

Looking through the fraud triangle: a review and call for new directions

Looking
through the
fraud triangle

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Abstract

Purpose – This article aims to review popular frameworks used to examine fraud and earmarks three areas where there is considerable scope for academic research to guide and inform important debates within organisations and regulatory bodies.

Design/methodology/approach – The article reviews published fraud research in the fields of auditing and forensic accounting, focusing on the development of the dominant framework in accounting and fraud examination, the fraud triangle. From this review, specific avenues for future research are identified.

Findings – Three under-researched issues are identified: rationalisation of fraudulent behaviours by offenders; the nature of collusion in fraud; and regulatory attempts to promote whistle-blowing. These topics highlight the perspective of those directly involved in fraud and draw together issues that have interested researchers in other disciplines for decades with matters that are at the heart of contemporary financial management across the globe.

Originality/value – In spite of the profound economic and reputational impact of fraud, the research in accounting remains fragmented and emergent. This review identifies avenues offering scope to bridge the divide between academia and practice.

Keywords Regulation, Fraud triangle, Whistle-blowing, Collusion, Rationalisation

Paper type General review

1. Introduction

By any measure, fraud is big business. Although the extent of undetected and unreported fraud remains a mystery, it is clear that fraud imposes a huge economic cost on organisations and society. In its most recent *2014 Report to the Nations*, the Association of Certified Fraud Examiners (ACFE) estimated that the cost of fraud globally was approximately 5 per cent of revenue or approximately \$3.5 trillion annually (ACFE, 2014). Moreover, dramatic frauds such as Enron, WorldCom and Parmalat have done more to tarnish the image of the accounting profession than any other issue. However, despite this widespread incidence and significant impact, fraud research in accounting remains fragmented and emergent.

For the purpose of this review, fraud is defined broadly as:

[...] an illegal act or series of illegal acts committed by nonphysical means and by concealment or guile to obtain money or property, to avoid the payment or loss of money or property, or to obtain business or personal advantage (Edelhertz, 1970, pp. 19-20).



As a research area, fraud has often tended to fall between different literatures including law, criminology, psychology, ethics, accounting and management, with limited inter-disciplinary integration (Free and Murphy, 2015). Recent years have seen a burst of fraud-related research activity in accounting, including recent special issues of *Accounting, Organizations and Society*, *Accounting Forum* and other scholarly outlets, as well as a range of dedicated conferences and practitioner symposia. This research has made progress in understanding the motivations and means of fraudulent behaviour, particularly in relation to financial statement fraud (Hogan *et al.*, 2008; Skousen *et al.*, 2009; Koornhof and Du Plessis, 2000)[1]. Nonetheless, much remains to be done if accounting research is to deliver on its promise to offer insights and guidance to managers, policymakers and regulators in relation to fraud.

This paper reviews the dominant practical frameworks advanced in fraud research in accounting, with an emphasis on identifying fruitful avenues for future research. The aim is two-fold:

- (1) to understand the existing literature relating to the investigation of fraud; and
- (2) to highlight areas where there is a need for future research.

At the outset, some caveats are in order. Unlike some recent broad-ranging reviews (Trompeter *et al.*, 2013, 2014; Dorminey *et al.*, 2010, 2012), this review is selective, focusing on research designed to facilitate fraud examination in practice. It takes as its centre-piece work seeking to delineate and advance the so-called “fraud triangle”, which has become cemented into standards and textbooks in auditing and forensic accounting. In turn, a range of recent studies has sought to build on the fraud triangle to take the field forward.

Furthermore, I acknowledge that the thrust of my call for future research is an idiosyncratic one, designed to advance the research field in three specific areas:

- (1) the rationalisation of fraudulent behaviour by offenders;
- (2) the nature of collusion in fraud; and
- (3) regulatory attempts to promote whistle-blowing.

I believe these three areas will generate benefits to both the academic literature and practice. These avenues are derived from a critical analysis of gaps in existing research, as well as expressions of interest among academic leaders in the field, practitioners and regulators in Australia and elsewhere. While this is not an exhaustive list of gaps in the literature, I believe the avenues identified offer the ability to bridge the growing divide between academic research and practice (see Parker *et al.*, 2011).

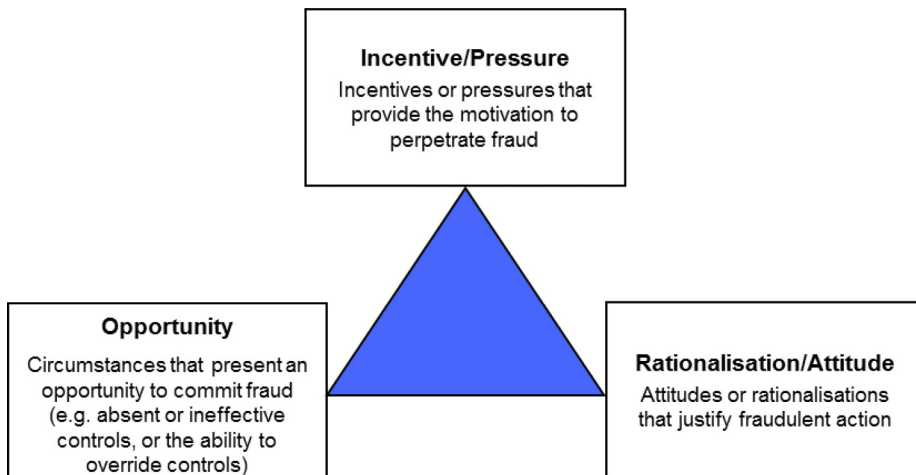
My summary is organised as follows. In the next section, I provide a brief overview of the history of the fraud triangle as a concept, including attempts to expand the model to include other considerations. This is followed by a discussion of the opportunities and challenges posed by direct research with fraud perpetrators, a voice that I argue has been largely neglected within recent research. This will provide the context for a call for future research in three areas that I believe have been relatively neglected by researchers in accounting. The final section draws together these themes and concludes the review.

