CONTEMPORARY ISSUES IN AUDIT MANAGEMENT AND FORENSIC ACCOUNTING

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Series Editors: Simon Grima

CONTEMPORARY ISSUES IN AUDIT MANAGEMENT AND FORENSIC ACCOUNTING

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INTRODUCTION

The Emerald book series, **Contemporary Issues in Economic and Financial Analysis CSEF 102**, includes studies by various academics on **Contemporary Issues in Audit Management and Forensic Accounting**.

Recently, financial crimes have increased in many regions of the world. Considering that these crimes, which affect many countries around the world economically, occur usually due to accounting fraud, more sensitive and effective approaches to accounting fraud and corruption have started to come up. In this context, regulations have been put into practice in many countries for measures to be taken against fraud and corruption.

It is not possible to take measures against and fight financial crimes by using old traditional methods. A specialized field called forensic accounting is an effective tool to prevent these crimes. The aim of this book is to explain the extent and characteristics of forensic accounting, which has been practiced for many years but not yet internationally regulated.

The development of world markets, increase of integration, and the intense competition environments in the digital age cause panic in companies that are operating in the capital market. Companies may resort to irregularities such as fraud, corruption, and manipulation in order to increase their market share. In addition to this, the economic crisis in recent years, instabilities in the exchange rates, and accounting and auditing scandals put forth the inadequacies of the current system and lead to the emergence of new concepts. One of these concepts is forensic accounting.

Forensic accounting is a field that tries to reach the truth on an issue that may cause a juridical problem, creating its own research, questioning and analysis methods from the methods, and techniques of psychology, criminology and other disciplines. Forensic accounting plays an important role in determining the reliability of the information that is needed in businesses by being inspired from many fields and in particular from accounting and law. It is also important to prevent and dissuade from fraud and corruption and in judicial processes on fraud and corruption.

Moreover, forensic accounting, which is one of the fields of forensic science, has become an important field in determining fraudulent acts that causes the victimization of many investors and by developing approaches that may prevent these acts. Forensic accounting takes its place in literature by being defined as a discipline that uses researcher's logic and adapts the accounting and business management data with policies and rules of law to the social and judicial problems.

Moreover, the forensic accounting profession has shown many significant developments in many countries, especially in the USA in the 1980s, and the number

of accountants specializing in forensic accounting has since then increased. The forensic accounting profession has become a field of expertise in accounting and in its true sense has accommodated itself to the developing market economy and legislative regulations. Forensic accounting has shown rapid development with the help of the changing economic environment, changing needs of accountancy and limited number of existing specialties. Especially, the enactment of Sarbanex-Oxley law in the year 2002 by US Securities and Exchange Commission (SEC) is the turning point of the profession.

The later published rules and regulations of the commission strengthened the place of the forensic accountant in the overall profession by using the term "forensic accountant." The SEC has stated that some of the services provided by the audit companies are within the scope of services provided by forensic accounting and therefore it is necessary that a forensic accountant provides the existing services. At this point, the importance given to forensic accounting has increased notably and many audit companies widened their services in a way that it also involves the forensic accounting practices. Currently, since the acceptance of the fact that this profession is a necessity, the education of forensic accounting is provided in undergraduate and graduate programs in the USA and Europe as a separate field of study.

Despite the broad scope and importance, publications related to forensic accounting are limited. Therefore, the studies in this book combine different studies of forensic accounting in a single book with a mix of discussion-based studies and empirical research studies aimed at understanding particular aspects of Forensic Accounting and Audit Management.

The book starts with a study on the relationship among personality traits and students' cheating behavior using the five-factor personality model and the fraud triangle factors. This takes us to Chapter 2, which relates to a study on the effects of big data in forensic accounting practices and education.

We then go to Chapter 3, which relates to an evaluation of the perception of the students and the certified public accountants on forensic accounting education. Then, the authors of Chapter 4 lay out an interesting case study on the Borsa Istanbul Bank Index (BIST) and financial information manipulation and its effect on investor demands.

The Chapter 6, shed light on the current situation and prospects of the profession of judicial advisory by lawyers in Turkey, insurance fraud in Turkey, and the current gap between fraud and deterrent measures taken by a company to lower the risk of fraud.

