Why Do Auditors Fail to Identify Fraud? An Exploration

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introduction

Financial statement fraud occurs when financial data is manipulated with the intent of misleading the users of those statements. Academics, regulators, practitioners and standard setters have put forth significant effort to identify and prevent financial statement fraud. Prior research has investigated the indicators and causes of fraud, the effect that auditor specialization, internal auditors, and the audit committee has on fraud, and the characteristics of the perpetrators of fraud. Further, standard setters have provided auditors with guidance to help identify misstatement related to fraud, and practitioners conduct audits with a keen awareness of the consequences of fraud (American Institute of Certified Public Accountants, 1997; Carcello and Nagy, 2004; Dennid, 1999; Hammersley, 2011; Wilks, Zimbelman, and Mark, 2004). This effort has not had much effect on reducing the occurrence of financial statement fraud. K. Hurtt, Brown-Liburd, Earley, and Krishnamoorthy (2013) find that little research has been done on auditor risk assessment with respect to fraud, with that research largely limited to the differences in fraud assessment when electronic brainstorming is used versus non-electronic brainstorming.

The incidence of financial statement fraud continues to grow. It has increased from 7.6% of all occupational fraud cases in 2012, to 10% in 2018 (Association of Certified Fraud Examiners [ACFE], 2018). Although financial statement fraud represents only 10% of all occupational fraud, the victim organization suffers a median loss per financial statement fraud of $800,000 (ACFE, 2018). This large loss is of a concern because the firewall against this type of fraud includes strong controls and strong auditor detection efforts to uncover fraud that exists.

Boyle, Dezoort, and Hermanson (2015, p. 579) have called "fraud risk assessment…one of the toughest challenges facing auditors." Hammersley (2011) notes the importance of fraud risk assessment and how the same affects audit testing choices (cited in Boyle et al., 2015). We build on the framework of factors developed by Asare, Wright, and Zimbelman (2015) and suggest additional factors that may contribute to the failure of auditors to identify fraud. Our contribution of additional factors is based on our reviews of relevant literature in auditing and elsewhere. We undertook a comprehensive search of relevant literatures in order to best assure the timeliness and scope of this study. As will be described below, we then arranged the factors we deemed relevant into four major groupings. This arrangement is described further below.

Accounting practitioners, academics, regulators, and standard setters have long sought to prevent fraud by leveraging the expertise and insight of the external auditor, understanding the circumstances under which fraud occurs and the characteristics of the individuals who conspire to commit fraud. In spite of these efforts, a mere 4% of financial statement fraud is identified by the external auditor and 15% by the internal auditor (Association of Certified Fraud Examiners, 2018; Boyle et al.,, 2015). Identifying fraud and prosecuting those responsible is paramount to the public trust.

The Sarbanes-Oxley Act of 2002 was enacted to improve corporate accountability after a series of scandalous corporate frauds that created a crisis of confidence among investors and other stakeholders. The Act established corporate responsibility for financial reports and management assessment of internal controls. Sarbanes-Oxley mandates criminal penalties and fines and whistleblower protection. The auditor was tasked, with assessing client internal controls and rendering a report (either separately or as part of an integrated audit report, one encompassing both the financial and internal control audits) on the effectiveness of these controls. Even though there is closer regulatory scrutiny and harsher penalties for financial statement fraud, there seems to be little improvement in identifying fraud among those who seek to uncover it.

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That said, the general reputation for auditors is that they often do not provide adequate audits to their clients, even when relevant professional standards already exist.[1]

Asare, Wright, and Zimbelman (2015) investigate a series of inputs and elements around and within the audit process that may affect fraud detection and find that three elements were "of greatest importance in inhibiting auditors from detecting fraud" (p. 90). The first two elements were the failure of auditors to effectively assess management incentives to commit fraud and a failure to properly assess managements' opportunity to commit fraud. A failure to fully understand the client's business and properly assess fraud risk may lead to improper evaluation of management incentive and opportunity. Asare et al., (2015) note that bias, rationalization and attitude may influence auditor risk assessment and that the audit partner(s) may not recognize when it is necessary to call on fraud experts due to time constraints, unwillingness to change the audit program, undue confidence in the client or increased cost (Asare et al., 2015). With respect to biasing elements perhaps fostering rationalization, Asare, van Buuren and Majoor (2019) note the negative impact that auditor economic incentives have on auditors reporting on economically important misstatements. Interestingly, client conservatism, as evidenced by independent governance structures or independent supervisory boards reduced the effect of auditor economic incentives on auditor judgment (see also Fiolleau, Wang and Pomeroy, 2019). Further, Asare and Wright (2018) found that bringing in forensic experts toward the beginning of the audit engagement led to better teamwork and improved risk responsiveness. We propose additional factors that may influence the auditor's ability to effectively assess management incentive and opportunity to commit fraud. The third important element described by Asare et al., (2015) is that auditors failed to adequately modify the audit program. It seems reasonable that if the auditors failed to properly assess management incentive and opportunity to commit fraud, the audit program would not be modified to address potential fraud, making the third factor a result of the first two factors.