2. The fraud triangle

An important thrust of fraud research has been the development of frameworks designed to prevent a perspicacious model of fraudulent behaviour. The dominant framework relating to fraud is the so-called “fraud triangle” (see Figure 1), which is embedded in professional auditing standards around the world (IAASB, 2009; PCAOB, 2005) including the USA (SAS No. 99), Australia (ASA 240) and international audit standards (ISA 240). The fraud triangle comprises three conditions that are argued to be present whenever a fraud occurs:

- (1) a pressure or incentive that provides a motive to commit fraud (e.g. personal financial problems);
- (2) an opportunity for fraud to be perpetrated (e.g. weaknesses in, or ability to override, internal controls); and
- (3) an attitude that enables the individual to commit fraud or the ability to rationalise the fraud.

As well as being embedded in auditing standards, the fraud triangle has been widely discussed in academic textbooks and professional instruction handbooks in the growing field of forensic accounting and fraud examination (Albrecht and Albrecht, 2004; Ozkul and Pamukcu, 2012; Wells, 2011) as well as academic research (e.g. Murphy, 2012; Murphy and Dacin, 2011; Wilks and Zimbelman, 2004; Free and Murphy, 2015; Andon and Free, 2015; see Trompeter *et al.* (2013) for a review of research into each of the elements of the fraud triangle), practitioner-oriented articles (e.g. Murdock, 2008) and teaching cases (e.g. Clayton and Ellison, 2011). In a comprehensive review, Smith and Crumbley (2009) find that the fraud triangle is the most commonly taught framework in fraud examination and forensic accounting courses in the USA, UK, Australia, Hong Kong and Lebanon. It is also a mainstay in the educational curricula of a growing number of certifications in forensic accounting in the USA and elsewhere (Huber, 2012).



Source: Adapted from Wells (2011)

Figure 1.
The fraud triangle

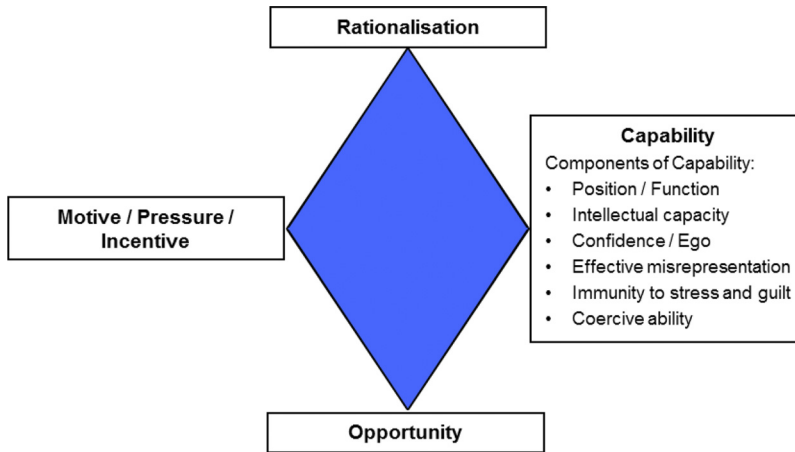
Although the fraud triangle is often credited to the work of American sociologist Donald Cressey, it is important to note that it represents a peculiar translation of Cressey's original work. Indeed, the term "fraud triangle" was first coined decades after Cressey's (1953) pioneering interview work with embezzlement perpetrators by Joseph Wells, a former Certified Public Accountant (CPA) and Federal and Bureau of Investigation agent who founded the ACFE[2] (Morales *et al.*, 2014). In their critical review, Morales *et al.* (2014) highlight that the fraud triangle is predicated upon an individualising conception of fraud that elevates the imperative of systematic controls to prevent and detect the attitudes and tendencies of some dangerous individuals. Indeed, Joseph Wells, the founder of the ACFE, has consistently presented fraud as both an unscrupulous act perpetrated for personal enrichment as well as a generalised problem that necessitates effective internal controls and the surveillance of individuals within organisations (see Wells, 2011). In this way, Morales *et al.* (2014) argue that the fraud triangle represents a translation intentionally designed to legitimise the professional intervention of various professional communities including the ACFE. As Morales *et al.* (2014, p. 178) put it:

In other words, the triangle provides fraud specialists with an investigative template that individualizes fraud, holds organizations responsible for controlling it, and renders futile any systemic questioning. As a result, fraud is circumscribed to the realm of the specific: individuals subjected to pressure and somehow able to rationalize the act should not be left in a position to commit fraud. From this perspective, it is incumbent on the organization to ensure that the three legs of the triangle are properly overseen through a rigorous structure of internal control. Fraud is thus constituted as a problem at the confluence of the individual and the organization; it is certainly not represented as a social, political, or historical problem.