Then, the authors in Chapter 8 use the case of Turkey to examine a number of important determinants of risk appetite and tolerance, including gender, education, and knowledge of financial services and loss aversion. In Chapter 9, the author lays out an empirical study using the fraud diamond theory perspective, on the manufacturing sector companies listed on the Borsa Istanbul.

In Chapter 10, the authors lay out a study on the detection of accounting frauds using the rule based expert systems within the scope of forensic accounting. Then, in Chapter 11, the authors apply the 'Beneish model' on financial

statement manipulation to determine the financial indicators of possible financial statement manipulation. In Chapter 12, we find an evaluation of the criteria for the selection and change of the independent audit firm using the Analytical Hierarchy Process method.

The Forensic Accounting profession and the process of its development in the world is the topic of Chapter 13. In Chapter 14, the authors then lay out a literature review on Forensic accounting and Fraud Audit in Turkey between 2008 and 2018. The views on Forensic Accountant by Turkish accounting academics are studied in Chapter 15. Chapter 16 lays out a literature review on financial crimes. Chapter 17 delves into social auditing and its applicability to Maltese co-operatives and Chapter 18 challenges the conventional theoretical approach of the 'Three Lines of Defence' Model adopted by most of the Maltese credit institutions.

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CHAPTER 1

AN EMPIRICAL ANALYSIS ON STUDENTS' CHEATING BEHAVIOR AND PERSONALITY TRAITS IN THE CONTEXT OF FRAUD TRIANGLE FACTORS

Ali Altug Bicer

ABSTRACT

The aim of this study is to analyze the relationship between personality traits and students' cheating behavior using the five-factor personality model and the fraud triangle factors. This chapter develops an evidential study that has the goal to determine the relationship between the students' cheating behavior and personality traits by using fraud triangle factors. In this context, 251 surveys have been conducted on students of a foundation university located in Istanbul. As means of data collection, NEO – Five Factor Inventory and Academic Fraud Risk Factors have been used. Data have been analyzed by regression tree analysis. Risk and classification tables have been created before starting the study with a decision tree in which classification and regression trees algorithms were implemented. The results reveal that rationalization behind the cheating is the most important reason for students to copy and people who believed that they were extremely appropriate to copy were responsible ones when analyzed in terms of their personality traits. The results of this study contribute to the literature by discovering the characteristics of those who admit academic dishonesty and underlie the factors or predispositions for engaging in this behavior. For sure, three factors of the fraud triangle may have different

levels of significance in this study; in addition, pressure is not associated with the cheating behavior.

INTRODUCTION

Copying from others, using cell phones, plagiarizing from the internet, using signals during an exam, and using prohibited reference materials; the ways students resort to engage in academic dishonesty are numerous. Academic dishonesty, cheating/misconduct signifies to conditions in which a student claims credit for others' work or efforts without authorization or citation (Becker, Connolly, Lentz, & Morrison, 2006). Academic dishonesty is perhaps as old as education itself. Many students today do not even consider the acts like plagiarism and cooperating with others on tests as cheating at all; thus, cheating has become an ordinary part of academic life. This cheating behavior can also be described/ explained by economic models (Bunn, Caudill, & Gropper, 1992). According to a study including approximately 50,000 undergraduate students on more than 60 different campuses in the United States, 70% of these students admits that they have been involved in cheating. One fourth of the students admitted to serious test cheating in the past year and half attempted to cheat on one or more written assignments. Academic fraud is a significant, recognized threat to the core value of higher education (Burnett, Rudolph, & Clifford, 1998; McCabe, Trevino, & Butterfield, 2001; Whitley & Keith-Spiegel, 2002). Traditionally, instructors have used controls to limit opportunities to cheat or reduce incentives to cheat (MacGregor et al., 2012).