We extend the framework of Asare et al., (2015) by including additional factors that may inhibit auditors from adequately assessing fraud risk or recognizing management incentive and opportunity to commit fraud. We also include auditor inherent factors as an additional input to the framework. Auditor inherent factors are characteristics that may exist in individual auditors that act to inhibit fraud detection. There is no way to disentangle individual auditor attributes, perception, traits, bias, misconception and preconceived ideas from the audit task and thus, inherent auditor factors are an important aspect of the audit task and audit outcomes. The auditor views the audit assignment through a cognitive lens developed by experience and training but also by personal characteristics and experiences.

The framework developed by Asare et al., (2015) includes external elements that may affect the audit process, and separately the components of the audit process to determine what factors may be inhibiting fraud detection. The authors interviewed 4 fraud experts and developed and deployed a survey to 65 fraud examiners to validate the framework and the importance of the factors that were identified. We extend the Asare et al., (2015) framework by proposing additional factors that may constrain adequate fraud risk assessment and fraud detection. Like Asare et al., (2015), we include institutional factors and factors affecting the audit process. However, we include factors not discussed in the Asare et al., (2015) work, namely auditor inherent factors and moral issues and ethics. Table 1 summarizes Asare et al.'s (2015) list of factors and our own. [*See Table 1, pg. 351*]

Background

Auditors are subject to a great deal of uncertainty that stems from perceptual and cognitive issues. For example, the effects of organizational silos, organizational ineptitude, database limitations, self-imposed blinders (McKenna, 2010) and undue faith in oneself and one's organization, lack of imagination,[2] emotion, individual psychological characteristics (e.g., http://forensicpsychologist.blogspot.com/2011/03/psychopathy-rorschach-test-for.html) and miscommunication are just a few of the perceptual and cognitive stumbling blocks that audit personnel encounter when conducting an audit. Anandarajan and Kleinman (2011) argue that cognitive analysis factors are important when considering individual motivation and capability. In their adaptation of the fraud diamond (see Wolfe and Hermanson, 2004) cognitive ability and fallibility play a role in the perpetrator's decision to commit fraud. It is likely that auditors are subject to the same cognitive limitations and stumbling blocks that are related to cognitive ability and fallibility as are the perpetrators of fraud (Kleinman et al., 2010). In addition to not falling prey to cognitive faults, individuals also must abstract from their background and maintain

[1] In July 2019, the AICPA issued its first standard for performing forensic accounting services (AICPA, 2019). The standard does not apply to auditors who conduct forensic procedures as part of a compilation, review or attest engagement and therefore is not further relevant here.

[2] See Cassidy (2009) on how imagination or its lack may affect investigations and preventive action.

an attitude of separateness from the (investigated or subject) other by maintaining 'independence', something made difficult when the audit firm's economic incentives lie in losing that independent judgment (e.g., Asare, van Buuren, and Majoor, 2019). Kleinman, Anandarajan, and Palmon (2012) argued that many characteristics affect the capacity of an auditor to be independent. Kleinman et al., (2012) make an apt comparison between auditors and judges since both require an ability to abstract from the role player's current surroundings and render a judgment, or judgments, apart from familial, situational and other influences. These other influences, here focused on auditor ability to detect fraud, are multitudinous and that the achievement of accurate judgement in auditing should be appreciated.[3]

Trompeter, Carpenter, Desai, Jones, and Riley (2013), building on the work of Hogan, Rezaee, Riley, and Velury (2008), suggested that auditor characteristics beyond training and experience may influence professional skepticism, auditor evaluation of management and the control environment (see also K. Hurtt et al., 2013). Despite years, and in some cases many years, of experience and training, auditors fail to make the connection between bits of information that could alert them to the possibility of fraud. M. Nelson (2009) (p. 7, cited in Hurtt et al., 2013), wrote ''Professional skepticism is facilitated if auditors' experiences have given them the knowledge of the frequencies of errors and non-errors and the patterns of evidence that suggest a heightened risk of misstatements.''