2.1 Reconfigurations and reframings

In spite of this widespread diffusion, the fraud triangle has also been the subject of considerable debate and criticism in recent years (see Morales *et al.*, 2014; Free and Murphy, 2015). To provide further insight into fraud perpetrator methods and motivations and improve an organisation's ability to prevent, detect and investigate fraud, researchers and practitioners have sought to offer insights beyond the fraud triangle (Dorminey *et al.*, 2012). Some scholars have sought to augment it with other theoretical models in criminology (e.g. Ramamoorti, 2008 who connect the fraud triangle with routine activity theory) or elsewhere (e.g. Dorminey *et al.*, 2010 who identify a number of acronyms such as the MICE – money, ideology, coercion and ego/entitlement – factors of motivation and alternative models). Others have gone further to even add additional dimensions to the triangle, converting it geometrically to a fraud diamond (Wolfe and Hermanson, 2004 who propose a fourth dimension of *capability*), fraud square (Cieslewicz, 2010 who adds the notion of *societal influences*), fraud cube (Doost, 1990 who argues that computer crime has three additional dimensions – *relationship*, *expertise* and *motivation*) or fraud pentagon (Marks, 2009 who adds the dimensions of *arrogance* and *competence*, or Goldman, 2010 who adds the dimensions of *personal greed* and *employee disenfranchisement*).

The extension that has gained the most attention has been the addition of a fourth leg of capability by Wolfe and Hermanson's (2004) fraud diamond (see Figure 2). Wolfe and Hermanson (2004) present a range of considerations under the heading "capability" including position, intellectual capacity, confidence, resilience to stress and guilt and ability to coerce and cajole others. In the context of the fraud triangle, their notion of



Source: Adapted from Wolfe and Hermanson (2004)

Figure 2.
The fraud diamond

capability modifies the opportunity construct by limiting opportunity to a small set of individuals thought to have the necessary capacity (Dorminey *et al.*, 2012). While this has generated interest in both academic and practitioner circles, it has not penetrated the official pronouncements of the various audit bodies throughout the world.

Also focusing on individualistic explanations of fraud, *the fraud scale* was developed through an analysis of 212 frauds in the early 1980s (Albrecht *et al.*, 1984). Albrecht *et al.* (1984) rely on two components of the fraud triangle, pressure (the concept adapted from Cressey's original conception of a non-shareable problem) and opportunity, but replace rationalisation with *personal integrity*. This representation focuses attention on the morality of the offender, consistent with popular media images of fraud perpetrators as bad apples and calculating, callous fraudsters (see Levi, 2006). It also accords with research contributions that have connected fraud to neurotic personalities (Dorminey *et al.*, 2010), fraud predators (Dorminey *et al.*, 2012), industrial psychopaths (Ramamoorti, 2008), pathological gamblers (Kelly and Hartley, 2010), vice-related traits (Kidder, 2005) and Machiavellianism (Murphy, 2012). Figure 3 is a visual representation of the fraud scale.

In an effort to move beyond the individualising focus of some fraud research, Ramamoorti (2008) proposes the A-B-C model for the analysis and categorisation of fraud: a bad Apple, a bad Bushel and a bad Crop. The *bad apple* is an individual, the *bad bushel* addresses collusive fraud and the *bad crop* refers to cultural and societal mechanisms that influence the relative incidence of fraud. Others have attempted to replace the fraud triangle themes with broader concerns. Free *et al.* (2007) propose the concept of the *organisational fraud triangle*, underpinned by:

- charismatic leadership;
- subverted management controls; and
- a permissive culture (see Figure 4).

A small set of critical articles have traced the impact of societal and organisational pressures on fraudulent behaviour (Gabbioneta *et al.*, 2013; Free *et al.*, 2007; Free and

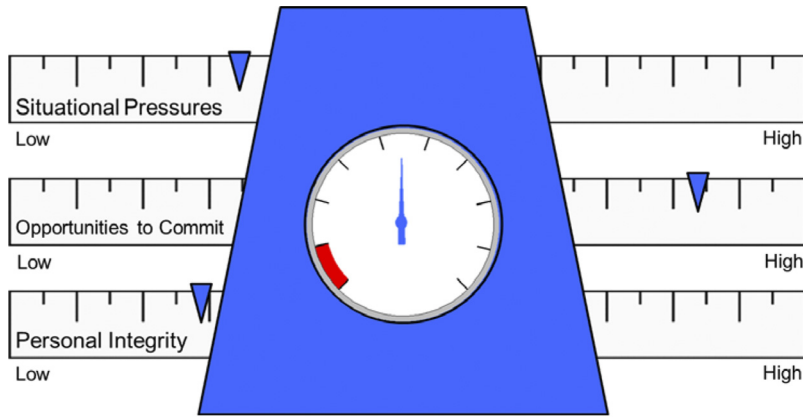


Figure 3.
The fraud scale

Source: Adapted from Albrecht *et al.* (1984)



Figure 4.
The organisational
fraud triangle

Source: Adapted from Free *et al.* (2007)

Macintosh, 2008; Stuebs and Wilkinson, 2010; Free and Murphy, 2015), consistent with a stream of criminology research that has pointed to the criminogenic (tending to produce crime or criminality) or even criminally coercive nature of certain organisations and economic environments (e.g. Coleman, 1990; Clinard and Yeager, 1980).

In summary, theoretical models surrounding behavioural aspects of the fraud perpetrator originated in the 1940s and 1950s with the pioneering white collar crime works of Sutherland (1940, 1944) and his doctoral student, Cressey (1953). This seminal work, which was translated to formulate the fraud triangle, has been further expanded. This research has yielded important insights and provided the basis for a growing fraud examination profession, outlining a range of “red flags”, key parameters of fraudulent activity and the identification and elaboration of a long list of anti-fraud practices (e.g. Hammersley, 2011; Koornhof and Du Plessis, 2000; Hogan *et al.*, 2008; Dorminey *et al.*,

2012). It has thus become an important foundation for the growing field of fraud examination. However, the ongoing exploration and discussion of fraud, its causes and controls are important to the development of accounting, audit, risk management and anti-fraud professionals.