Cheating and academic fraud continue to become more and more prevalent especially among business students (Klein, Levenburg, McKendall, & Mothersell, 2007). The opportunities and pressures to cheat seem to have increased dramatically today. Advances in the technology, worldwide usage of internet, and easy access to information have increased the opportunities for academic cheating and fraud. The pressure to get better grades, succeed, and advance academically has increased as the importance obtaining a higher academic degree in today's economy. We assume that the critical piece standing between these opportunities and incentives and academic fraud are a student's ability to rationalize his/her inappropriate academic behavior (MacGregor et al., 2012).

This study tests student's cheating behavior that is obtained from a model of dishonest behavior related to business life, the fraud triangle, which is the main tool used by auditors and is generally accepted by auditing standards to assess fraud risk.

The fraud triangle (Cressey, 1953) is an established framework for analyzing fraudulent behavior, like cheating, which is a model originally evolved by a

criminologist, Donald R. Cressey. It is one of the oldest and basic concepts in fraud deterrence and detection. A fraud, or a "trust violation" as Cressey's terminology, involves three factors – incentives pressures, opportunities, and attitudes/ rationalization – that together give notice of any probability of fraud within an economy. The causal factors that should be removed to deter fraud are best described in the fraud triangle. According to this theory, fraud occurs where the conditions are right for it to occur. The concept of a fraud triangle is introduced to the professional literature in Statement of Auditing Standards (SAS) No. 99 Consideration of Fraud in a Financial Statement Audit. As part of the SAS 99 the fraud triangle consists of the following three factors are generally present when fraud occurs (Murphy & Tina, 2011). These factors are also mentioned as fraud risk factors in International Standards on Auditing 240 The Auditor's Responsibilities Relating to Fraud in an Audit of Financial Statements. First, being under pressure or having an incentive provides a reason to commit fraud regardless of being a manager or an employee. Second, current circumstances, such as ineffective controls or absence of controls, and management's ability to override mentioned controls provide the opportunity to perpetrator to commit fraud. In addition, for the last, rationalization is necessary for those committing a fraudulent act. Even though some individuals' character, attitude, or ethical values enables them to intentionally and easily commit a fraudulent act, honest individuals can also commit fraud when exposed to sufficient pressure. The greater incentive or pressure, the more likely an individual will be able to rationalize the acceptability of committing fraud (Public Company Accounting Oversight Board PCAOB, 2005). As a result, fraud involves pressure for commitment, a case perceived as an opportunity to do so and some rationalization of the act.

SCOPE AND LIMITATION OF THE STUDY

In an academic environment, uncertainty and information asymmetries, combined with ineffective monitoring and control mechanisms, create opportunities for academic fraud. Students' incentives to cheat are generally economic or social. The final fraud triangle factor, rationalization, involves the individual's internal response to external opportunities and incentives. Rationalization is a mechanism that allows people to eliminate the inconsistency of what they do from what they know they should do, and is used by students to justify aggressive academic behaviors (MacGregor et al., 2012).

The purpose of developing the model is twofold: (1) to underline the perspective of students cheating behavior; and (2) to gain an understanding of the psychology of the students committing academic dishonesty. Participants of the study were 251 students. The study showed that two elements of the fraud triangle – opportunity and rationalization – are significant determinants of student's cheating behavior.

In addition, even though the survey was based on volunteering, it was completed within the lecture hall. Thus, students may have declared less academic

dishonesty due to the physical affinity of others in the class and the precise nature of the information asked in the survey. Against the possibility of the respondents underreporting their neutralizing propensities, actual cheating behaviors, and tendencies, before the survey participation, the nature of the data collection process and how the confidentiality and anonymity of the participants will be secured were explained.

The interdisciplinary approach chosen for this study is a criminological-business perspective based on the fraud triangle model, which is extensively used and is highly defended by fraud examiners and auditing professionals. For example, Biegelman and Bartow (2006, p. 33) wrote, "Every corporate executive needs to understand the fraud triangle and why employees commit various kinds of fraud." The fraud triangle tends to emphasize three different factors and instead of focusing on the characteristics of the organization and its environment, it focuses on the individuals with the opportunity to misappropriate assets. Alias, books and records do not commit fraud; people do. Thus, the fraud triangle recommends focusing on individuals who could commit fraud alongside focusing on the organization and its records (LaSalle, 2007).

