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Insights for Research and Practice: What We Learn about Fraud from Other Disciplines

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SYNOPSIS: We survey academic literature from non-accounting publications related to fraud and financial crimes: (1) to better understand the nature and extent of fraud acts from the perspective of non-accounting research; (2) to share with accounting researchers and practitioners ideas, theories, variables, constructs, and research designs used in other fields that might inform anti-fraud research and actions in accounting; and (3) to highlight opportunities for future research. This project extends the work of Hogan, Rezaee, Riley, and Velury (2008) and Trompeter, Carpenter, Desai, Jones, and Riley (2013) who completed fraud research synthesis projects in conjunction with the Auditing Section of the American Accounting Association for the Public Company Accounting Oversight Board (PCAOB). Our literature survey goes beyond immediate practice concerns and summarizes fraud-related literature that might inform research as well as practice in the future from approximately 30 journals in criminology, ethics, psychology, and sociology.

Keywords: asset misappropriation; fraud; fraudulent financial reporting; literature review.

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INTRODUCTION

To further academic research, facilitate the development of auditing standards, and inform regulators of insights from academic literature, in 2006 and 2011, the Auditing Section of the American Accounting Association (AAA) sponsored a series of literature syntheses.[1] As a part of that series, Hogan, Rezaee, Riley, and Velury (2008) and Trompeter, Carpenter, Desai, Jones, and Riley (2013) examined anti-fraud literature, focusing primarily on research that has been published in accounting journals with the objective of identifying research implications likely to have a more immediate impact on auditing and accounting standard setting and practice. Further, those two papers focus on fraudulent financial reporting. We extend Hogan et al. (2008) and Trompeter et al. (2013) by reviewing academic research from disciplines outside of accounting and by including a broader set of fraud topics: employee fraud (e.g., theft, embezzlement) and other financially motivated crime (e.g., tax evasion, bribery, money laundering).

This project differs from other fraud research syntheses (Hogan et al. 2008; Trompeter et al. 2013) by examining a wider set of theoretical constructs. We move beyond the fraud triangle and consider the findings of non-accounting research related to broader topics such as theft (by force rather than deception), the role of punishment, and others. Such topics provide insight into financial fraud and have the ability to inform practice and accounting research aimed at prevention, deterrence, and detection of fraud. The scope of the relevant research includes a review of approximately 30 journals that were identified by the Institute for Fraud Prevention in the fields of criminology, ethics, psychology, and sociology.

We organize this synthesis around the framework presented by Dorminey, Fleming, Kranacher, and Riley (2012). While the framework incorporates Cressey's (1953) fraud triangle, it expands and refocuses one's thinking about fraud by including additional factors: (1) organizational and societal interventions in the areas of deterrence and prevention, and (2) subsequent detection, investigation, consequences, and remediation of the criminal act once the crime has occurred. We believe that these additional factors help to identify possible shortcomings in anti-fraud efforts (prevention, deterrence, and detection) in practice and help researchers identify the role of these constructs in the examination of fraud and related financial crimes. The framework should also provide broader perspectives for future research.

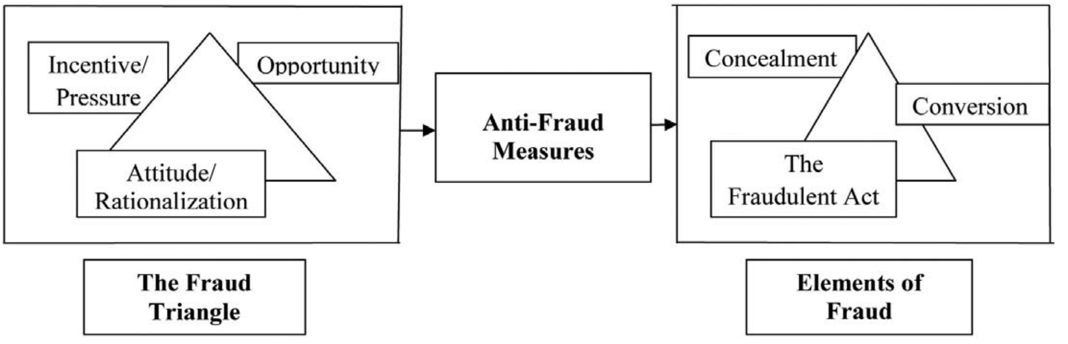
Our summary is organized as follows: In the next section, we briefly describe the Dorminey et al. (2012) framework. We then discuss (primarily) non-accounting academic literature related to each component of the framework starting with the fraud triangle followed by anti-fraud measures (i.e., deterrence and detection efforts), the triangle of fraud action, and the consequences of fraud and financial crime. We conclude with suggestions for future research.

A FRAMEWORK FOR FRAUD AND ANTI-FRAUD EFFORTS

In this review and synthesis of the literature, we move beyond the fraud triangle to consider a broader spectrum of factors that researchers and practitioners may consider in an effort to provide a more complete perspective on fraud and related financial crimes. Specifically, we base our review on the model developed by Dorminey et al. (2012). The model is depicted in Figure 1 and is useful because it provides an expanded framework to help structure one's thinking about fraud and related

[1] This paper (article) is authored by one of the research synthesis teams formed by the Auditing Section. The views expressed in this paper are those of the authors and do not reflect an official position of the AAA or the Auditing Section. In addition, while discussions with the PCAOB staff helped us identify the issues that are most relevant to setting auditing and other professional standards, the author team was not selected or managed by the PCAOB, and the resulting paper expresses our views (the views of the authors), which may or may not correspond to views held by the PCAOB and its staff.

FIGURE 1
A Meta Model of Fraud and White Collar Crime



Adapted from Dorminey et al. (2012).

On the left-hand side, the traditional fraud triangle identifies the pre-fraud state of nature as perceived by the perpetrator. The central section of the model presents organizational and societal interventions (e.g., internal controls, broader elements of corporate governance, legal and regulatory environment) aimed at reducing fraud. On the right-hand side, the model focuses on the specific elements of the post-fraud state: the criminal act itself, the efforts to conceal the act, and an identification of what benefits accrue to the perpetrator (i.e., conversion—money laundering, for example).

financial crimes. This framework is expanded in Tables 1–5 in which we list prior accounting and non-accounting research for each topic and provide suggestions for future research.

First, the model identifies the pre-fraud state of nature as perceived by the perpetrator (left-hand side). Following from Cressey's (1953) original work, the model characterizes perpetrators as the initial decision makers, the ones who must consider their personal and professional situation as well as their perception of the deterrence, prevention, and detection fabric in place to determine if a fraudulent act can be successful in both (1) execution and (2) concealment. Moving to the far right, the model examines the post-fraud state and focuses on the specific elements of the fraud or financial crime (W. Albrecht, C. C. Albrecht, C. O. Albrecht, and Zimbelman 2012): the criminal act, the efforts to conceal the act, and an identification of what (and how) benefits accrue to the perpetrator (i.e., conversion—for example, incremental bonuses, unwarranted stock market gains, or, in the case of asset misappropriation, the conversion of stolen assets). In the center of the model—between the perpetrator and the criminal act—are the organizational and societal interventions (e.g., internal controls, broader elements of corporate governance, legal and regulatory environment, external auditing) aimed at reducing the incidence and impact of fraudulent acts. These interventions have been characterized as prevention, deterrence, and detection.[2] Each of these is at least partially outside the control of the perpetrator, yet they influence the perpetrator's assessment of the probability of success in terms of completing and concealing the criminal act.[3]

[2] To the extent that an individual considering committing fraud sees detection procedures like an internal or external audit as effective, this may prevent or deter a fraud from occurring.

[3] The constructs in the center section of the Dorminey et al. (2012) model appear to overlap in some ways with the fraud triangle. Careful reading of Cressey (1953) suggests that his focus was centered on the choice(s) of the (potential) perpetrators. The anti-fraud efforts in the center of the Dorminey et al. (2012) model highlight that organizations, regulators, and society, in general, given cost-benefit considerations, attempt to anticipate the thought processes and potential bad acts of (potential) perpetrators in an attempt to prevent and deter fraudulent acts or to detect such acts as quickly as possible. The choices by the fraudster and the anticipatory acts of the organization and others (given cost-benefit considerations) are interrelated but different. By separating those perspectives, researchers can, for example, study whether fraud occurs at greater frequencies and with larger impact in the absence of a specific anti-fraud effort or by overriding such effort. Results from such an investigation might, for instance, assist auditors' fraud risk assessment.

TABLE 1

A Framework for Fraud and Anti-Fraud Efforts
The Fraudster Perspective: The Fraud Triangle and Beyond

Panel A: Pressure, Incentives, and Motivations

Agnew 1992
Alaleho 2003
Albrecht 1991
Armstrong et al. 2010
Armstrong et al. 2013
Beneish 1999
Block and Griffith 2002
Borg 2000
Burns and Kedia 2006
Cressey 1953
Davidson et al. 2012
Dechow et al. 1996
Dhami 2007
Dorminey et al. 2012
Efendi et al. 2007
Engdahl 2008a, 2008b
Grasmick and Kobayashi 2002
Halpern 2001
Hochstetler 2002
Hogan et al. 2008
Kazemian and LeBlanc 2004
Knust and Stewart 2002
Koh et al. 2008
Langton and Piquero 2007
Langton et al. 2006
Lie 2005
Merton 1938
Piquero and Benson 2004
Rosner 2003
Summers and Sweeney 1998
Trompeter et al. 2013

Avenues for Future Research

- Future research could examine factors like high social status combined with recent unemployment, liability strains, and other stressors in an individual's personal life to determine if these factors could be predictive of fraud.
- Researchers may also conduct longitudinal research into the life course of white-collar crime offenders, examinations of life-situational triggers, and comparisons of job and organizational pressures to those arising from personal and non-occupational pressures.
- Accounting researchers may be able to apply factors from general strain theory and the "life course" approach to expand our understanding of how one's social environment and past life experiences could affect the likelihood of fraudulent behavior.