3. Talking to perpetrators

Recent research in accounting has made important strides in understanding the individual drivers of fraudulent behaviour. However, the fraud field is at risk of becoming seduced by over-simplified, individual-oriented models that, by definition, are unable to capture the complex notion of fraud in practice. In short, the complex and varied nature of fraud means that much work remains to be done to paint a more complete canvas. Furthermore, while archival (see [Eilifsen and Messier \(2000\)](#) for a review) and doctrinal (e.g. [Labuschagne and Els, 2006](#)) research has yielded many insights and contributions, I believe that there is considerable scope for examining the perspective of fraud perpetrators through field research[3]. Except for some foundational work in criminology ([Cressey, 1953](#)), these voices have been largely absent from fraud research in spite of the fact that they represent the parties closest to the phenomenon. While interview, survey and experimental approaches involving fraud perpetrators (who may or may not be incarcerated) involve problematic issues relating to access, self-serving biases and ethics (see [O'Connor, 2000](#)), these methods also hold a key to opening up the field as a discipline. Moreover, thoughtful cross-disciplinary research in these areas has the potential to drive both important academic insights and practical implications, thereby connecting academic and practical works that have become increasingly estranged in other areas of accounting research.

3.1 Reflections on conducting research with perpetrators in prison

In broad terms, convicted perpetrators fall into three broad categories:

- (1) offenders convicted with a non-custodial sentence;
- (2) incarcerated prisoners; and
- (3) released offenders.

I have recently been involved in a series of projects that have been based on direct interviews and/or surveys with fraud perpetrators in prisons ([Free and Murphy, 2015](#); [Murphy and Free, 2015](#)). I count these experiences among the most rewarding and interesting of my career. Rather than an over-arching analysis of issues involved in prison (see [Liebling 1999, 2001](#)), I wish to offer some reflections on interviewing offenders, focusing in particular on access, ethical considerations and the character of interviewing.

Prisons offer a wealth of challenges and opportunities for research in fraud. In our experience, the process of obtaining access, documentary requirements and entry protocols proved to be quite variable in different jurisdictions (Australia, Canada and the USA). Access is complicated by the need to gain clearance at multiple ethics boards (at faculty, university and corrective services levels) and the understandable reluctance of corrective services ethics committees to expose in-mates to unnecessary intrusion. A demonstrable benefit to the corrections or criminal justice system is also generally required, requiring a re-drafting of

academic research objectives into more applied, practical terms (Trulson *et al.* 2004). In all instances, the clearance process involved an interactive negotiation involving changes and clarifications to ensure data collection methods were as feasible, minimally disruptive and acceptable to staff and inmates as possible. This was considerably aided by identifying the appropriate administrator (Trulson *et al.* 2004). Like most aspects of field research, perseverance was essential. In short, the obstacles to entry are difficult but not insurmountable.

Relative to quantitative approaches, interviews with perpetrators offer the ability to investigate both individual-psychological and situational-sociological components of fraudulent activity (Liebling, 1999). My interviews with offenders have been semi-structured, a flexible tool permitting the researchers to pursue unexpected paths and cues suggested by the theoretical sensitivity (Glaser and Strauss, 1967) and conducted in designated visitor rooms often reserved for lawyer conferencing. These interviews were carefully prepared (each interview featured a standardised introduction assuring confidentiality, suggesting the approximate length of the interview and requesting permission to take notes), and designed to encourage openness and elaboration. In practice, this proved to be a “delicate art” (Wolcott, 1995, p. 105). The interviews covered many issues of enormous significance to prisoners (case histories, trial details, experiences in prison). Two major challenges were the lack of sufficient time to break down barriers and gain the trust of the respondents (see O’Brien and Bates, 2003 for a fuller discussion of this issue), and the limited contact with prison staff. However, for the most part, respondents participated actively, responding to questions freely with anecdotes, feelings and questions, often becoming more fluent and open as the interview progressed. All study participants were required to read and sign an informed consent document and we gave frequent reassurances about the confidentiality of the information and the participant’s prerogative to withdraw from the study at any time[4]. Inevitably, there were sensitive areas where the information sought was perceived as risky or uncomfortable such as recollections of criminal acts, arrests, embarrassment and shame. We did notice some contradictions in responses; however, we recorded answers as given and occasionally used information received elsewhere to make judgements about the accuracy or otherwise of our data (in some prisons, we were given detailed case notes about each of the participants containing key data such as sentences, the dollar size of the fraud and case facts).

It is important to acknowledge that the interviews were frequently emotionally confronting for the interviewee and interviewer. As Liebling (1999) notes, the pains and frustrations of imprisonment are tragically under-estimated by conventional methodological approaches to crime and regulation. Measured by conventional standards of scientific objectivity, the accounts took shape as personal stories of human situations, as complex and uncertain as the people and situations themselves, harbouring a host of ineffable experiences and emotions. At the end of each interview, participants were asked if they had any further comments relating to the issues they had discussed or the study more broadly. Throughout, I hoped to leave prisoners feeling that the interviews had been a worthwhile experience for them, and that they had received an opportunity to be heard. As a group of interviewers, we often emerged from the interviews exhausted, occasionally saddened and sometimes uplifted.