Prior literature in psychology and behavioral economics has investigated the heuristics and biases that cloud the lens through which individuals perceive themselves and the world around them (Mark Nelson and Tan, 2005). The auditor views the audit assignment through a cognitive lens developed by experience and training, but also by personal characteristics and experiences. The failure of auditors to identify fraud may be influenced by factors such as individual and group bias, personal and professional experience, confabulation, prejudice, expectations, peer pressure, and ability and fallibility (Kleinman et al., 2012; Kleinman and Palmon, 2009). Prior auditing literature has categorized the auditor decision making process into three areas: 1) the audit task, 2) the auditor's attributes, and 3) the nature of the interactions between the auditor and stakeholders during the audit (Nelson and Tan, 2005).

Accountants who pursue a career in public accounting understand the professional responsibilities associated with that career. For example, formal training and field experience are required by the firm for an auditor to be assigned additional audit responsibility. In addition to meeting the dual challenges of implicit and explicit expectations of the firm, the accountant will work on an audit team, potentially work long hours, be expected to practice discretion, maintain independence, make estimates, use judgment and preserve the relationship with the client. The auditor, the audit team and the partner-in-charge will consider audit evidence from the client's records and client management and elsewhere that provide a partial basis upon which audit results are determined. Auditors are confronted with time constraints and on-the-job pressure that may not allow adequate time to comprehend fraud cues. Auditor incentives are described by Asare et al., (2015) as "…financial and retention pressures faced by the auditor" (p. 65). Incentive related issues include the conflict of interest that arises due to the client/auditor financial relationship, time and fee budgets, the litigation environment and securities laws (e.g., Akhidime, 2019), each which may contribute to inadequate assessment of fraud risk and failure to detect fraud (Asare et al., 2015; also see Asare, Buuren, and Majoor, 2019).

The audit process is dictated by professional organizations and regulators, e.g., the Public Company Accounting Oversight Board (PCAOB) and the American Institute of Certified Public Accountants (AICPA); however, the auditor experiences the audit task through a subjective cognitive lens[4] that may lead to a failure to recognize obvious red flags of fraud. We postulate that there are many factors at work in addition to the almost unknowable integration factors in the auditor's mind, based on the perhaps unquantifiable perception of the audit setting, that, in the course of an audit, prevent the auditor from uncovering fraud. Despite fraud risk assessment decision aids, analytical analysis and other methods that identify fraud risk factors, auditors continue to fail to identify fraud. Auditor decisions and audit outcomes are subject to the emotion, belief or knowledge, moral and conative factors that are possessed by the auditor. Personality variables, (risk tolerance, and curiosity) and situational variables, (firm culture, client management team) may cause the auditor to miss

[3] For a description of the difficulties in achieving consistent judgement on bail decisions in the legal field, see Barry-Jester (2018). The report showed that, for similar crimes, the amount of bail set for the defendant depended heavily on who was the presiding judge.

[4] In the medical literature, subjective cognitive lens refers to clinical reasoning, in which the practitioner has to understand more than the facts presented to him/her. He/she must be able to "categorize information, transform it into ideas, and draw on their existing knowledge and experience in ways that are not easily expressed in words or simple actions" (Stineman, Rist, and Burke, 2009, p. 17). This process is an important aspect of the auditor's functioning as well as he/she searches for fraud signs during an audit.

fraud cues (Murphey and Dacin, 2016; Trompeter et al., 2013). We postulate that failures to identify fraud could arise from three broad areas, with morality being discussed separately toward the end. The three broad areas are:

- Mistakes around the audit process;
- Auditor inherent factors;
- Institutional factors; with
- Moral issues and ethics (separately discussed toward the end).

The audit process is standardized, to an extent, with planned audit procedures for each assignment with some procedures tailored in response to specific fraud risk factors. The audit process may induce a check-the-box mentality which could result in auditors failing to change planned audit procedures to address high fraud risk situations. The selection of audit procedures is based on the auditor's assessment of material misstatement. If the auditor's assessment is faulty, then additional audit procedures are not performed, and fraud may not be identified.