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TABLE 1 (continued)

Panel B: Opportunity, Including Collusion and Management Override

Abbott et al. 2004
ACFE 2012
Albrecht 1991
Archambeault 2008
Beasley 1996
Block and Griffin 2002
Chau and Siu 2000
Collins et al. 2009
Cressey 1953
Dechow et al. 1996
Dorminey et al. 2012
Efendi et al. 2007
Engdahl 2008a
Fich and Shivdasani 2007
Hogan et al. 2008
Loebbecke et al. 1989
Magilke et al. 2009
McBarnet 2006
McMullen and Raghunandan 1996
Mon 2002
Smith et al. 2000
Trompeter et al. 2013
Wedel 2001
Zhao and Chen 2008

Avenues for Future Research

- Perhaps multi-disciplinary research, in which accounting researchers join with psychologists or organizational behavior researchers, may prove fruitful in fleshing out our understanding of these issues related to opportunity.
- The role of informal networks with regard to fraud and financial crimes is likely a promising line of research, especially with regard to collusive fraud, recognizing that collusive fraud tends to have greater financial consequence.
- Future research might focus on the role that accountants and other professionals play in an entity's network of professionals, and their expertise in facilitating corporate misdeeds.
- Future research should investigate the reasons behind the rising incidence of financial crime and consider measures that might be effective prevention and deterrence mechanisms.

Panel C: Rationalization/Neutralization (the Psychology of Fraud: Values, Personality Factors, etc.)

Alaleho 2003
Albrecht 1991
Bennett and Robinson 2000
Beu and Buckley 2001
Bolin and Heatherly 2001
Coleman 2001
Cooper 2007
Cressey 1953
Cromwell and Thurman 2003
Dorminey et al. 2012

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TABLE 1 (continued)

Evans and Porche 2005
Eysenck and Eysenck 1976
Festinger 1957
Gauthier 2001
Gottfredson and Hirschi 1990
Grasmick et al. 1993
Hogan et al. 2008
Hurtt 2010
Hurtt et al. 2013
Jacobsson 2006
Johnson et al. 2011
Knust and Stewart 2002
Murphy and Dacin 2011
Nelson 2009
Piquero et al. 2005
Piquero et al. 2010
Ross and Nisbett 1991
Schiller 2005
Sykes and Matza 1957
Trompeter et al. 2013
Zuckerman 1979

Avenues for Future Research

- A great deal of psychological research has been done in the area of rationalization. Work in this area has generally not been considered by accounting researchers and could be used to help our understanding of the psychology of the fraudster.
- An examination of the nature of rationalizations used by perpetrators of fraud could help us to better understand how perpetrators try to justify their actions.
- Prior research has shown that personality matters in economic crimes. Further work in this area could help us to better understand the extent to which personality traits—by themselves—are important in understanding the fraudster, and it could serve as a springboard into understanding the effect of the "person × context" interaction on fraudulent behavior.
- Research that examines individuals' innate psychological characteristics might be explored in hopes of developing a better understanding of the factors that drive the actions of white-collar criminals.
- Future research can examine how attitudes and moral values of individuals in different societies around the world are affected by their economic and social environment, and how a combination of such factors might be associated with the incidence of fraudulent financial reporting, other fraud acts, and financial crime.

Table 1 provides a listing of relevant papers. It also contributes to a taxonomy whereby each article is linked to the various components of the model presented in Figure 1. Relevant avenues for future research are provided.

THE FRAUDSTER PERSPECTIVE: THE FRAUD TRIANGLE AND BEYOND

Relying on SAS No. 99/AU 316 and Cressey's (1953) work (see also Hogan et al. 2008; Trompeter et al. 2013), a great deal of research can be categorized as being consistent with the three factors of the fraud triangle: pressure (incentives), opportunity, and rationalization (or predisposition to rationalize).[4] To remain consistent with existing authoritative (e.g., SAS No.

[4] The Fraud Triangle used to summarize the antecedents to fraud as described by Cressey was first published in 1991 by Albrecht (1991).

TABLE 2

Anti-Fraud Measures: Deterrence

Panel A: Corporate Governance and Corporate Culture: Leadership and Tone at the Top

Abbott et al. 2004
Archambeault et al. 2008
Bartlett and Preston 2000
Beasley 1996
Bedard et al. 2004
Beugré 2005
Block and Griffin 2002
Carcello and Neal 2000
Carcello et al. 2006
Cohen et al. 2004
Cohen et al. 2007
Cohen-Charash and Mueller 2007
Collins et al. 2009
DeZoort 1998
Dorminey et al. 2012
Farber 2005
Fuller et al. 2003
Gross-Schaefer et al. 2000
Hogan et al. 2008
Kreie and Cronan 2000
Magilke et al. 2009
Matsumura and Shin 2005
McBarnet 2006
McMullen and Raghunandan 1996
Palmer 2009
Rezaee and Riley 2010
Sarra and Nakahigashi 2002
Schwartz et al. 2005
Trompeter et al. 2013
Weeks et al. 2005
Yu and Zhang 2006
Zhao and Chen 2008

Avenues for Future Research

- Future research could examine how specific changes in tone at the top or corporate culture could drive changes in employee attitudes toward ethical decision making with respect to economic crime/fraud.
- Research could examine the extent to which exposure to a corporate culture with a weak (strong) tone at the top affects attitudes toward corporate deviance.

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TABLE 2 (continued)

Panel B: Globalization on Anti-Fraud Measures

Bussman and Werle 2006
Chirayath et al. 2002
Halpern 2001
Hamilton and Knouse 2001
Hogan et al. 2008
Kaikati et al. 2000
Liu 2005
Powpaka 2002
Statman 2007
Trompeter et al. 2013

Avenues for Future Research

- Future accounting research could consider whether the factors that lead to corporate crime also explain instances of fraudulent financial reporting. Additionally, if such factors do lead to fraudulent financial reporting, then corporations should establish necessary controls to mitigate such risk.
- Prior research notes that economic upheaval creates incremental opportunity for increased economic crime. This result may have applicability to third-world nations as they move toward more market-driven economies and could be a fruitful area for accounting fraud researchers.
- Future research should investigate if different approaches to dealing with ethics affect an organization's ability to act ethically in various situations.

Table 2 provides a listing of relevant papers. It also contributes to a taxonomy whereby each article is linked to the various components of the model presented in Figure 1. Relevant avenues for future research are provided.

99/AU 316) and academic literature we use the words "pressure" and "incentive" interchangeably, and we structure this first section of the manuscript around the fraud triangle (i.e., the fraudster's perspective).

Pressure, Incentives, and Motivations

Hogan et al. (2008) and Trompeter et al. (2013) find that the incentives to misstate earnings are associated with:

- pressure to meet analysts' estimates (Koh, Matsumoto, and Rajgopal 2008),
- compensation and incentive structures (Efendi, Srivastava, and Swanson 2007; Burns and Kedia 2006; Armstrong, Jagolinzer, and Larcker 2010; Armstrong, Larcker, Ormazabal, and Taylor 2013),
- optimal timing of management stock sales (Beneish 1999; Summers and Sweeney 1998; Lie 2005),
- the need for external financing (Dechow, Sloan, and Sweeney 1996; Efendi et al. 2007), and
- poor performance (Rosner 2003).

While most accounting research focuses on monetary motivations for fraudulent acts, researchers in non-accounting fields have considered a broad set of motivating constructs associated with fraud and other financially motivated criminal acts. These variables include:

- stress (Langton and Piquero 2007; Hochstetler 2002);
- social status, networks, norms, and interactions (Borg 2000; Halpern 2001; Block and Griffin 2002; Grasmick and Kobayashi 2002; Langton, Piquero, and Hollinger 2006; Dhami 2007; Langton and Piquero 2007; Engdahl 2008a, 2008b);

TABLE 3

Anti-Fraud Measures: Detection and the Perception of Detection
The Auditor, Interviewing, Whistle-Blowing, the Role of Regulation and Oversight, and Computer Analytics

Ajzen 1985
Ajzen and Fishbein 1980
Arel et al. 2006
Ben-Shakhar and Elaad 2002
Borg 2000
Bowen et al. 2010
Brazel et al. 2010
Carpenter 2007
Chi et al. 2009
Cleary and Thibodeau 2005
Desai et al. 2007
Dionne et al. 2009
Dopuch et al. 2001
Dorminey et al. 2012
Durtschi et al. 2004
ElBoghdady 2013
Fanning et al. 1995
Fishbein and Ajzen 1975
Gottfredson and Moriarty 2006
Green and Choi 1997
Hoffman and Zimbelman 2009
Hogan et al. 2008
Kaplan et al. 2010
Kumar and Bhattacharya 2007
Lee and Fargher 2013
Lee and Welker 2007
Lee and Welker 2011
Lin et al. 2003
Mesmer-Magnus and Viswesvaran 2005
Miller and Thomas 2005
Nigrini 1999
Nigrini 2012
Nigrini 2013
Nigrini and Mittermaier 1997
Parker 2003
Seifert et al. 2010
Seymour et al. 2000
Trompeter et al. 2013
Trotman et al. 2009
Van de Bunt 2010
Wilks and Zimbelman 2004
Xu and Ziegenfuss 2008

Avenues for Future Research

- Non-accounting researchers offer methodologies and risk assessment frameworks that could be used to detect fraud. Non-accounting researchers have also investigated whistle-blowing, the role of regulation, and the largely unexplored (in the accounting literature) area of interviewing and interrogation.

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TABLE 3 (continued)

- Future research should examine the impact of tax rates and quality of the IRS supervision that would improve corporate governance.
- Future research could examine how penalty structures could help in curbing individuals and corporations from committing or repeating accounting fraud.
- Prior research on corporate compliance programs in Australia suggests an increase in the reliance on compliance programs as a response to corporate crime. Future research into such programs to deter or prevent future occurrences could prove valuable.
- Prior research suggests that Benford's Law is observable only in naturally occurring numbers, not in numbers that have been artificially concocted. The value of Benford's Law in certain types of fraud detection and subsequently in audit practice has largely been unexplored.

Table 3 provides a listing of relevant papers. It also contributes to a taxonomy whereby each article is linked to the various components of the model presented in Figure 1. Relevant avenues for future research are provided.

- the need for risk (sensation) seeking (Knust and Stewart 2002; Kazemian and LeBlanc 2004);
- extroversion (Knust and Stewart 2002; Alaleho 2003); and
- conceit (Alaleho 2003).