Personality traits appear to be major fraud risk factors for the students' attitude toward cheating behavior. This study focused on the relations between university students' self-reported cheating behavior and their personality traits via fraud triangle. It was hypothesized that students' personality traits would predict cheating. Five dimensions of personality traits – agreeableness, extraversion, neuroticism, conscientiousness, and openness – were measured.

A substantial limitation of this research is the self-report nature of the data and their collection. Even though students' names were not asked in the study, students were aware that they had been uncovered.

Method

Decision trees and decision rules are data mining methodologies applied in many real-world applications as a powerful solution to classification problems (Kantardzic, 2002). Berry and Linoff (2004) describe decision trees as a structure that can be used to divide a large collection of records into successively smaller sets by applying a sequence of simple decision rules.

Decision trees have four commonly algorithms: Chi-squared Automatic Interaction Detection (CHAID), the Exhaustive CHAID, Classification and Regression Trees (CRT), and Quick, Unbiased, Efficient Statistical Trees (QUEST).

The CHAID algorithm was originally proposed by Kass (1980) and the Exhaustive CHAID by Biggs et al. (1991). CHAID and Exhaustive CHAID algorithm allow multiple splits of a node. CRT algorithm was developed by Breiman, Friedman, Olshen, and Stone (1984). CRT splits the data into segments that are as homogenous as possible with respect to the dependent variable. QUEST was developed by Loh and Shih (1997). This method can be specified only if the dependent variable is nominal. A decision tree consists of "nodes" where attributes are tested. The outgoing "branches" of a node correspond to all the possible consequences of the test at the node (Kantardzic, 2002).

Sample

The purpose of the study is to explain the impact of the personality traits on the cheating behaviors of the university students through the fraud triangle. For this purpose, one foundation university located in Istanbul (2018) was examined and the selection of the students was done by using the stratified sampling method. In order to include different type of thinking ability and approach, the faculties of the university were described as stratum and surveys prepared were delivered to 270 student. Nineteen surveys have not been examined since they were incomplete and not serious. Therefore, analyses were only applied to the data obtained from the remaining 251 surveys.

In this study, 50.6% (127) of the participated students were female and 49.4% (124) of them were male. In addition to this, 16.3% (41) of them were attending to the Faculty of Science and Literature, 39.9% (100) to the Faculty of Business Administration, 20% (51) to the Faculty of Science, 14.7% (37) to the Faculty of Law, and the rest 8.8% (22) of them were attending to the Faculty of Communication. Analyses of the study on the cheating behavior showed that 13.3% (33) of the participated students never cheated, 16.5% (41) of them cheated only once, and 70.2% (174) of them cheated more than once during their student life. Because of the sensitive nature of the information asked in the survey, three of the students did not answer this question.

Data Collection Tool

NEO – Five Factor Inventory

In the first part of the survey, NEO – Five Factor Inventory (NEO – FFI) were used. The dimensions for this scale, developed in 1992 by Costa and McCrae, were called as extraversion, agreeableness, conscientiousness, neuroticism, and openness to experiences (Rosellini & Brown, 2011). The prepared scale based on the type of 5-point Likert scale were answered like "1 = strongly disagree" and "5 = strongly agree." By using this scale, Eksi (2010) based on Cronbach Alpha reliability values for the subscales in his study were; 0.76 for neuroticism, 0.76 for extraversion, 0.65 for openness to experiences, 0.70 for agreeableness, and 0.80 for conscientiousness. In case of this study, Cronbach Alpha reliability values for specified dimensions were found 0.73, 0.70, 0.71, 0.70, and 0.74, respectively. According to similar studies in literature, the values are considered at an adequate level of reliability for this scale.

Academic Fraud Risk Factors

Fraud triangle was developed in 1973 by Donald Cressley. By adapting 32 risk factors, Malgwi and Rakovski (2009) improved the fraud triangle for academic measurements. By answering these factors as "1 = strongly disagree" and "5 = strongly agree," they were listed under the general factors of the fraud triangle such as opportunity, pressure, and rationalization dimensions. For the dimensions obtained from this study, Cronbach Alpha reliability values were found to be 0.82, 0.75, and 0.69, respectively.