Auditors must account for the resources and the time expended on each audit client. The time constraints on the audit process may restrict the willingness of an auditor to impose additional audit tests and could result in a failure to identify fraud. Auditors may be less likely to address unanticipated audit client risk when there is pressure to adhere to the budgeted audit timeline and to control costs (Houston, 1999).

The auditor may have distracting personal issues (Kleinman and Palmon, 2009), may simply not care about the audit or the firm, could be complacent, angry or may have inherent character flaws that prevent identification of obvious fraud cues (K. R. Hurtt, 2010) and inurement to the audit process due to years of experience, a.k.a., complacency. Also, auditing firm's culture may not be supportive of additional questions from the audit team or supportive of intuitions about clients. In addition, training may be slack. In June of 1997, the AICPA issued the Statement on Auditing Standards (SAS) No. 99 (later, the PCAOB's AS 2401), which provides guidance to auditors enabling them to fulfill their responsibility "to obtain reasonable assurance that financial statements were free of material misstatement caused by error or fraud "

More recently, the PCAOB's Auditing Standard (AS) 2401, cites paragraph .02 of AS 1001, Consideration of Fraud in a Financial Statement Audit as stating that the auditor "… has a responsibility to plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether caused by error or fraud. [footnote omitted]." This section establishes requirements and provides direction relevant to fulfilling that responsibility, as it relates to fraud, in an audit of financial statements."

Auditors are specifically required to assess the risk of material misstatement due to fraud for each client audit. The procedures were developed due to the financial losses and history of corporate fraud and the failure of auditing experts to identify fraud. Why do auditors, forensic and other investigative personnel fail to identify fraud? Academics have labored to identify the causes and signs of fraud (Dorminey, Fleming, Kranacher, and Riley, 2012; Trompeter et al.,, 2013; Wolfe and Hermanson, 2004) and the ways that auditors make decisions about fraud's risks (Boyle et al., 2015) an practitioners have been tasked with identifying fraud, however, there is undeniable evidence that in spite of training, experience, regulations and guidance, perpetrators continue to successfully defraud corporations and individuals of billions of dollars annually. As the ACFE (2018, p. 8) states, "No one knows the amount of frauds that go undetected or unreported, and even for those frauds that do come to light, the full amount of loss might never be calculated." The ACFE does go on to note that, based on their sample's estimate relevant to global GDP for 2017, 5% of some 79.4 trillion dollars of GDP is likely lost to fraud, "resulting in a projected total global fraud loss of nearly USD 4 trillion" for 2017. The issues raised here, then are important, making fraud detection vitally so.

Financial statement fraud, of course, can be committed by top management or lower level management. Top level management could engage in fraud by overriding internal controls that otherwise may appear to be operating effectively. Top management can either direct a lower level manager or employee to perpetrate the override of controls or solicit their approval in carrying it out. Typically, top management and other employees engaged in fraud will take steps to conceal the fraud from the auditors by withholding evidence or misrepresenting information by falsifying documentation. In this case, financial statement fraud is inextricably linked between top management and lower level management. Another line of research examined the association between auditor replacement and earnings restatements due to irregularities (financial statement fraud). Researchers find that restatement tarnishes the auditor's reputation and raises concerns about the auditor's ability to monitor future financial restatements due to irregularities. But dismissal of auditors due to restatement irregularities is not that prevalent. This factor may be because dismissing an incumbent auditor is costly in terms of incremental managerial time and startup fees paid to a new auditor for tracing and review or re-audit of prior years (Hennes et al., 2012).

Mistakes Around the Audit Process

We next break our discussion into segments covering important discussion areas. These areas are (a) mistakes around the audit process, (b) auditor inherent factors, and (c) institutional factors. These general areas are then further divided into specific concerns that fall within these areas. While some items may belong under more than one of these headings, we allocated each to where we thought it best belonged. This section refers to mistakes in the steps taken by the auditor to identify fraud. These could comprise the following:

- *An inability to pull data together* to attain an accurate picture of the whole, thereby failing to sufficiently modify audit tests. Dealing with massive amounts of data, or inconsistent data or data formats, may lead to bemusement and a failure to appropriately aggregate the data and run the appropriate data analytic tools upon it. An important result would be damage to the conclusions drawn from such an exercise.