In general these variables offer promise in terms of opportunity for additional research with regard to financial reporting fraud and the interaction of these variables with the audit function. For instance, measures of sensation seeking and personality (see Zuckerman [1979] and H. Eysenck and S. Eysenck [1976] as cited in Knust and Stewart [2002]) could be fruitful in offering new measures of personality characteristics associated with offending behavior (e.g., financial reporting fraud).

Looking more deeply into perpetrator backgrounds, Piquero and Benson (2004) focus on how an individual's past can influence future events and actions with respect to white-collar crime. They consider four interrelated aspects of the perpetrator's life: the onset of offending, the duration of offending, periods of offense desistence (the cessation of offending or other antisocial behavior), and patterns in the types of offenses committed. As applied to white-collar crime, the authors note that jailed offenders tend to be: (1) middle class with moderate incomes and ordinary jobs and (2) repeat offenders, having at least two official contacts with the criminal justice system. The authors hypothesize a brief flirtation with delinquency during adolescence, punctuated by a period of conformity (during their 20s and 30s), followed by an individual committing white-collar crime later in life. The motivation for the later-in-life deviance is hypothesized to be some experience or crisis. The authors suggest several promising research tracks applicable to accounting and auditing including:

- Longitudinal research into the life course of white-collar crime offenders.
- Examination of life-situational triggers.
- A comparison of job and organizational pressures to those arising from personal and non-occupational pressures.

Kazemian and LeBlanc (2004) also consider the life course approach. To date, in accounting research, only Davidson, Dey, and Smith (2012) consider behavior not directly associated with financial reporting risk. The life course approach seems to offer promising research opportunities. Perhaps additional studies of the backgrounds of fraud perpetrators could help develop a better understanding of patterns and scenarios that represent a heightened risk of fraud. For example, backgrounds of fraud perpetrators might vary for those committing financial reporting fraud versus misappropriation of assets.

TABLE 4

The Triangle of Fraud Action: The Act, Concealment, and Conversion

The Act, Including Corruption; Concealment; and Conversion and Money Laundering
ACFE 2012
Albrecht et al. 2012
Armstrong et al. 2010
Armstrong et al. 2013
Beasley et al. 1999
Beasley et al. 2010
Beneish 1999
Burns and Kedia 2006
Chi and Gupta 2009
COSO 2013
Cressey 1953
Dechow et al. 1996
Dorminey et al. 2012
Efendi et al. 2007
Godson and Wirtz 2000
Hogan et al. 2008
Holtfreter 2005
Jensen 2005
Knapp 2010
Koh et al. 2008
Kranacher et al. 2011
Lie 2005
Naylor 2003
Nieschwietz et al. 2000
Perols and Lougee 2011
Ping 2006
Rosner 2003
Summers and Sweeney 1998
Trompeter et al. 2013
Van de Bunt 2010
Wilks and Zimbelman 2004
Avenue for Future Research
• Future research could develop more effective governance mechanisms that better track the actions of top management and prevent them from circumventing controls and committing fraud.

Table 4 provides a listing of relevant papers. It also contributes to a taxonomy whereby each article is linked to the various components of the model presented in Figure 1. Relevant avenues for future research are provided.

General strain theory (GST) (Merton 1938; Agnew 1992) also offers promise for exploring non-financial motivators for fraud. GST hypothesizes a link between strain associated with one's social status and criminal behavior. Agnew (1992) presents three categories of strain/stress (failure to achieve positively valued goals, the removal of positively valued stimuli, and presentation of negative or noxious stimuli) and posits that their effect on an individual's actions is a function of the magnitude, duration, and recency of exposure to stress. Further, exposure to these stressors is hypothesized to increase the likelihood of crime. Using GST as a springboard, Langston and Piquero (2007) investigate the extent to which GST can be helpful in explaining white-collar crime, focusing their work on a deeper examination related to the onset of criminal behavior posed in the

TABLE 5

Consequences of Fraudulent Acts: Remediation Perpetrators and Punishment, and Victims

Albanese 2005
Dhami 2007
Dorminey et al. 2012
Grasmick and Kobayashi 2002
Messner and Rosenfeld 2001
Payne and Gainey 2004
Trompeter et al. 2013

Avenues for Future Research

- To date there has been limited research on the consequences of fraudulent acts and the nature of remedial actions taken by individuals and organizations that have been penalized for fraud. Research in this area could enhance our understanding of the impact of penalties (e.g., incarceration) on fraudsters and could also help in developing more effective penalties and remedial actions that could deter corporations and individuals from committing fraud in the future. The role of recidivism (repeat offenses by the perpetrator) with regard to fraud and financial crimes is also unexplored.
- We believe the area of punishment provides opportunity for further study, and the results might impact resource allocation for anti-fraud programs.
- Future research could examine if a penalty structure could help curb individuals and corporations from committing or repeating accounting fraud.
- An examination of victims associated with financial reporting fraud might provide some interesting insights and assist with developing anti-fraud strategies.

Table 5 provides a listing of relevant papers. It also contributes to a taxonomy whereby each article is linked to the various components of the model presented in Figure 1. Relevant avenues for future research are provided.

life course research.[5] They link acts of fraud, deception, and collusion to high social status and/or one's occupation. Closely related to the life course and Davidson et al.'s (2012) approach, Langston and Piquero (2007) developed a strain index composed of six factors: number of legal marriages, description of defendant's neighborhood, academic performance, total value of assets, total value of liabilities, and five-year employment history. Reported findings indicate that strain is positively related to securities violations, suggesting that securities violators were of high social status but suffered from unemployment and liability strains. Practice professionals and accounting and auditing researchers could examine these and other stressors, or pressures, in an individual's personal life to see if they could be predictive of categories of fraud and financial crime beyond securities violations.

Opportunity, Including Collusion and Management Override

Trompeter et al. (2013) offer the COSO framework (COSO 2013) as a means to organize research on the opportunity to perpetrate and conceal fraud. COSO (2013) describes five components to the framework: (1) the control environment, (2) risk assessment, (3) control activities, (4) information and communication, and (5) monitoring. Following that framework, much of the accounting research cited in Hogan et al. (2008) and Trompeter et al. (2013) that

[5] A life-course approach is commonly used in the criminology literature to explore criminal and anti-social behavior by examining important factors occurring at each stage of life (see e.g., Kazemian and LeBlanc 2004).

examines opportunity is centered on the control environment, including audit committees (Abbott, Parker, and Peters 2004; McMullen and Raghunandan 1996; Archambeault, DeZoort, and Hermanson 2008; Magilke, Mayhew, and Pike 2009) and the board of directors (Beasley 1996; Dechow et al. 1996; Efendi et al. 2007; Fich and Shivdasani 2007; Zhao and Chen 2008; Collins, Gong, and Li 2009). Further, Loebbecke, Eining, and Willingham (1989) and Smith, Tiras, and Vichitlekarn (2000) suggest that weaknesses in internal control activities are also associated with fraudulent acts. Non-accounting researchers have also examined COSO-like components in their research efforts. For example, Chau and Siu (2000) find that environmental (e.g., turbulence, hostility, dynamism, heterogeneity), organizational (e.g., participative management, team building, work discretion, accountability, time availability), and individual (e.g., desire for autonomy, internal locus of control) characteristics of entrepreneurial conditions affect ethical decision making, both positively and negatively. Poor ethical decision making has been hypothesized as a precursor to fraudulent acts where individuals find themselves on a slippery slope. Incorporating the Chau and Siu (2000) framework more specifically in accounting fraud and financial crimes research would broaden our understanding of the opportunity to commit fraud acts.

Beyond examination of an individual acting alone, a review of Hogan et al. (2008) and Trompeter et al. (2013) suggests that examinations of methods by which management and other employees collude and factors that lead to collusive behaviors and management override with respect to fraud are largely unexplored. Non-accounting research (in comparison to accounting research) tends to more explicitly consider crimes committed by organizations rather than focus on individual choice(s). Addressing the challenge of collusion, management override, and organizational malfeasance, Mon (2002) describes how the traditional investigation of white-collar crime (i.e., examination of individuals) does not adequately explain the offenses of an organization. The author examines two corporations: one with a criminal record of pollution and the other a non-offending company. Relying on surveys, interviews, and data from official agencies with oversight and investigative responsibility, the results suggest that (1) failure of government regulation, (2) lack of corporate self-regulation, (3) lack of public concern, (4) inadequate corporate structures, and (5) low self-control of corporate management are related to corporate crime. Future accounting research could consider whether factors that lead to corporate crime, in general, also explain instances of fraudulent financial reporting. Additionally, if such factors do lead to fraudulent financial reporting, then practitioners could establish more effective controls to mitigate such risk as well as means to identify such risks.

To gain insight into collusion and management override, non-accounting research offers insights by examining social networks and interpersonal interactions. Engdahl (2008a) argues that social position creates opportunity in terms of (1) access to authority, (2) social contact networks, and (3) technical and administrative systems. Social position is often the foundation for opportunity by providing "barriers" and "back regions" to prevent oversight and detection. These concepts are informative features of management override. More specifically, (1) barriers prevent others from taking control over the perpetrator's areas of activity, thus restricting others' ability to detect crimes being carried out; while (2) back regions entail areas where the perpetrator learns, trains, and tests schemes for effectiveness with minimal scrutiny. For example, a fraudster could use access to the general ledger of an immaterial subsidiary to test the effectiveness of fraud concealment schemes. Given the immateriality of the subsidiary, oversight may be minimal and, if caught, then the perpetrator could claim immateriality and/or error with the likelihood of minimal consequences. Perhaps multi-disciplinary research, in which accounting researchers join with psychologists or organizational behavior researchers, may prove fruitful in fleshing out our understanding of collusion and management override.

Staying within the realm of social networks and interpersonal interactions, Wedel (2001) considers the role of informal systems (groups and networks). Informal systems suggest that lines of authority often ignore the traditional organization chart. This context suggests that fraud researchers need to identify and study informal structures and interactions (e.g., collusive constructs). Informal systems can support the development of new groups and institutions while also obstructing institutional change and reform. Such systems arise to address shortcomings in the formal system and can overtake the formal structure over time. Wedel argues that informal systems may be particularly important in understanding companies operating in countries undergoing economic transition (e.g., Eastern Europe, China). The role of informal networks with regard to fraud and financial crimes is likely a promising line of research, especially with regard to frauds like financial reporting fraud that generally involve collusion by multiple individuals within an organization, recognizing that fraud involving collusion with an organization tends to have greater financial consequence than fraud perpetrated by one individual (ACFE 2012).