4. Directions for future research

As others have pointed out (Trompeter *et al.*, 2013, 2014; Dorminey *et al.*, 2010, 2012), there is an array of topic areas that warrant further research. Drawing on identified gaps in the literatures, other calls for work as well as a range of personal interests and conversations with fraud professionals and other academics in the field, I wish to focus attention on three areas where I believe there is scope for research activity. These areas are:

- (1) the notion of rationalisation by fraud offenders;
- (2) the phenomenon of collusion or co-offending; and
- (3) anti-fraud regulation aiming to facilitate whistle-blowing.

This is, of course, not an exhaustive list of themes that are presently under-researched; however, I believe each of these areas is likely to be of interest to practitioners, academics and regulators. For the most part, these topics require engagement with actors in a fraud (the perpetrators) or those responsible for detection (in the case of whistle-blowers). Given ongoing calls for academics to concern themselves with relevance (Broadbent and Unerman, 2011) and the world of practice (Evans *et al.*, 2011; Tucker and Parker, 2014), these themes directly lend themselves to practical solutions and tools likely to enhance the understanding of fraud within organisations.

4.1 Rationalisation

To date, research investigating the notion of rationalisation, a phenomenon widely seen to be “a relative mystery” (Murphy, 2012; see also Hogan *et al.*, 2008; Wells, 2004), has been scant. The American Institute of Certified Public Accountants goes further to suggest that this factor “may not be observable” (AICPA, 2002, Sec. 316.35). As noted by Hogan *et al.* (2008) and Murphy and Dacin (2011), this element of the fraud triangle has received the least amount of attention from accounting researchers.

It is possible to delineate ten distinct “types” of rationalisations. These categories are based on a synthesis of theorising from other research disciplines and are summarised in Table I.

To date, there has been no empirical work seeking to validate or further investigate these categories, prompting Murphy and Dacin (2011) to call for field-based research into their theoretical categories. In short, much work remains to be done in refining the concept of rationalisation in the area of fraud. Further research could certainly provide insights into this construct through directed questioning of convicted fraud perpetrators. This would not only further delineate rationalisation, but also provide insight into rationalisation categories that are helpful for educators, auditors and regulators.

Trompeter *et al.* (2013) find that rationalisation (moral justification after the fraud) and the closely related construct of neutralisation (moral justification before the fraud) have been examined extensively by non-accounting researchers in a variety of settings. The timing related to fraud justification is important because it might impact anti-fraud programs. Generally, the fraud triangle’s construct of rationalisation is thought to occur before the fraudulent act. As a result, rationalisation is frequently addressed in anti-fraud efforts 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

Category	Definition	Exemplary statement
1. Moral justification	Reconstructing the act as socially worthy or having a moral purpose. Sometimes used along with appeals to a higher authority or loyalty to that authority. Accounting managers at WorldCom indicated that they booked fraudulent accounting entries for Scott Sullivan because of their loyalty to him. Some use this category to argue they are striking back at a malevolent system	"I'm protecting the company [...]"
2. Advantageous comparison	Comparing the wrongful act against a much more flagrant act, to make the original act look better. Even if the infraction is substantial, there are always larger ones for comparison purposes	"This is nothing compared to [...]"
3. Euphemistic labelling	Using convoluted verbiage to make a wrongful act sound better. Scott Sullivan, former chief financial officer (CFO) of WorldCom, wrote a lengthy white paper to justify the capitalisation rather than expensing of certain items in the financial statements	"I am trying to level the playing field"
4. Ignore or misconstrue consequences	Minimising, ignoring or misconstruing any consequences of the act. This category can include related rationalisations such as, "no one was hurt", or "no one was hurt much". Bandura <i>et al.</i> (1996) found that participants using this category were less able to recall the harmful effects of an act while easily remembering other aspects of the experiment	"I can't see that it hurts anyone"
5. Denial of the victim	Placing blame onto the victim, arguing the victim is physically absent or unknown, or dehumanising the victim. This category does not deny negative consequences, but rather focuses attention on the victim	"It all ends up cutting covered by insurance anyway"
6. Displacing responsibility	Placing responsibility for the act with someone else. Scott Sullivan, CFO of WorldCom, testified that he was implicitly told by his boss, chief executive officer (CEO) Bernie Ebbers, to alter the financial statements to "hit the numbers"	"I was just part of a team that was doing it"

Table I.
Categories of
rationalisation in
existing research in
accounting

(continued)

Category	Definition	Exemplary statement
7. Diffusing responsibility	Sharing responsibility with others. Richard Scrushy, CEO of HealthSouth, allegedly instructed his subordinates to misreport by explaining that “everybody does it”. This category of rationalisation is ubiquitous throughout US society as a way of justifying cheating	“Everyone else was doing it”
8. Entitlement	Deserving of more, regardless of anything else (Mayhew and Murphy, 2014). Wells (2011) uses the concept of “wages in kind” in accounting for fraudulent behaviour	“I deserved more money”
9. Disbelief	Claiming disbelief of how the rules work. Accountants at Enron argued that accounting treatments designed to facilitate off-balanced sheet financing were “grey” zones of legality (Free <i>et al.</i> , 2007)	“What we are doing isn’t illegal”
10. Temporary loan	The perpetrator arguing that s/he plans to pay it back or fix the fraud (Murphy and Free, 2015)	“I fully intended to pay back the money that I took”

Source: Adapted from Murphy (2012), Mayhew and Murphy (2014), Free *et al.* (2007)

Table I.

been completed. Understanding the true nature of fraud justification is critical to properly formulating anti-fraud measures.