- *Failure to interpret information* correctly or in a timely fashion. Framing and other cognitive and perceptual issues may impact the auditor's ability to draw correct conclusions from data almost literally staring him/her in the face. For example, interaction and judgment of the credibility of client management and its internal audit staff is critical in developing the audit risk assessment of management-level fraud risk, as well as in the evaluation of management responses to a variety of audit inquiries which are an important input (Maksymov, 2015). Misinterpreting evidence collected about management credibility may have highly negative consequences. The auditor may be overly trusting of management due to common social class, long history of association, shared ethnic background, etc., factors that also have been found to impact judicial decisions (Kleinman, Anandarajan, and Palmon, 2012; for a judicial example, based on shared names, see Jena, Sunstein, and Hicks [2018]). Since much interpretation reflects memory matching, the accuracy of doing so is an issue (Ding, Hellmann, and De Mello, 2017).

- *Focusing failures*. Fraudulent behavior is ultimately the acts of individuals. Individuals may act alone or in concert with others. How the auditor conceptualizes what is going on in the organization, how the auditor comes to an initial understanding of what may lead to fraudulent behavior, may lead to suppositions that blind him/her to other possibilities. Such failures are rife in law enforcement (e.g., Gabrielson, 1/17/2019). Trompeter et al., (2013, p. 299) summarize many factors that influence research on criminal organizations. They note importantly that

"… non-accounting research has tended to more explicitly consider crimes committed by organizations rather than individuals. As such, some non-accounting research on corporations can inform examinations of collusion and management override. Chau and Siu (2000) investigate the relationship between entrepreneurial conditions and ethical decision making of business executives and consider whether certain types of organizations are more likely to commit fraud. They 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 could make ethical decision making more or less conducive."

While auditing standards do call for risk assessment and evaluation of the client's environment, internal and external, the vocabulary for characterizing these environments and understanding how and why they may negatively impact the organization's functioning with respect to fraud is lacking. Failure to understand the economic and non-economic influences that determine the financial stability of a client business may impede the auditors' ability to identify fraud or an increased risk of fraud (Asare et al., 2015). The following are issues:

- *Lack of enough forensic training* and as a result, lack of adequate knowledge of fraud schemes, which may result in identification failures (Trompeter et al., 2013, p. 300). Di Gabriele (2008) also notes that the skill set taught to future forensic accountants may be lacking. Trompeter et al., (2013) note that the Triangle of Fraud Action includes commission of the fraudulent act, concealment of the crime, and converting the proceeds therefrom into other forms of property. As such, they note, the process provides a guide for collecting evidence as to the facts of the crime. Asare et al., (2015) note that insufficient fraud education and training in addition to lack of knowledge about identifying subtle fraud cues may impede the detection of fraud.

Further, there may be a failure to use experts when expert use is due. For example, in an extensive literature review, Hux (2017) found that auditors may fail to use experts on forensic tasks when they do not recognize that such is needed. Also, even using experts, the auditors may err in deciding the nature, timing and extent of expert consultation needed on an engagement. Actual use, Hux (2017) finds, depends on the characteristics of the engagement, and auditors may underestimate the determinants of proper specialist need in any of these three categories. This miss- assessment is unfortunate, because as Hux (2017, p. 13) points out, "forensic specialists possess unique skills and expertise in uncovering

and testing for fraud." Again, as Hux asserts that auditors may not employ experts when they are overconfident in their own abilities to detect problems or fail to recognize the expert's superior expertise.

Auditors also may misjudge the complexity of a confronting situation and therefor fail to acquire needed expertise. The literature on the nature of specialist use and client industry membership is limited. Lacking a strong feel for the relationship of whether an industry specialist is needed may result in the auditor making a choice to choose a cheaper specialist, say a non-industry specialist, when an industry specialist would be more appropriate. In forensics specifically, Trompeter (2013) notes that fraud detection is very difficult given the manifold efforts by those conducting the fraud to cover their tracks. Therefore, Hux (2017, p. 19) notes, the "[a]uditors' decision to use a forensic specialist stems from "the nature (Jenkins et al., 2016) and significance of fraud-related issues (Boritz et al., 2016), [footnote deleted] and occurs on a case-by-case, potentially reactive, basis (Boritz et al., 2016). For that reason, the nature and timing of forensic specialists' involvement varies considerably (Jenkins et al., 2016). In sum, the auditor's ability to detect fraud may be limited when he/she makes wrong choices with respect to retaining the use of a specialist for many reasons, only some of which are summarized below.