Findings and Discussion

Risk and classification tables were created before starting the study done with the decision tree, which was applied by using CRT algorithms. With the help of these tables, how well the model works could be determined. Risk estimate value was calculated as 0.134. Therefore, this shows that the availability of the wrong classification risk is 13.4% in terms of cheating number of the selected student. Correct classification ratio of the data related to the number of copies was calculated as 86.6% by the help of the classification table.

When the attitudes of the students were observed in the exams, it was detected that 70.2% of the participated students cheated many times. The rationalization behind the cheating is the most important reason for students to copy. With the help of the experts on this subject, the table regarding how to interpret the calculated critical values depending on the magnitude or littleness was given below (Table 1).

For the status of the person to have a right to cheat, two groups as the right (≤ 0.155 with the critical value) and exceedingly right (> 0.155 with the critical value) were obtained. As it can be seen from Table 1, people who strongly believe that they have the right to copy cheated more than once. Similarly, people who believe that they have a right to copy also cheated many times during their education life.

When people who believe that they are extremely eligible to cheat were analyzed in terms of personality traits, it was observed that they are responsible people, actually. Results showed that while 38% of those who have a lot of responsibility (> 0.67) never cheated, those specified who have less responsibility (≤ 0.67) cheated several times. For each node, similar interpretations were done and summarized as follows (Fig. 1).

About 55% of those who copy many times (95 of 174 people) believe that they have a right in this regard, whereas 45% of them believe that they have more right. Being responsible is the most powerful factor to support the right of cheating more. While the majority of those who are more responsible stated that they never cheat, most of them pointed out that they do not see it as an opportunity. On the other hand, the vast majority of those who consider it as an opportunity copied several times. Almost 56% of those who never cheated in spite of that they consider it as an opportunity were found that they have introverted character. In addition, it can be said that introverted people never copied during their life while extraverted people copied many times. Inherently, those who copy once are more extraverted and those who copy more than once are less extraverted people.

Table 1. Interpretations of the Factors for Threshold Values Obtained from this Study.

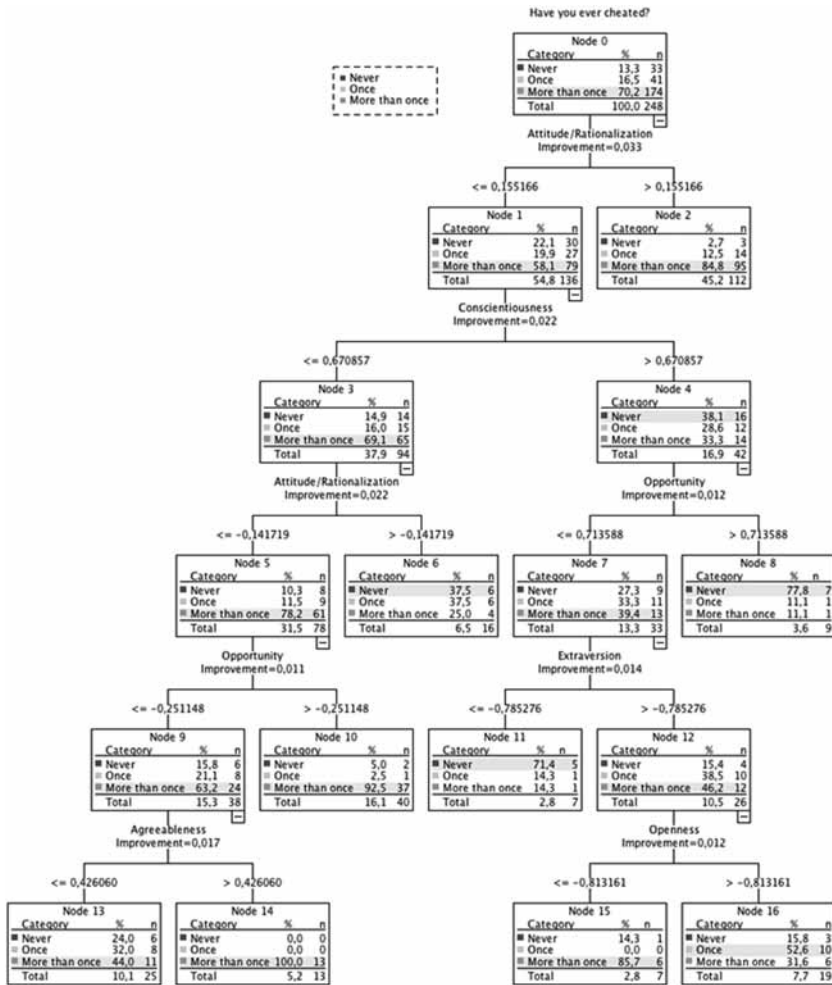|	High Level	Low Level
Attitude/Rationalization	≤ 0.155166	> 0.155166
Conscientiousness	> 0.670857	≤ 0.670857
Opportunity	≤ 0.713588	> 0.713588
Extraversion	> -0.785276	≤ -0.785276
Agreeableness	≤ 0.426060	> 0.426060
Openness	> -0.813161	≤ -0.813161