In another paper that focuses on networks, Block and Griffin (2002) use case studies and discuss the role of social networks and social systems that are necessary to carry out nefarious schemes. They highlight the roles of "enablers" of unethical acts (fraud and financial crime). Along similar lines, McBarnet (2006) describes Enron's approach to accounting choice as one of "creative compliance, that is defined as the use of technical legal work to manage the legal packaging, structuring, and definition of practices and transactions, such that they can claim to fall on the right side of the boundary between lawfulness and illegality." Simply stated, creative compliance "uses the letter of the law to defeat its spirit." These papers focus on the importance of an entity's network of professionals and their expertise to facilitate corporate misdeeds. Future stakeholders might focus on the role that accountants and other professionals play in directly or indirectly assisting such behavior. In an attempt to design more effective measures to prevent, deter, and detect fraud, researchers and practitioners should investigate both collusive acts and acts designed to override controls. To summarize, because financial statement fraud generally involves collusion by upper management and often involves overriding internal controls, accounting researchers may want to address what "barriers," "back regions," "informal systems," and "enablers" are common among fraud firms and whether there is a method by which other corporate governance parties (e.g., the audit committee) can review top management culture (e.g., tone at the top) to help recognize if these characteristics exist and identify and oversee situations where management might override internal controls.

Rationalization/Neutralization (The Psychology of Fraud—Values, Personality Factors, etc.)

The final segment of the fraud triangle is rationalization (attitude)—the ability of the decision maker to engage in fraud and yet justify it as proper behavior. As noted by Hogan et al. (2008) and Murphy and Dacin (2011), this segment has received the least amount of attention from accounting researchers. Trompeter et al. (2013) find that rationalization (moral justification after the fraud) and the closely related construct of neutralization (moral justification before the fraud) have been examined extensively by non-accounting researchers in a variety of settings. In the following paragraphs, key findings and research methodologies are presented.

Cognitive dissonance theory (Festinger 1957) posits that individuals will engage in deviant behavior and then rationalize that behavior in order to improve their self-concept. Cognitive dissonance is centered on the internal conflict one suffers when one's actions (e.g., ethical and legal violation) are inconsistent with their beliefs about who they are (i.e., a "good person"); this results in one working to relieve the stress associated with the fraud act and the fear of getting caught. This theory has provided the underpinnings for literally thousands of published papers (see Cooper [2007] for a review of 50 years of cognitive dissonance research). In our view, cognitive dissonance has not been carefully examined by accounting researchers and could be used to help our understanding of the psychology of the fraudster (for additional background reading, consider Festinger [1957], Ross and Nisbett [1991], Sykes and Matza [1957], and Coleman [2001]).

Emerging during the same period as cognitive dissonance and "rationalization," work by Sykes and Matza (1957) outlines the key elements of "neutralization," and has been a springboard for numerous studies in sociology and criminology. Schiller (2005) reviews 20 papers that study neutralization, observing that the heart of neutralization theory is that deviant activities can be predicted by the extent to which a potential bad actor is able to neutralize (in advance) the individual and/or social perceptions of norm violation. Schiller (2005) calls for additional research into conditions under which neutralization occurs as well as the associated effects of intervention (disablers of neutralization). For example, training that addresses ethical versus unethical behavior may influence a person considering a fraudulent act. Consider the purchasing manager who is reminded that accepting gifts in excess of $25 might influence his or her decision and therefore accepting such gifts may be cause for termination unless reported to the human resources department. This person may pause before accepting a large gratuity as a result of this training-based intervention.

Related to this work, Cromwell and Thurman (2003) identify two neutralizations: (1) justification by comparison, for example: "of all the bad acts I could have been doing, (shoplifting) seemed to be the least serious"; and (2) justification by postponement, for example: "I just don't think about it"; or "I don't want to talk about it." While the authors' work is couched in the literature of neutralization, they suggest that most existing research is incapable of determining whether the justification for the bad act is neutralization occurring before the act, or rationalization developed after the fact. Cromwell and Thurman (2003) also suggest that neutralizations are less about dealing with inward-facing guilt and more about justifying action to others.

The differences between neutralization and rationalization have not been considered in an accounting context. Yet, the timing related to fraud justification is important because it might impact anti-fraud programs. Generally, the fraud triangle's construct of rationalization is described by accounting researchers as occurring before the fraudulent act. As a result, in anti-fraud efforts, rationalization is addressed through training and awareness; such efforts might not be effective or cost-beneficial if the fraudster does not consider justification for an act until after it has been completed. Understanding the true timing of fraud justification is critical to properly formulating anti-fraud measures. For example, assuming that fraud acts cause guilt and/or stress, a reminder of a company's open door policy might persuade the perpetrators to self-report even though they have already committed the act and their actions likely entail negative consequences. Further, with respect to whether a fraudster engages in pre-act neutralization or post-act rationalization, practitioners and researchers should consider the possibility that this timing may be driven by context-specific factors (Nelson 2009), more stable personality-driven factors (Hurtt 2010), or both (Hurtt, Brown-Liburd, Early, and Krishnamurthy 2013).

Moving away from research considering the timing of rationalization, two studies involving professionals in applied settings examine the nature of specific rationalizations; Evans and Porche (2005) and Gauthier (2001) examine how physical therapists and veterinarians rationalize their unethical actions. The two studies posit that perpetrators neutralized (rationalized) their behaviors by using one or more of the following nine methods: (1) the excuse that everyone else does it, (2) denial of responsibility, (3) denial of injury, (4) denial of a victim, (5) condemnation of the condemners, (6) appeal to higher loyalties, (7) denial of necessity for the law, (8) defense of necessity, and (9) claim of entitlement. Future research into the design of corporate culture or education and training could focus on devising interventions to short-circuit this type of thinking.

A related paper examines rationalization in cases where the perpetrator acts "for the good of the organization." Piquero, Tibbetts, and Blakenship (2005) examine the conditions under which persons would be willing to commit corporate crime, which is a fraud that tends to benefit the corporation as much, if not more, than the individual participants who work to perpetrate the crime. The authors consider several theories of white-collar and corporate crime including deterrence/

rational choice, self-control, organizational strain, and differential association (learned behavior). The paper also considers various neutralization techniques that could be used by potential perpetrators in an organizational setting: (1) the government exaggerates dangers to consumers; (2) regulations/regulators impede free trade; (3) profit is the most important determinant of choice; (4) caveat emptor (let the buyer beware); and (5) anything for profit. Interestingly, the paper finds that the only social groups that seemed to have a deterrent effect on unethical acts were friends and business professors while the perceived support of the board of directors toward less desirable acts was positively associated with fraudulent choice. These results suggest, among other things, a strong classroom role for the professoriate in deterrence of fraud.

Exploring a construct similar to the greater good, Jacobsson (2006) finds that fraudsters exploit moral ambiguity, particularly when the unethical act results in a desirable outcome. The perpetrator is able to avoid self-criticism by shifting focus to the outcome. In the case of financial reporting fraud, the executive might claim that the fraud helps to avoid bankruptcy and thus prevents a company from laying off employees. The transfer of guilt as a barrier to internal conflict may be explored in financial reporting fraud where the organization seems to benefit while the perpetrator puts himself in harm's way. This focus may be a particularly fruitful area of research—especially in situations where a supervisor may use such rationalizations to enlist the collusive support of lower level employees.

Beyond studies that explicitly examine rationalization or neutralization, there is a great deal of related non-accounting research that examines personal values/personality traits associated with deviant behavior (Gottfredson and Hirschi 1990; Alaleho 2003; Beu and Buckley 2001; Bolin and Heatherly 2001; Piquero, Schoepfer, and Langton 2010; Johnson, Kuhn, Apostolou, and Hassell 2011; Knust and Stewart 2002). For example, Alaleho (2003) conducted interviews with 128 informants: 55 economic offenders, 69 legitimate businessmen (non-offenders), and four unclassified subjects. The results suggest that at least three personality types are strongly associated with economic crime: the positive extrovert, the disagreeable, and the neurotic. Further, the results show at least two personalities are related to law-abiding acts: the conceited and the agreeable. These results suggest that personality matters in economic crime. Future work in this area could help practicing anti-fraud professionals better understand the extent to which personality traits—by themselves or in conjunction with other, more contextual, constructs—are important in understanding the fraudster, and could serve as a springboard for more refined anti-fraud programs.

Researchers have also developed and used psychometric scales to examine deviant behavior within an organization. Gottfredson and Hirschi (1990) posit a General Theory of Crime and examine the link between self-control and deviance (specifically, employee theft) by measuring attitudinal and behavioral measures of self-control. Using Grasmick, Tittle, Bursik, and Arneklev's (1993) 24-item self-control scale, Gottfredson and Hirschi (1990) surveyed participants concerning past, current, and future (planned) deviance. The results suggest that general measures of self-control such as impulsivity, a preference for simple tasks, risk seeking, self-centeredness, and bad temper can be used to explain criminal and analogous behaviors. Similarly, Bennett and Robinson (2000) develop two scales to measure organizational and interpersonal deviance: a 12-item scale of organizational deviance (deviant behaviors that are directly harmful to the organization) and a seven-item scale of interpersonal deviance (deviant behaviors that are directly harmful to other individuals within the organization). These measures could be used by accounting researchers to take a broader view of factors that contribute to fraud, as these measures cover a relatively broad range of deviant behaviors.

As an additional example of non-accounting research methods, in a study linking personality to risky behavior, Knust and Stewart (2002) examine two seemingly competing theories: Zuckerman's (1979) sensation seeking model and the Eysenck and Eysenck (1976) three-factor model of introversion-extraversion, neuroticism, and psychoticism (susceptibility to psychotic breakdowns).

The participants, 92 prisoners, were measured using the Zuckerman Sensation Seeking Scale and Eysenck and Eysenck's Personality Questionnaire Revised-Short Scale. The results suggest a distinction between socialized and non-socialized forms of risk-seeking behaviors. This research methodology, which examines individuals' innate psychological characteristics, might be explored in hopes of developing a better understanding of the factors that drive the actions of white-collar criminals. An examination of the nature of rationalizations used by perpetrators of fraud could help us to better understand how perpetrators try to justify their actions; this, in turn, could help corporations to adjust their corporate culture and/or educate personnel, for example, to deter employees from justifying fraudulent acts.