Trompeter *et al.* (2013) further call for research on the relationship between rationalisation and personality and individual differences, an organisation’s ethical culture and leadership and foreign environments and cross-cultural differences. These themes remain neglected. To these items, I would like to add how rationalisation is impacted by collusion and organisational climate. The limited work that has been done on rationalisation has also focused on financial statement fraud to the exclusion of the other categories, meaning that our current understanding is partial and incomplete.

4.2 Collusion

The fraud triangle is largely predicated on an individual acting in isolation (Dorminey *et al.*, 2010). However, the major frauds of recent decades, including Enron, WorldCom, Parmalat, HealthSouth and Satyam, all illustrate that collusion is a central element in many complex and costly frauds and financial crimes. Indeed, it is difficult to identify a major recent organisational fraud that has not implicated multiple members of the organisation. Parties involved in collusion may be employees within an organisation, a group of individuals spanning multiple organisations and jurisdictions or members of a dedicated criminal organisation or collective (Dorminey *et al.*, 2010; Venter, 2007). The ACFE’s (2014) *Report to the Nation* indicates that when collusion is involved, dollar amounts associated with fraud losses increase dramatically, and recent survey work reveals an increase in collusive frauds as a percentage of total fraud (KPMG, 2012).

The individualising focus on solo offending in most applications of the fraud triangle has meant that forensic accounting and fraud examination have fallen behind other research areas with respect to theoretical work on criminal groups, collusion and co-offending. Furthermore, although a number of scholars in criminology have focused on co-offending (Weerman, 2003; Klein, 1995; Klein and Maxson, 2006), these studies have tended to focus primarily on the area of juvenile delinquency and the extent to which findings from these studies generalise to fraudulent activity remains unclear. There are many differences between the categories of juvenile delinquency and fraud in terms of age–sex nexus of offenders, conviction rates, opportunity structures, consequences, rationalisations and motivations. Taken together, these shortcomings in current practitioner guidance and research underline the lack of a clear understanding about co-offenders and fraud.

Research in criminology provides a solid basis for theorising about collusion in the domain of fraud. In a review of the literature, Weerman (2003) discusses four general theoretical perspectives in criminology relating to co-offending. First, the *group influence perspective* considers collusion to be the outcome of the group influence promoting criminal behaviour. Arguably, the most widely applied version of this theory is the Sutherland's theory of differential association, which has been recognised as "a pillar of criminological thought and research" (Hochstetler *et al.*, 2002, p. 559). In essence, Sutherland (1940, 1944) postulates that criminal behaviour, including both the technical skills necessary to commit fraud as well as the attendant attitudes and rationalisations, is learned in intimate social groups. Although Sutherland points out that mere exposure to criminal behaviour is not sufficient to motivate criminal behaviour, his core proposition is that an excess of criminogenic "definitions" as opposed to conformist "definitions" are conducive to criminality. As such, Sutherland argues that individuals' interaction with deviant peers results in cognitive changes that make offending more attractive. This theorisation has been augmented by several scholars who suggest that the application of rewards and sanctions (so-called "operant and participant conditioning") are an important source of behavioural reinforcement (Akers, 1997). Although intuitively appealing, empirical investigations of this theory are inconclusive (Albanese, 1988; Clinard, 1946; Geis, 2002; Lane, 1953).

Second, the *social selection perspective* considers collusion to be a by-product of the tendency of offenders to seek each other out proactively as friends and companions. Although not widely invoked, the most mature version of this view is the notion of assortative mating processes (Krueger *et al.*, 1998). In short, the underlying argument is that those who have a tolerance for higher risk tend to be attracted to firms or industries that have a history or culture of "cutting corners" and offering high rewards. This line of inquiry focuses attention on the traits and pathologies of individual co-offenders and their immediate environments. Impulsive, aggressive, ambitious people are, it is argued, more likely to seek out environments that privilege meeting financial goals over business ethics.

Third, the *instrumental perspective* conceives collusion as the result of a judgement that co-offending leads to an easier, more profitable or less risky execution of a crime. Strong form Rational choice arguments are a favourite target of critical scholars who point to occasions where co-offending occurs for limited personal gains or is the response of spontaneous decisions. Nonetheless, this research has provided evidence of the role of perceived costs and benefits in criminal co-offending. Moreover, there are a

number of examples of clinical rational calculating in major frauds, such as the estimating of costs of payouts versus recalls in the Ford Pinto case (Lee, 1998) and infamous Dalkin Shield case (Kritzer, 1988).

Fourth, borrowing from the fields of social psychology and sociology, the *social exchange perspective* conceptualises joint offending as an interpersonal exchange of material and immaterial goods in which each offender has something to gain from the co-operation of the other. A social exchange occurs where two actors give something of value to one another and receive something of value in return (Emerson, 1976). Some social exchange theorists conceive of relationships in purely instrumental and transactional terms, however, most social exchange theorists consider both economic resources – addressing financial needs – and socio-emotional resources – addressing social and esteem needs (which are often symbolic and particularistic). Adopting a type of rational choice epistemology, a key tenet of the social exchange theory is that individuals form and maintain a relationship as long as the benefits from that relationship exceed those available elsewhere (Emerson, 1976). Also, central to the social exchange theory is the idea that an interaction that elicits approval from another person is more likely to be repeated than an interaction that elicits disapproval.

