tetrad of personality; NARC – Narcissism; PSYC – Psychopathy; MACH – Machiavellianism; SAD – Sadism; REP – Corporate Reputation; SIZE – Firm Size; ROA – Return on Assets; MTB – Market-to-Book; GROW – Sales Growth; LEV – Leverage; AGE – CEO's Age; LOSS – Firm Loss; BIG4 – Audit Quality; GEN – Gender; TURN – CEO turnover.

Appendix E – Regression models for Sadism

Variable	AB	DA	REM	S_MANIP	R_DIXEP	OVERP	UE_CE
SAD	0.001 (0.000)	0.170 (0.106)	-3.036* (1.803)	-0.132 (0.111)	-0.155 (0.154)	0.151 (0.207)	0.064 (0.125)
REP	0.000** (0.000)	0.027* (0.014)	-0.428* (0.221)	-0.029** (0.015)	-0.006 (0.020)	0.007 (0.028)	0.022 (0.017)
REP × SAD	-0.000** (0.000)	-0.047* (0.025)	0.741* (0.384)	0.050* (0.026)	0.008 (0.035)	-0.010 (0.048)	-0.041 (0.030)
SI							0.159 (0.136)
SI × REP							-0.109 (0.070)
SI × SAD							-0.161* (0.098)
SI × REP × SAD							0.132* (0.068)
SIZE	-0.000*** (0.000)	0.000 (0.001)	0.050** (0.023)	0.004** (0.002)	-0.015** (0.006)	0.013* (0.007)	0.007*** (0.001)
ROA	0.000 (0.000)	-0.010 (0.018)	4.097*** (0.539)	0.625*** (0.040)	0.023 (0.040)	-0.785*** (0.069)	0.403*** (0.061)
LOSS	-0.000*** (0.000)	-0.009*** (0.003)	-0.041 (0.045)	-0.006* (0.003)	0.012*** (0.004)	-0.005 (0.006)	-0.006 (0.006)
MTB	0.001 (0.001)	-0.261 (0.913)	6.191 (10.535)	0.832 (0.676)	1.540* (0.882)	-3.011*** (1.118)	-0.937 (0.861)
GROW	0.000*** (0.000)	0.007 (0.009)	-0.316*** (0.108)	-0.042*** (0.009)	0.028** (0.012)	0.020 (0.015)	-0.032*** (0.012)
LEV	0.000** (0.000)	0.025*** (0.008)	-0.787*** (0.119)	-0.047*** (0.010)	-0.022 (0.018)	0.042* (0.024)	0.011 (0.007)
BIG4	0.000 (0.000)	-0.001 (0.009)	-0.133 (0.143)	-0.007 (0.013)	0.030 (0.025)	-0.016 (0.034)	0.003 (0.004)
AGE	0.000 (0.000)	0.000 (0.000)	-0.001 (0.003)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
GEN	0.000 (0.000)	0.000 (0.003)	-0.004 (0.074)	0.001 (0.005)	0.000 (0.006)	-0.010 (0.011)	-0.003 (0.007)
TURN	0.000 (0.000)	0.001 (0.002)	-0.058** (0.025)	-0.004* (0.002)	0.000 (0.002)	-0.002 (0.003)	0.002 (0.002)
Constant	0.001*** (0.000)	-0.099 (0.061)	1.034 (1.084)	0.005 (0.066)	0.050 (0.115)	-0.025 (0.142)	-0.123* (0.071)
Industry and Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	2645	2645	2645	2645	2645	2645	2645
χ^2	184.0***	386.7***	379.5***	791.8***	780.2***	883.1***	314.4***
R ² overall	0.408	0.094	0.332	0.528	0.209	0.335	0.204
R ² within	0.129	0.038	0.115	0.297	0.041	0.250	0.264
R ² between	0.447	0.165	0.375	0.593	0.205	0.308	0.188

Source: Author.

Note: *** Significant at the 1% level; ** Significant at the 5% level; * Significant at the 10% level; AB – Abnormal Accruals; DA – Discretionary Accruals; S_MANIP – Sales Manipulation; R_DIXEP – Reduction of Discretionary Expenses; OVERP – Overproduction; REM – Real Earnings Management; UE_CE – Unexpected Change in Core Earnings; SI – Income-Decreasing Special Items as a Percentage of Sales; D4 – the Dark Tetrad of personality; NARC – Narcissism; PSYC – Psychopathy; MACH – Machiavellianism; SAD – Sadism; REP – Corporate Reputation; SIZE – Firm Size; ROA – Return on Assets; MTB – Market-to-Book; GROW – Sales Growth; LEV – Leverage; AGE – CEO's Age; LOSS – Firm Loss; BIG4 – Audit Quality; GEN – Gender; TURN – CEO turnover.