ANTI-FRAUD MEASURES: DETERRENCE

The second major feature of the model presented in Figure 1 focuses on anti-fraud measures. In the following section, we examine the deterrence aspect of anti-fraud measures. In that regard, accounting research findings can be supplemented through consideration of non-accounting research that offers additional insight and methodologies associated with corporate governance, leadership, tone at the top, and the impact of globalization.

Corporate Governance

There is extensive accounting research examining the relationship between weak corporate governance (e.g., the role of audit committees and board of director members) and fraud (Beasley 1996; McMullen and Raghunandan 1996; DeZoort 1998; Carcello and Neal 2000; Abbott et al. 2004; Bedard, Chtourou, and Couteau 2004; Farber 2005; Carcello, Hollingsworth, Klein, and Neal 2006; Cohen, Gaynor, Krishnamoorthy, and Wright 2007; Archambeault et al. 2008; Zhao and Chen 2008; Magilke et al. 2009; Collins et al. 2009; and other work cited in Hogan et al. 2008; Rezaee and Riley 2010; Trompeter et al. 2013). One paper from non-accounting research that might inform anti-fraud efforts with regard to corporate governance is Matsumura and Shin (2005). The authors examine (un)intended consequences associated with calls for reform of executive compensation and corporate governance, and recommend greater independence of compensation committees, requiring executives to hold equity in the corporation, requiring greater disclosure of executive compensation, increasing institutional investor involvement in corporate governance, and requiring firms to expense stock options on the income statement. Many of these variables can be collected from proxy statements and examined in the context of the propensity of corporate and individual criminal behavior.

Non-accounting research has also been interested in the association between governance, leadership, other interventions, and crime prevention and deterrence. In work related to boards of directors and upper management, Schwartz, Dunfee, and Kline (2005) find that the ethics of members of the board of directors has an impact on corporate governance, the prevention of corporate scandals (fraud), and overall ethical environment. They propose a framework focused on honesty, integrity, loyalty, responsibility, fairness, and citizenship, and argue that corporations should consider a separate code of ethical conduct designed explicitly for the board of directors. The end goal would be to create a greater focus on a tone at the top that moves beyond a minimum standard of meeting legal obligations. This focus could dovetail with prior accounting research on corporate governance reviewed by Cohen, Krishnamoorthy, and Wright (2004).

In a governance-related study that moves beyond the U.S., Sarra and Nakahigashi (2002) examine the history of Japanese corporate governance. This research includes a summary of recent changes that are similar to those made in the United States (e.g., SOX). The authors provide a framework for examining the effects of corporate governance on fraud—in particular they consider a comparison of the U.S. versus Japan. The article contains an extensive discussion of corporate governance in Japan in contemporary and longitudinal terms. The work also considers the role of regulation, auditing, and other societal interventions to strengthen the corporate governance fabric. Perhaps, most importantly, the article provides a blueprint for developing an understanding of corporate governance in any country or culture before launching more specific examinations of its relation to economic crime.

Corporate Culture: Leadership and Tone at the Top

The research presented in this section suggests that if an organization wants to function ethically, then it is important for its leadership to possess sound moral grounding and to provide support for setting an ethical and honest "tone at the top" (Bartlett and Preston 2000; Block and Griffin 2002; Beugré 2005; Weeks, Longnecker, McKinney, and Moore 2005; McBarnet 2006; Yu and Zhang 2006; Cohen-Charash and Mueller 2007; Palmer 2009). While the concept of "tone at the top" has received considerable acceptance in professional and academic circles, the concept has not been well defined or explored in a disciplined manner by accounting researchers in archival or experimental settings. While the anecdotal evidence is persuasive, careful examinations of the role of leadership and concepts such as tone at the top may result in more effective anti-fraud programs. Research examining factors related to tone at the top and organizational structure considers factors such as the diffusion of misconduct throughout an organization and across organizations (Greve, Palmer, and Pozner 2010; Palmer 2008). The following studies provide examples of how accounting researchers might refine the examinations of leadership and tone at the top in the contexts of poor ethical decision making.

Kreie and Cronan (2000) consider how organizations might influence the ethical choices that personnel make. They suggest that when personnel perceive an ethical issue as important, they are more likely to rely on their personal values in judging what is ethical or unethical. Furthermore, Fuller, Barnett, Hester, and Relyea (2003) examine the relation between perceived organizational support and organizational commitment through the lens of social identity theory (how one's membership in an organization helps to mold one's self-concept). They find links between organizational support for the individual and an individual's commitment-based self-esteem. Likewise, Gross-Schaefer, Trigilio, Negus, and Ro (2000) demonstrate how a positive, proactive approach that addresses (1) the root issues of disenfranchisement and (2) personal ethics can significantly reduce the situations that allow for theft. These three somewhat disparate studies all reinforce the notion that tone at the top, and the way it is demonstrated and filtered throughout an organization, can potentially affect employees' values and decisions. Practice professionals and future research could examine how specific changes in tone at the top or corporate culture drive changes in employee attitudes toward ethical decision making with respect to economic crime/fraud.

Weeks et al. (2005) consider the process by which leadership might affect organizational actions by examining the "mere exposure effect," the notion that repeated exposure to a stimulus is sufficient to increase more positive attitudes toward the stimulus. Their findings raise concerns that previous exposure to unethical situations might lead to less desirable behavior over time. The authors' finding has potentially powerful implications for corporate culture and fraud. Future research could examine the extent to which exposure to a corporate culture with a weak (strong) tone at the top affects attitudes toward corporate deviance and how those attitudes may change, given change in the corporate culture.

The Impact of Globalization on Anti-Fraud Measures

The globalization of business organizations could also have an impact on the propensity of organizations to commit economic crime due to differences in corporate, political, and socioeconomic factors across countries (Kaikati, Sullivan, J. Virgo, Carr, and K. Virgo 2000; Halpern 2001; Hamilton and Knouse 2001; Powpaka 2002; Statman 2007). In that vein, Statman (2007) suggests that ethics, fairness, trust, and freedom from corruption are part of the social capital of a country and should be considered when thinking globally. The author uses an index to compare countries' fairness, trust, enforcement, and corruption scores. The index might have applications for anti-fraud research. Another study examining fraud and corruption on a global scale was conducted by Hamilton and Knouse (2001), who consider the question of whether large corporations should engage in host country questionable practices (such as bribery, insider trading, and misleading advertisement) even though these actions may violate the corporation's ethical principles and in-country and home-country laws. Based on their framework, the authors develop a set of decision principles to help large corporations deal with these conflicts—including the possible solution that it may be best to avoid doing business in a country if one cannot position corporate principles with the principles that are prevalent in the target country (Hamilton and Knouse 2001).

Practicing professionals and future research could consider the interplay between the behaviors that are considered acceptable at the corporate versus the societal level. Chirayath, Eslinger, and De Zolt (2002) suggest that the incidence of corporate deviance is likely to increase in the foreseeable future due to the implications of globalization, the desire for increased profits, and the declining role of the regulatory agencies across much of the world. Overall, the authors find that oligopolization (market structure) lends itself to additional opportunities for corporate deviance. More specifically, the authors find that concentration of assets and resources in the hands of a relatively small number of large corporations lends itself to additional opportunities for corporate deviance caused by greater ability to circumvent existing regulations. In related work focusing on China, Liu (2005) examines changes in relative crime levels during the change in China from state socialism to a more market-oriented economy between 1978 and 1999. Classical Durkheimian theory would suggest that crime rates rise during periods of social upheaval. Liu found that economically motivated crime increased at a faster rate than many other types of crime (e.g., property and violent crime). The paper notes that economic upheaval creates incremental opportunity for increased economic crime. Findings such as those presented by Chirayath et al. (2002) and Liu (2005) may have applicability to emerging third world nations as they move toward more market-driven economies and could be a fruitful area for accounting fraud researchers.

To enhance our understanding of fraud in a global setting, Bussman and Werle (2006) examine fraud across 34 countries. The paper covers a broad array of illegal behavior including internal fraud, financial reporting fraud, corruption and bribery, insider trading, money laundering, and counterfeiting. Almost 45 percent of the respondents reported being a victim during 2004–2005. Asian countries (32 percent) reported the lowest levels of financial crime and African countries (77 percent) reported the highest levels. Detection was highest at 36 percent when the financial crimes were discovered by tips or accident. The next most effective means of detection was internal audit at 25 percent. Whistle-blowing accounted for approximately 4 percent of all detection. The study further reports that investigative strategies centered on a mix of internal (82 percent), external (73 percent), and law enforcement (62 percent) approaches. In almost 50 percent of the cases, a perpetrator was charged. These findings underline the importance of having good governance mechanisms across the globe—including fraud hotlines and a strong internal audit function—to detect fraud; this insight is especially helpful for practicing professionals.

ANTI-FRAUD MEASURES: DETECTION AND THE PERCEPTION OF DETECTION

In the area of anti-fraud measures associated with detection and the perception of detection, non-accounting research offers methodologies and risk assessment frameworks that may be useful for anti-fraud practice. Non-accounting researchers have also investigated whistle-blowing, the role of regulation, computer analytics, and interviewing and interrogation.

Whistle-Blowing

In the wake of Sarbanes-Oxley legislation, accounting research has begun to explore the role of whistle-blowing with regard to detecting inappropriate acts. In a behavioral setting, Seifert, Sweeney, Joireman, and Thornton (2010) and Kaplan, Pope, and Samuels (2010) find that organizational justice and prior social confrontation affect the intent to whistle-blow. While Lee and Fargher (2013) explore whistle-blowing disclosure, Bowen, Call, and Rajgopal (2010) complete an extensive search for whistle-blowing allegations against public companies and find unique characteristics for whistle-blower allegation firms, short-term and long-term negative affects related to whistle-blowing, and long-term improvements in corporate governance.