My own recently published research in the field is directed at the issue of relationships or bonds between those engaged in collusion. In an interview study of convicted fraud perpetrators from three large US Federal prisons, Free and Murphy (2015) found that 37 of 63 (58.7 per cent) of respondents stated that the execution of their fraudulent activity directly involved more than one person. This sample offers an interesting window on the nature of co-offending. Free and Murphy (2015) found that collusion or co-offending bonds could be categorised in three distinct groupings or archetypes, depending on the primary beneficiary of the fraud (individual versus organisation) and nature of the relationship between co-offenders (functional ties, essentially brought together for the purpose of perpetrating a fraud, versus affective ties, that is bound together by an emotive attachment). The three archetypes of co-offenders identified were as follows:

- (1) *Individual-serving functional bonds*: which characterise actors in a relationship bonded together by the view that co-offending offers a structure that provides, or enhances, opportunities for fraud. Here, co-offenders find it in their own individualistic self-interest to co-operate with others in the pursuit of individualistic benefits.
- (2) *Organisation-serving functional bonds*: which characterise those bonded in a fraud to enhance the financial position of their organisation. Organisation-serving functional bonds underscore the importance of workplaces as sites of socialisation and point to the criminogenic aspects of some organisational contexts.
- (3) *Affective bonds*: which refer to strong emotional attractions between two or more adults. These bonds are often tied to deep friendships and kinship, reflecting wider research in criminology highlighting the role of family relationships in the transmission of crime.

This research confirms the heterogeneous nature of collusion in fraud and different concepts are needed to provide insight into the decision to co-offend. It only scratches the

surface of a phenomenon that remains poorly understood. Little is currently known about how collusion impacts individual decision-making and how fraud is perpetrated. If we accept that collusion is not merely an incidental feature of the crime but a potential key to understanding its etiology and some of its distinctive features (Free and Murphy, 2015), then it is clear that further work is required to unpack this area.

4.3 Regulatory responses

Whistle-blowing is a cost-effective mechanism for detecting fraud that has been identified as the major mode of fraud detection in organisations (ACFE, 2014). High profile cases, such as Sheryl Watkins at Enron and Cynthia Cooper at Worldcom in the USA, as well as Jeff Morris' revelations of serious financial planning fraud at the Commonwealth Bank in Australia, all underscore the centrality of whistle-blowing in the detection of fraud. A host of initiatives has been pursued to promote whistle-blowing. Organisations have invested enormous resources and effort into building cultures of compliance, including the development of dedicated hotlines for whistle-blowing and training that elevates the importance of social enforcement of legitimate corporate conduct. Professional accounting bodies have introduced principles and obligations to assist decision-making on ethical matters such as whistle-blowing. At a higher level, a wide range of regulatory strategies have been pursued by regulatory bodies across the globe to encourage whistle-blowing. Feldman and Lobel (2010) identify five primary elements of the "regulatory toolbox" in this respect:

- (1) the creation of internal disclosure procedures involving a formal reporting channel and anonymous reporting;
- (2) providing employees with anti-retaliation protections;
- (3) incentivising reporting with money;
- (4) creating a duty to report; and
- (5) imposing liability for failure to report.

Across the globe, the implementation of these whistle-blowing provisions has been varied (see Table II, which compares Group of Twenty (G20) nations in relation to regulatory provisions relating to internal disclosure procedures, confidentiality, anti-retaliation protection and the existence of independent whistle-blower investigation authorities). The USA has enshrined almost all categories of whistle-blower provisions in securities legislation. Most notably, the *Dodd-Frank Wall Street Reform and Consumer Protection Act* (Dodd-Frank Act) expands upon existing whistle-blower law. By expanding anti-retaliation protection and monetary incentives, the Dodd-Frank Act is designed to incentivise whistle-blowers to expose securities fraud. In contrast, in many well-established countries, such as Germany, Switzerland, France and Sweden, whistle-blowing provisions are largely absent from corporate regulation (Hassink *et al.*, 2007). Other countries (such as South Africa, Australia, the UK and Canada) have adopted some of the whistle-blowing provisions outlined above but neglected to enact others. These differences demonstrate that while whistle-blowing is increasingly encouraged, how that can be best achieved through legislation is not well understood (Feldman and Lobel, 2010).

Nation	Requirements for organizations to have internal disclosure procedures		Protections include requirements for confidentiality of disclosures		Anti-retaliation protection		Existence of independent whistle-blower investigation/ authority or tribunal	
	Public sector laws	Private sector laws	Public sector laws	Private sector laws	Public sector laws	Private sector laws	Public sector laws	Private sector laws
Argentina	3	3	2	2	3	3	3	3
Australia	1	3	1	2	1	3	1	3
Brazil	3	2	2	2	2	3	3	3
Canada	1	3	1	3	1	2	1	3
China	2	2	2	2	2	3	3	2
European Union ^a	1	3	3	1	3	1	3	3
France	3	3	3	3	2	2	2	2
Germany	3	3	3	3	2	2	3	3
India	3	2	1	3	1	3	1	3
Indonesia	3	3	3	3	2	2	2	2
Italy	3	3	1	3	1	3	3	3
Japan	3	3	3	3	1	1	3	3
Mexico	3	3	3	3	3	3	2	2
Russia	2	3	3	3	3	3	3	3
Saudi Arabia	3	3	3	3	3	3	3	3
South Africa	3	2	3	3	2	2	3	3
South Korea	3	3	1	1	1	1	1	1
Turkey	3	3	2	2	2	2	3	3
UK	3	3	2	2	1	1	3	3
USA	2	2	1	1	1	1	1	1