Fig. 1. Regression Tree Results.

Those insisting that they have a right to copy and being less responsible were specified and most of them who believe that cheating is not an opportunity never cheated. However, those considering it as a chance were identified as compatible people. While all the people specified as less compatible expressed that they cheated many times, only 44% of those specified as compatible expressed that they copied several times.

CONCLUSION

This study's findings suggest that efforts to comprehend the student behavior should proceed attending both on academic and professional dishonesty. In

addition, the data also point toward some significant matters about the relations between personality traits and fraud triangle factors, which are discussed below.

Students are able to obtain higher grades and a better outcome than they might have otherwise, by cheating. In addition to research on the characteristics of cheating students, some studies have attempted to model fundamental motives and tendencies for academic dishonesty. For instance, "As long as they think others are cheating, students feel they have no choice but to cheat as well," says Donald L. McCabe (2012). Vowell and Chen (2004) found that academically dishonest behavior is conditioned upon the attitudes and behaviors of students. Bolin (2004) found that academic dishonesty is affected by both students' ability to rationalize academic dishonesty and opportunity for cheating. While Choo and Tan (2008) claim each factor of the fraud triangle has explanatory power, Malgwi and Rakovski (2009) find pressure is the key. The three factors of the fraud triangle may have different levels of significance. As in this study, pressure is not associated with the cheating behavior. There are other studies with similar results, which found no direct relationship between pressure and academic dishonesty (Guo, 1994; Smith, Ghazali, & Minhad, 2007).

We have explained fraud in the terms of the components of fraud triangle: pressure, opportunity, and rationalization. One of the important characteristics of the fraud triangle is that it foresees that by reducing any one component of the triangle, the possibility of fraud is also reduced. Eliminating cheating is nearly impossible; but with the proper controls implemented, the likelihood of it occurring in universities could be reduced. Therefore, efforts taken to address pressures, opportunities, and rationalizations may be useful for cheating (fraud) deterrence and detection. Previous researches' descriptive data that appear to be reliable across settings do not suggest effective prevention strategies, and thus a divide has developed between our knowledge about the proportion of academic cheating and cheater profiles and what institutions do to reduce cheating cases (Jordan, 2001). Jordan also suggests that more powerful intervention strategies may ultimately result from studies that examine "what factors motivate and sustain student cheating and can academic institutions influence these factors" (Davy et al., 2007).

We anticipate that faculty members can reduce the amount of cheating that occurs by an effective deterrence program, which targets the three elements of the fraud triangle. Faculty attitudes, behavior, and controls can play significant roles in reducing the incidence of academic dishonesty, according to the empirical evidence and theory presented in this chapter, by: (1) reducing pressures on students that might push them into committing academic dishonesty; (2) reducing opportunities to cheating by preventive and detective controls; (3) resolving rationalizations for engaging in cheating behavioral; and (4) establishing and promoting academic integrity as the ethical norm among students, to help eliminating the rationalization by students that happens before academic cheating behavior. Additional studies using other methodologies will be needed to uncover the extent of risk assessments of students on academic dishonesty. Such a model may be supportive when faculties endeavor to reduce or eliminate academic dishonesty.