Non-accounting research has also examined whistle-blowing and offers additional insights. For example, Mesmer-Magnus and Viswesvaran (2005), using meta-analysis techniques, review 22 articles and find support for the association between intentions to whistle-blow, actual whistle-blowing, retaliation for whistle-blowing, and consequences to whistle-blowing, and various personal, contextual, and wrongdoing characteristics. Importantly, and inconsistent with the Theories of Reasoned Action (Fishbein and Ajzen 1975; Ajzen and Fishbein 1980) and Planned Behavior (Ajzen 1985), the authors note that the intention to whistle-blow is not the same as actual whistle-blowing.

In research examining factors that motivate whistle-blowing, Xu and Ziegenfuss (2008) find that internal auditors are more likely to report wrongdoing to higher authorities when incentives are provided. More specifically, reward systems have a positive effect on eliciting the disclosure of wrongdoing. This result might motivate examination of the impact of the Dodd-Frank Act which provides for significant rewards for whistle-blowers. Beyond financial reward, two studies examine other factors that affect whistle-blowing. Miller and Thomas (2005) compare the willingness of participants to report unethical behavior when the perpetrator was a peer versus when the perpetrator was a subordinate. Their findings suggest that reporting behavior was influenced by relative position and relational closeness. (For example, Miller and Thomas [2005] find that individuals are less likely to inform on a supervisor than on a peer.) Van de Bunt (2010) argues that three major factors adversely affect fraud detection: acceptability of silence in social environments (i.e., a social norm of not informing on co-workers/not blowing the whistle), lack of supervision, and successful concealment efforts. Future accounting research into factors that contribute to the likelihood of whistle-blowing could enhance the corporate governance literature. Practice can also benefit from an understanding of how to increase the probability of employees stepping forward to provide information on, or evidence of, fraud.

Finally, Borg (2000) also examines the willingness to report infractions. Three general conditions are hypothesized. First, the visibility of social interaction is inversely related to effective monitoring. Essentially, in small populations where most people know each other, misconduct is more difficult to conceal. Second, the degree of homogeneity among group members is positively associated with effective monitoring. Homogeneous groups have a higher degree of moral consensus, making deviance less likely. Third, interdependence is positively related to control effectiveness (i.e., if the group and individuals in the group suffer when one member deviates from expected behavior, then group members are less tolerant of such behavior). The research methodology and findings may motivate accounting research by further examining how relationships and interdependencies between various stakeholders could affect whistle-blowing in the corporate environment.

The Role of Regulation and Oversight

There is considerable accounting research on fraud in one aspect of regulation: AU 316-mandated brainstorming (Brazel, Carpenter, and Jenkins 2010; Carpenter 2007; Hoffman and Zimbelman 2009; Trotman, Simnett, and Khalfia 2009). There is also a great deal of research on SOX-mandated audit partner rotation (e.g., Chi, Huang, Liao, and Xie 2009), and limited research on audit firm rotation (e.g., Arel, Brody, and Pany 2006; Dopuch, King, and Schwartz 2001), which is currently under consideration by the Public Company Accounting Oversight Board (PCAOB), the European Commission (EC), and the United Kingdom Competition Commission (UKCC). However, this research primarily considers the effect of the regulation (or potential regulation) on audit quality—not specifically on fraud detection or deterrence. Non-accounting research in fraud could inform practitioners and researchers with respect to future studies and best practices in this area.

Desai, Dyck, and Zingales (2007) observe that tax authorities and outside shareholders have a common goal: reduce managerial diversion. Their findings suggest that higher tax rates impair corporate governance, while stronger tax enforcement can strengthen corporate governance. Further, the relationship between tax rates and revenues depends on the underlying governance environment. They also suggest that the Internal Revenue Service (IRS) can act as a supervising agent, and if tax enforcement (an indirect factor) is strong, then overall corporate governance will improve. Future research should examine the impact of tax rates and the quality of IRS supervision on corporate governance and identify the optimal and most cost-effective tax rate structure and the level of IRS supervision that might improve corporate governance. Research methodologies that examine the effect of regulation and/or regulatory body activity on corporate governance might be useful in understanding the role that the SEC, PCAOB, and other regulatory bodies play in the minimization of fraud. For example, additional research examining the relation between SEC enforcement (e.g., Auditing and Accounting Enforcement Releases [AAERs], restatements) and fraud may be fruitful.

Parker (2003) examines corporate compliance programs in Australia, suggesting an increase in reliance on compliance programs as a response to corporate crime (and other violations of regulations). Generally, as a result of defalcations associated with the Australian Competition and Consumer Commission (ACCC) and the Australian Securities and Investments Commission (ASIC), corporate violators often agree to cease conduct, remedy any harms resulting from their acts, and implement or improve a compliance program. A failure to meet these terms can result in the regulator prosecuting for the original breach. To monitor compliance, the ACCC and ASIC rely on third-party audits or reviews. Such audits or reviews are generally assurance type engagements rather than those falling under generally accepted auditing standards. While these types of audits ensure a rich dialog, the audits tend to be structured around systems documentation and discussions with management, compliance managers, general counsel, and similar corporate leaders. Further research into such programs could examine whether such engagements are effective and whether they could serve to inform modifications in corporate governance more generally.

Computer Analytics

Computer-assisted audit techniques are believed to offer great potential for the detection of fraud and financial crime. Further, the amount of data collected and stored seems to be increasing exponentially. Recently, much discussion has centered on the term "big data." A recent example of the value of data analytics and big data is the announcement by the SEC (ElBoghdady 2013) that it was developing a fraud detection tool. Extensive literature has developed in this regard. For example, Benford's law, neural networks, and other technologies have the potential to supplement fraud risk assessment and the detection of fraudulent acts (e.g., Fanning, Cogger, and Srivastava

1995; Green and Choi 1997; Nigrini and Mittermaier 1997; Nigrini 1999; Lin, Hwang, and Becker 2003; Durtschi, Hillison, and Pacini 2004; Cleary and Thibodeau 2005; Kumar and Bhattacharya 2007; Nigrini 2012, 2013).

Along these lines, at the intersection of digital technology and fraud examination, Dionne, Giuliano, and Picard (2009) examine insurance fraud and auditing claims, highlighting a scoring approach. In the insurance industry, fraud signals are classified (scored) based on the extent to which they indicate the probability of fraud. When a score is sufficiently high, the insurance claim is referred to a special investigative unit. The results indicate how quantitative analysis can enhance the deterrence effect of the audit and how the effect of an audit-scoring scheme can be taken into account to affect optimal auditing strategy. Such scoring approaches may be useful, beyond the insurance industry, in developing specific context-based analytical procedures (beyond ratio analysis) that may be useful in highlighting high fraud risk contexts.

In the field of criminal justice, Gottfredson and Moriarty (2006) discuss the extant literature on predictive models of deviant behavior. The authors' conclusion is that despite their promise, these predictive models have not, to date, been successful or generally accepted. Gottfredson and Moriarty (2006) then examine clinical judgment versus actuarially developed predictive models. Clinical methods are often based on question-and-answer surveys/checklists and ultimately rely on the experience and professional judgment of the practitioner. In contrast, actuarially developed predictive models have been shown to outperform human judgments. This result is because humans do not use information reliably, do not attend to base rates, and inappropriately weigh information. Yet, both clinical and actuarial methods leave considerable variance unexplained. This examination and discussion has broad applicability to fraud risk assessment modeling, especially comparisons between human (e.g., auditors) and digital techniques. Such work may hold promise for certain types of fraud detection research and subsequently audit practice.

While big data, data analytics, and financial analysis have tremendous potential, to date, those perceived benefits have yet to be realized, and tools and techniques that have been developed in practice require systematic examination in a research context. From a practitioner perspective, "Managing the Risk of Fraud: A Practical Guide" (ACFE, AICPA, IIA 2013) prescribes a targeted risk approach that might focus data analytical methods in areas of higher risk. Further, Wilks and Zimbelman (2004) offer game theory and strategic reasoning concepts to further refine fraud prevention and detection. Additional research levering the ideas of a targeted risk approach, game theory, and strategic reasoning in the context of big data may provide useful insights for developing effective anti-fraud approaches.

Interviewing

Interviewing for perceptions of deception is believed to have merit for enhancing fraud risk assessment. With respect to accounting research, Lee and Welker (2007, 2011) consider auditors' ability to detect financial misrepresentations during audit inquiries and the effect of an interviewer's prior exposure to an interviewee on the interviewer's ability to discern truth from deception. In a non-fraud setting, Ben-Shakhar and Elaad (2002) offer research on a perceiver's ability to detect deception. They find that, with the exception of clinical psychologists and the Secret Service, most groups could not differentiate truth tellers from deceivers. However, they find that the Guilty Knowledge Test (GKT) is proven to assist in identifying liars. The test is based on asking questions regarding a fraud—questions that only a guilty person would know. Given this, it may be possible to adapt the GKT to the audit setting. Ben-Shakhar and Elaad (2002) find that a GKT based on multiple questions is superior to other approaches, and can help in accurately detecting deception in a majority of instances. Seymour, Seifert, Shafto, and Mosmann (2000) attempt to assess individuals' guilt. They find that response times to questions can reliably discriminate "guilty" from "innocent" participants. Overall, guilty persons have slower response times. Practice and future research could focus on developing auditors' interviewing skills with the intent of helping them to become better at identifying areas that merit additional exploration and corroboration. The benefits of interviewing, with an eye toward detecting deception, can heighten the auditor's professional skepticism, helping them to modify the nature, timing, and extent of audit procedures.

THE TRIANGLE OF FRAUD ACTION: THE ACT, CONCEALMENT, AND CONVERSION

The three components of the triangle of fraud action (a.k.a., the elements of fraud) are the act, concealment, and conversion (Albrecht et al. 2012; Kranacher, Riley, and Wells 2011). The act represents the specific type and method of execution of the fraud, such as revenue overstatement, concealed liabilities, or deliberate disclosure omissions. Concealment represents hiding the fraud act. Examples of concealment include creating false journal entries, falsifying bank reconciliations, creating fictitious documentation, or destroying files. Conversion is the process of turning the ill-gotten gains into something of value to the perpetrator and doing so in such a way as to give the appearance of legitimacy. Examples include unearned bonuses, inflated stock price appreciation, or money laundering.