Notes: 1 = Very/quite comprehensive; 2 = Somewhat/partially comprehensive; 3 = Absent/not at all comprehensive; ^a for the European Union; Private Sector Laws = Laws applying to European Union institutions as whole; Public Sector Laws = Laws applying to European Commission

Source: Adapted from Wolfe *et al.* (2014)

Table II.
A global survey of whistle-blowing provisions (G20 nations listed in order of gross domestic product)

To date, research has begun to fill in some of this uncertainty, though as a body of work, it remains unsettled in important respects. [Xu and Ziegenfuss \(2008\)](#) find that internal auditors are more likely to report wrongdoing to higher authorities when incentives are provided, a finding confirmed by experimental studies by [Brink et al. \(2013\)](#) and [Pope and Lee \(2013\)](#). Research in relation to anti-retaliation protection is more mixed. Threats of retaliation from a supervisor have been found to be of concern to employees who are contemplating blowing the whistle ([Mesmer-Magnus and Viswesvaran, 2005](#); [Miceli and Near, 1992](#); [Miceli et al., 2008](#); [Arnold and Ponemon, 1991](#)); however, research has tended to suggest that anti-retaliation statutes have been largely impotent in motivating whistle-blowing ([Dworkin, 2007](#); [Dworkin and Near, 1987, 1997](#); [Miceli et al., 2008](#)), and legal scholars contend that the specific protections provided in legislation to whistle-blowers are relatively narrow in scope and “more illusory than real” ([Seifert et al., 2010](#); see also [Dworkin, 2007](#); [Earle and Madek, 2007](#)). Research has generally found that the availability of an anonymous reporting channel increases the propensity to whistle-blow ([Seifert et al., 2010](#); [Atkinson et al., 2012](#)), though [Pope and Lee \(2013\)](#) find no effect. Moreover, with few exceptions, research investigating the impact of multiple regulatory tools has been largely absent, leading [Seifert et al. \(2010, p. 714\)](#) to conclude that “future accounting research on whistle-blowing should specify the specific legislative model under which hypotheses are advanced”.

As [Carcello et al. \(2011, p. 25\)](#) conclude, for this reason, it is lamentable that “notwithstanding the important role that whistle-blowers play in uncovering corporate fraud [...] this area [...] is just beginning to be examined by accounting researchers”. It is clear that future accounting research into factors that contribute to the likelihood of whistle-blowing would substantially enhance the corporate governance of firms. Given the international differences in regulatory provisions designed to protect and encourage whistle-blowing, it is important to enhance understanding of the effects of different provisions on whistle-blowing activity, both generally and with specific reference to the form of the whistle-blowing response.

5. Conclusion and suggestions

It is frequently observed that fraud has a greater economic impact on society than any other category of crime. No other issue has had as strong an impact on the reputation of the accounting profession. In spite of these impacts, research in accounting on fraud remains fragmented and emergent. A key objective of this review is to underscore that fraud represents a promising and exciting area for researchers in accounting. Recent years have witnessed a proliferation in interest in fraud among practitioners, academics, researchers and journal editors. One striking outgrowth of this interest has been the rapid growth of the ACFE, which claims to be the fastest growing professional designation in the world. Furthermore, there are rich disciplinary theoretical foundations in criminology, psychology and sociology (see [Trompeter et al., 2014](#) for a review) which opens up scope for inter-disciplinary research to contribute to research and practice. To this end, [Ramamoorti \(2008\)](#) makes a strong case for the integration of additional behavioural sciences content, including psychology, sociology, criminology and anthropology, into accounting and anti-fraud curricula.

Given the state of the field, there is an opportunity to build upon prior research in a number of directions. In this review, I have earmarked three specific avenues for both theoretical and empirical research studies that have an opportunity to guide important

debates and challenges within organisations and regulatory bodies. These issues are susceptible to investigation through a range of methodologies, however, direct interaction with the field of interest rather than cross-sectional statistical analysis would assist in opening up concepts directly relevant to the decision to offend (and report). My own experience in interviewing people convicted of fraud reinforces the value of traditional behavioural methods of criminology. Using this call as a foundation, future research could delve into these areas to develop tools or approaches to enhance detection procedures.

Notes

1. At a high level, the Association of Certified Fraud Examiners (ACFE) distinguishes between three major types of occupational fraud: asset misappropriation; corruption; and financial statement fraud.
2. The ACFE is the world's largest anti-fraud organisation with over 60,000 members throughout the world (Morales *et al.*, 2014). The stated mission of the ACFE is to reduce the incidence of fraud and white-collar crime and to assist the membership in fraud detection and deterrence (see www.acfe.com). In its *Report to the Nations* series (ACFE, 2008, 2010, 2012, 2014), the ACFE has developed an array of statistics pertaining to various aspects of the fraud triangle drawn from across the globe.
3. According to Ferreira and Merchant (1992), field research is characterised by the following: The researcher has direct, in-depth contact with organisational participants, particularly in interviews and direct observations of activities and these contacts provide a primary source of research data; The study focuses on real tasks or processes, not situations artificially created by the researcher; The research design is not totally structured. It evolves along with the field observations; The presentation of data includes relatively rich (detailed) descriptions of company context and practices; The resulting publications are written to the academic community. For A fuller discussion of field study methods, see Ahrens and Chapman (2006) and Baxter and Chua (1998).
4. As Kalmbach and Lyons (2003) note, behavioural science research rests fundamentally on four tenets: independent review (by disinterested parties); informed consent by participants; minimisation of harm; and privacy and confidentiality. As the authors note, these ideals require special attention when dealing with special populations who may be more vulnerable, such as prisoners.

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