The incremental value of the triangle of fraud action is that it represents specific actions that can be documented with evidence as well as control points where the fraud or potential fraud may be prevented, detected, or remediated. That is, anti-fraud professionals may develop certain measures or controls, or structure their audits to illuminate the act, the concealment, or the conversion. While the Cressey (1953) fraud triangle points investigators to why people might commit fraud, the evidentiary trail might be weak or nonexistent. For example, the financial pressure and rationalization elements of the fraud triangle are not directly observable and accountants are not psychologists. By comparison, evidence of the act, concealment, and conversion is more readily available and is observable in forms generally examined by accountants and auditors (e.g., journal entries and documents). Regulators and the accounting profession could potentially improve their fraud detection mechanisms by focusing more on trying to detect fraudulent acts, concealment efforts, and conversion, in addition to considering the red flags mentioned in SAS No. 99 that highlight pressure (incentives), opportunity, and rationalization (attitude). For example, it may be beneficial to implement training programs that focus auditors' attention on money laundering schemes to help them better identify concealment and conversion techniques.

Related to the act, the concealment, and the conversion, there are three important areas for future research. First, while descriptive research (Beasley, Carcello, Hermanson, and Neal 2010; ACFE 2012) highlights the fraudulent act, as noted above, there is little systematic, rigorous, thoughtful examination of concealment and conversion. Second, most research examines the fraud act, including fraudulent financial reporting, as a 0/1 dichotomous variable, either fraud occurred or it did not. For example, most research treats fraud as if it is a single event. Actually, frauds often occur over time, starting small, (in the case of financial reporting fraud, maybe as earnings management). Further, they occur multiple times potentially over an extended period. Research could help us better understand how such escalation occurs. Third, examination of specific types of fraud acts, such as revenue-based fraudulent financial reporting, might provide useful insights. We have topographies of financial reporting fraud schemes (e.g., Bonner, Palmrose, and Young 1998). However, we do not have extensive research into how these acts are perpetrated, how they are concealed, or how the relative benefits of these acts accrue to the perpetrator. Databases of financial reporting fraud (e.g., Beasley, Carcello, and Hermanson 1999; Beasley et al. 2010; COSO 2013) are becoming large enough to warrant a more careful examination of the types of fraud acts.

The Act, Including Corruption

Much of the following suggests that researchers need to clearly define the type of act(s) under examination. Naylor (2003) argues that paradigms that focus on "who" perpetrated the crime and "why"—rather than "what" they did and "how" they did it—have impeded the process of understanding profit-driven crimes. Naylor (2003) proposes three basic categories of profit-driven crimes:

- Predatory offenses, where wealth is transferred and victims tend to be individuals, business institutions, and the public sector.
- Market-based offenses, which include offenses such as the sale of contraband goods and services (e.g., illegal gambling), and the evasion of regulations, taxes, or prohibitions (laws).
- Commercial offenses, which are consistent with corporate crimes, where the organization is the perpetrator and through which suppliers, customers, and society are negatively impacted because of organizational acts.

Naylor (2003) then categorizes offenses like money laundering and tax evasion as secondary crimes that are derived from or are inherent to the three basic categories of profit-driven crime. Consideration of such taxonomies may help research and anti-fraud professionals clarify their approach to fraud detection and deterrence. Accounting research traditionally uses the fraud triangle to describe all types of fraud (e.g., management fraud, embezzlement, bribery). Naylor's research can help accounting researchers rethink the "one-size-fits-all" approach accounting researchers have taken with respect to the fraud triangle (Naylor 2003). For example, to make the fraud triangle relevant to financial reporting fraud, Cressey's (1953) original "non-shareable problem" has been converted to "incentives." It is possible that the incentives for a perpetrator to commit financial reporting fraud are less direct and more organizationally oriented than the monetary benefits originally envisioned by Cressey's (1953) model, which was focused on theft of cash by deception.

Also attempting to clarify the focus of research, Holtfreter (2005) suggests that fraud and criminology researchers often confuse or intermingle white-collar crime committed by the individual (occupational fraud or employee theft) and crime committed by the organization (corporate crime). In her study, one of Holtfreter's key findings is that corporate victims of corruption tended to be large, often publicly traded, companies while corporate victims of asset misappropriation and financial reporting fraud tended to be smaller, private organizations. Accounting firms could use such characteristics to develop profiles of potential offenders and corporations likely to be victimized by fraud. This focus could improve the overall effectiveness of the fraud detection process.

Despite these observations, the fraudulent act is only minimally examined in empirical settings, and most of the work is descriptive in nature (e.g., Beasley et al. 2010; ACFE 2012) as opposed to relational, grounded in prior research and theory. To highlight the potential value of more refined research of the various fraud acts, consider red flags. Red flags are believed to be potential indicators of a fraud act, yet their value has not been documented as especially effective in research or practice; rather, the red flags seem to corroborate malfeasance once discovered.[6] Maybe red flags would be more effective indicators of fraudulent acts when examined in groupings that form a pattern? It is possible that red flags associated with revenue overstatement, for example, might show up in multiple places such as increasing accounts receivable and decreasing operating cash flows while inventory and accounts payable are flat. It might be that red flags are of minimal value when examined in isolation but more effective fraud indicators when examined together. To date, red

[6] For a summary of research regarding red flags prior to Hogan et al. (2008) and Trompeter et al. (2013), see Nieschwietz, Schultz, and Zimbelman (2000).

flags for fraud acts are treated as if all red flags are of equal value. Such may not be the case. Without systematic, rigorous examination of the various fraud and financial crime acts, detection efforts may not be as effective as they could be. See Wilks and Zimbelman (2004) for a rich discussion of game theory, social psychology, judgment and decision making, and auditing, including the examination of red flags. These insights should be helpful to research and practice.

Concealment

As noted previously, there is little accounting research into the nature of fraudsters' concealment efforts. However, in the field of criminology, Van de Bunt (2010) examines three reasons why major frauds go undetected: supervision, successful concealment efforts, and silence maintained in social environments. The author argues that, in the post-fraud discovery period, much emphasis and blame are assigned to the supervisory mechanisms without giving necessary recognition to concealment and silence. Secrecy (silence) is achieved by selectively providing information and by colluding partners' need to trust one another to ensure the secrets are not betrayed to non-members. Because no concealment is foolproof, this requires secrecy among knowledgeable persons. Other factors associated with concealment include: (1) respected perpetrators that are above suspicion, (2) an absence of interest in disclosing the truth, (3) inaction in the face of knowing, (4) concerted ignorance, and (5) the fear of consequences of disclosure. In a corporate setting, top management could circumvent governance mechanisms by taking advantage of one or more of the above factors. Thus, future research and anti-fraud professionals could work to develop more effective governance mechanisms that better track the actions of top management and prevent them from circumventing controls and committing fraud.

Using tools and techniques developed in the intelligence community, Godson and Wirtz (2000) examine conditions of denial and deception. Denial and deception are conceptually related to concealment and include techniques such as "leaks," planted information, and decoys that create a false reality. Further, concealment is likely to be more effective when it is consistent with other beliefs about the organization. Effective perpetrators are likely to be successful at concealment when they: (1) have an overall plan; (2) are able to predict how information recipients are likely to react (e.g., auditors); (3) integrate both omission and deception techniques (e.g., falsifying source documents); (4) understand the culture of the adversary to ensure that concealment is plausible; (5) manage information channels to those likely to discover the concealment; and (6) seek out and examine feedback to determine if the concealment is being accepted (whether the victim is "taking the bait") and adjust the concealment accordingly.

Further, the authors find that successful concealment often leads investigators down blind alleys. For example, auditors track down and examine multiple red flags that provide little diagnostic value related to the fraud being perpetrated. Examination of the means by which financial crime is concealed is limited in accounting research (see Beasley et al. 1999; Beasley et al. 2010; Knapp 2010), yet concealment is a characteristic most aligned with fraudulent intent and determining that a fraud as opposed to an error has occurred. The above discussions offer insight and a framework for accounting researchers to initiate examination of concealment.

Conversion and Money Laundering

Accounting research has examined the incentives for fraud through bonuses, stock options, stock price appreciation, and other benefits that at least temporarily accrue to the perpetrator (Jensen 2005; Burns and Kedia 2006; Efendi et al. 2007; Chi and Gupta 2009; Armstrong et al. 2010; Armstrong et al. 2013) as well as non-pecuniary benefits like raising debt or equity capital, avoiding violation of debt covenants (Dechow et al. 1996; Efendi et al. 2007), and response to poor performance/analyst expectations (Rosner 2003; Koh et al. 2008; Perols and Lougee 2011).

However, incentives (the perspective of the fraud triangle) are not the same as realized benefits to the fraudster (i.e., conversion). For example, stock price appreciation might appear to be an incentive but if the executive does not sell the stock at artificially high prices and the stock price collapses when the fraud is discovered, then how much has the executive really benefited? To date, no accounting study has attempted to examine how much perpetrators actually realize from their acts. Some studies (e.g., Summers and Sweeney 1998; Beneish 1999; Lie 2005) find evidence that executives are likely to benefit financially from inflated stock prices but none have conducted a systematic examination of conversion. The challenges for deriving the actual benefits that accrue to perpetrators are difficult, but it is important that this topic be examined. If, for example, discovered fraudulent financial reporting yields little to no realized benefits to the perpetrator or possibly costs the perpetrator in terms of prison time and damages associated with civil litigation, such findings might deter some executives from cooking the books.

Moving from the general topic of conversion to the specifics of money laundering, Ping (2006) suggests that money laundering has four notable structural characteristics: (1) it is grounded in a relatively stable organization; (2) it is organized to derive economic benefit; (3) participants reinforce their efforts with threats, violence, or other means; and (4) money launderers exploit people and illegally control or affect trade, disrupting economic order and people's daily lives. The paper then comments on inadequate legislation and weak financial supervision and suggests that to better investigate money laundering requires more effective financial institution anti-money laundering efforts, stepped up efforts by the governmental financial intelligence units, and a greater use of investigative techniques such as undercover agents, informants, and electronic surveillance. Accounting researchers could become part of multi-disciplinary teams to examine various aspects of money laundering.

An additional idea that may merit examination of the act, concealment, and conversion is the role of time. As noted above, research examining the fraud act, including fraudulent financial reporting, usually sets the fraud variable as a 0/1 dichotomous variable, either fraud occurred or it did not. However, fraud is not a single event; fraud is a process that occurs over time. One hypothesis suggests that managers use fraudulent financial reporting to "buy time," concealing underlying operational challenges. If financial statement fraud is motivated to buy time, does it start with earnings management? Does earnings management combined with a lack of reversal of operational misfortune put management on a slippery slope that evolves into fraudulent financial reporting? Alternatively, financial reporting fraud could be motivated by greed, the realization of income to the perpetrator through stock price appreciation and stock sales. The fraud process and possibly the escalation from earnings management to fraudulent financial reporting are important considerations and research that explores the fraud process and escalation may yield insights to auditors, regulators, and anti-fraud professionals trying to prevent, deter, and detect fraudulent acts.

CONSEQUENCES OF FRAUDULENT ACTS: REMEDIATION

To date there has been limited research on the consequences of fraudulent acts and the nature of remedial actions taken by individuals and organizations that have been associated with fraud. One exception is Beasley et al. (2010). The authors examine 347 firms identified in AAERs and discuss the consequences of the SEC action on the firms, management, the boards of directors, and the stock price. However, additional research in this area could help in understanding the impact of penalties (e.g., incarceration) on fraudsters and could also help in developing more effective penalties and remedial actions that could deter corporations and individuals from committing fraud in the future. The role of recidivism (repeat offenses by the perpetrator) with regard to fraud and financial crimes is largely unexplored and research with regard to other criminal offenses may not apply to economic crime.

Perpetrators and Punishment

Dhami (2007) suggests that perceptions of white-collar crime offenses may be changing. The author interviewed 14 white-collar crime offenders and found that while the offenders get punitive reactions from the judiciary and media, they tended to get positive reinforcement from significant others, prison staffers, and other inmates. Such positive feedback from some elements of society may allow individuals to rationalize behavior, even though other members of society condemn their acts. Dhami (2007) attributes at least some of the offenders' negative perceptions from the judiciary and the media to the prevailing social norms and suggests that, post-Watergate, society has become increasingly less tolerant of white-collar crime, indicating that the public perceives that white-collar crime does economic and moral harm.[7]

In non-accounting settings, research has examined the consequences of fraudulent acts. For example, Grasmick and Kobayashi (2002) examine the threat of formal punishment, socially imposed embarrassment, and self-imposed shame as deterrents for workplace rules violations. The authors find that, in the United States and Japan, self-imposed shame is a stronger deterrent and socially imposed embarrassment is not significant. Overall, the results suggest that the threat of socially imposed embarrassment has no significant impact. We believe that the area of punishment provides opportunities for further study and the results might impact resource allocation for anti-fraud programs.

Albanese (2005) provides an overview of ideas and concepts discussed in prior research with regard to offender punishment. Further, the author describes four causes of white-collar crime and the type of remedy prescribed by each offense as follows (see Albanese 2005, 13, Table 3):

- Positive Causes: This category of economic crime is caused by social and economic factors and can be remedied by changing social or economic conditions faced by the potential perpetrator. Alternatively, one could work to change the individual's reaction to their economic and social conditions.
- Classical Causes: This view of economic crime suggests that such acts are guided by hedonism—the tendency to maximize pleasure, minimize pain, or both. Albanese (2005) argues that this is remedied through deterrence efforts that emphasize the negatives associated with economic crime such as apprehension and punishment.
- Structural Causes: This cause is the result of political or economic conditions of a society that tend to promote a culture where an individual's personal gain trumps social good. White-collar crime associated with structural causes is thought to be best addressed through a more equitable distribution of power and wealth and less capricious laws and regulations.
- Ethical Lapses: This view is that crime is guided by a lack of ethical principles. This result can best be remedied through education and reinforcement of ethical decision making.

Albanese (2005) argues that the motivation of the perpetrator might be appropriately considered in determining the nature and type of punitive outcome. Perhaps future research could examine if such a penalty structure could help in curbing individuals and corporations from committing or repeating accounting fraud.

Victims

Messner and Rosenfeld (2001) explain how the American Dream (i.e., the pursuit of material gain) is a strong cultural value. However, when gain itself is more important than the means used to create the gain, it creates an environment that is conducive to criminal activity. Messner and

[7] As the tolerance of white-collar crime changes over time, the incidence and magnitude of such crime across time should be empirically examined.

Rosenfeld (2001) show that this same theoretical contention provides an underlying motivation for fraud victims as well (e.g., victims of Madoff's Ponzi scheme). Eighty-six percent of fraud victims originally invested for profit without regard to risk. Even after discovery of the ruse, most investor victims did not believe that they were inadvertently involved in an illegal activity and many did not want the perpetrator arrested because they saw the government as interfering with their opportunity for profit. Gaining an understanding of the mentality of investors, boards of directors, and other employees that are the victims of white-collar crime might be a fruitful avenue of research. There are many types of investors. Institutional investors likely consider the risk of fraud when investing; however, nonprofessional investors may not consider this risk. In fact, nonprofessional investors may be more likely to invest on tips from friends or analysts without actually reading the financial statements prior to investing. Boards of directors may also be less than diligent in their assessment of fraud risk if they have a friendly relationship with management. Employees who are not involved in the fraud are also victims when a fraud comes to light (e.g., workers at Enron and WorldCom lost their employment). Research aimed at understanding why other employees and the board of directors (who presumably have a better working knowledge of the actual performance of the company) are not more active in identifying and reporting instances where reported financial performance (i.e., fraudulent financial reports) does not track actual firm performance. Reducing the number of potential victims might also reduce the incidence and impact of fraud. For example, a diligent audit committee could be victimized by fraudulent management. Perhaps enhanced training of audit committee members could reduce their vulnerability to unscrupulous management. Messner and Rosenfeld (2001) also offer a framework for examining the victims of white-collar crime, including financial reporting fraud.

Finally, Payne and Gainey (2004) focus on the victims of employee theft by interviewing 457 business owners, managers, supervisors, and other employees. The interviewees were generally associated with small business. The results suggest that employee theft victims are more likely to report problems regarding quality, productivity, and trust in employees, competition from other businesses, confidence and trust in police, and physical assessments after a day's work. However, not all results were consistent across survey participants; for example, managers were more likely than owners to report having difficulties hiring qualified and trusted employees. An examination of victims associated with financial reporting fraud might provide some interesting insight and assist with developing anti-fraud strategies.

CONCLUSIONS AND SUGGESTIONS

To gain insight that is useful for informing future accounting research in the area of fraud, this paper surveys a large body of academic research in several fields that complement accounting including: criminology, ethics, psychology, and sociology. This paper is organized around the meta-model of financial fraud presented by Dorminey et al. (2012) and provides insight into ideas, theories, variable constructs, and research designs used in other fields in an effort to expand anti-fraud research in accounting. In this concluding section, we summarize some of the main themes and highlight opportunities for future research.

Fraud Triangle

Hogan et al. (2008) and Trompeter et al. (2013) review literature that focuses on constructs of the fraud triangle. In this paper, we also find considerable examination of the fraud triangle in non-accounting research. However, with regard to neutralizations (justification before the fraud) and rationalizations (justification after the fraud), non-accounting researchers have examined these constructs far more extensively. We summarize these findings and several other unexplored areas.

First, non-accounting researchers do not confine the motivations for deviant behavior to pressure and/or incentives. Consistent with Dorminey et al. (2012), Albrecht, Howe, and Romney (1984), and others, non-accounting researchers give consideration to motivations associated with personality, ego, values, and other influencing characteristics. Non-accounting research also offers scales, models, variables, and constructs that, when examined in the context of fraud and financially motivated crimes, might prove insightful to practice and research.

Finally, as noted above, non-accounting researchers have looked extensively at a variety of neutralizations and rationalizations. In this survey, we offer several neutralizations and rationalizations that could be examined in the context of management fraud or employee theft.

Anti-Fraud Measures

With respect to anti-fraud measures, extant non-accounting literature offers additional insights into corporate governance and corporate culture. In addition, non-accounting research provides insight into the role of leadership and globalization. Finally, a stream of non-accounting research separates crimes committed by individuals from those committed by organizations. Future accounting research related to anti-fraud measures might include areas of leadership, globalization, and corporate crime. For example, while an organization is a collection of individuals, organizations and organizational acts have cultures and identities worthy of further examination in the context of fraud and financial crime.

Detection and the Perception of Detection

In the area of detection, non-accounting research offers some scoring methodologies that might be helpful in more efficiently using red flags to detect fraud. Further, it may be useful in developing risk assessment frameworks that might be applicable for fraud in accounting (Dionne et al. 2009). Non-accounting researchers have also investigated whistle-blowing as well as the role of regulation. Regulators and future research might consider motivations for higher levels of whistle-blowing and less frequent passive silence as well as the role of regulation particularly with regard to the relative successes and failures of regulatory regimes, policies, and procedural alternatives offered in a global marketplace.

A largely unexplored area of accounting research is the professional area of interviewing for the detection of deception. Ben-Shakhar and Elaad (2002) and Seymour et al. (2000) examined interviewing and deception, but not in an accounting or auditing context. Accountants and auditors find themselves in the role of interviewer (i.e., information gathering) virtually every day. The ability to accurately identify symptoms of deception could be a valuable skill in the auditing context. Yet, the means by which auditors should be trained, the relative amounts of training required to obtain some level of proficiency, and other issues associated with interviewing are largely unexplored in accounting research.

Criminal Act, Concealment, and Conversion

Non-accounting research offers insight into the criminal act, concealment, and conversion, well beyond the examination of those issues in accounting research. Nevertheless, the triangle of fraud action (i.e., the act, the concealment, and the conversion) remains largely unexplored. Anti-fraud professionals and future research could examine corporate governance and internal controls to determine best practices for tracking the actions of top management to try to prevent them from overriding controls or colluding to commit fraud.

Fraud Examination, Consequences, and Remediation

Non-accounting researchers have studied the consequences of fraudulent acts far more extensively than accountants. However, effective investigation, remediation, and other consequences offer abundant opportunities for future research and insights for practice. For example, future research could examine if different penalty structures can reduce the incidence of fraud by individuals and corporations. Further, an investigation of victims associated with financial reporting fraud might also provide some interesting results that would benefit research and practice. For example, employees could be possible victims if their company goes bankrupt. It may be useful to gain an understanding of why those who are in a position to blow the whistle may go along with the fraud.

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