- *Data or software limitations*. Software has many limitations, as well as many valuable uses. PwC, for example, designed and implemented, with clients, an SAP security software system that itself was badly flawed (Thomson, 2016). Stories of software limitations are legion.

- *Inefficient or inappropriate use of algorithms and audit software*. Training is, of course, essential but software is complex, and algorithms have problems stemming from the way that they were developed. In addition, since it is not necessarily known by the user of the algorithm how the internals of the algorithm work, biases resident within them, etc., inappropriate tools may be applied in seeking the solution to the auditor's question or other important questions (e.g., Courtland, 2018; Devlin, 2018). Technological fetishism and a trained, or [im]prudent, trust in senior audit management may lead audit team members to fail to question tools made available to them (see the Milgram experiment). In addition, there is the self-perception that one is probably incompetent to raise meaningful questions about algorithms provided by the firm.

- *Neural networks and other techniques incorrectly applied*. The pace of application of neural networking and other techniques to the audit, including the use of continuous online audit monitoring, etc. is growing quickly. Artificial intelligence (AI) is increasingly being applied in many fields, including auditing. It has numerous advantages, including the ability to leverage growing databases of fraud-commission-relevant information, discover patterns, and apply the findings to new, presenting situations. The problem with such techniques is that those applying them may not understand what the system being applied was developed to do; may not understand how the application being used may not appropriately match the data it is being used on, and therefore may not understand that the output is flawed—or subject to flawed interpretation.

- *Failure to use valuable other techniques*. For example, the failure to use targeted risk assessment (TRA) also may lead to problems. Targeted risk assessment, according to Trompeter et al., (2013; p. 302) "suggests a focus on the types of schemes to which a company is susceptible, and the likelihood that this type of scheme could be successful in completion and concealment." These authors note its compatibility with AICPA SAS 99.[5] That said, as it has been said (e.g., Parker [11/7/2018]), data analytics is transforming audits. It is enabling sweeping analyses of corporate datasets, taking the workaday audit far from traditional sampling approaches. Asare et al., (2015) noted that when designing and executing audit tests, auditors tend to use the same audit procedures year after year, allowing the client to foresee audit tests and navigate around them if so desired.

- *Lack of adequate human interfaces*. Lack of communication, or poor communication within the audit team or between the client and audit team might result in a failure to follow up on unresolved audit issues (Asare et al., 2015). The problems of poor interfaces between humans, even in auditing, are long known ones (e.g., Kleinman and Palmon, 2001). Such interfaces may involve failure to, or fear of, communicating both horizontally and vertically within the organizational structure. Humans perceive the environment complexly, and not always accurately, and therefore may see harm from communicating truths to those around them. Professional standards recognize the potential for this difficulty in requiring that review (or concurring) auditors should be of similar rank to the partner-in-charge as the review (concurring) partner reviews the work of the partner-in-charge. Assuring similar rank leaves the partner-in-charge with fewer options to punish the review partner than would be the case otherwise.

[5] See also AU-C 240 *Consideration of Fraud in a Financial Statement Audit* (AICPA, 2015).

- *Human and computer interface design*. This factor is an old story in systems design (Romney and Steinbart, 2018). Poor interfaces lead to errors in system use, whether errors of omission or commission, things that should have been done are not and things that should not have been done, are. System and application interfaces may be too complex or too confusing to many, resulting in otherwise avoidable errors. Extreme examples of software interface limitations include the Hawaii nuke scare in the summer of 2017 (e.g., Smith, 2018), which was caused by a poorly-designed user interface. In this scare, a Hawaiian government functionary was tasked to send out a practice alert but instead clicked the wrong item in the menu and sent out a 'real' alert, saying that Hawaii was under imminent threat of attack by a foreign power (i.e., the Democratic People's Republic of Korea, more colloquially known as North Korea).

- *Computer to computer communication/interface issues*. Here is another problem that may result from poor system integration (Romney and Steinbart, 2018). Poor system integration may result in malfunctioning during audit tests that is invisible to the auditor. Depending on the auditor's level of training, the auditor may not know enough to ask whether a result is correct or not, but just assume so.

Auditor Inherent Factors

This factor refers to including individual auditor perceptual misconceptions, preconceptions, and perhaps even lack of perceptions on the part of auditors. The positioning of an auditor inherent factor here does not preclude the interaction of the factors here with organizational, processual, and other elements not explicitly identified in this study. That said, the auditor inherent factors may be comprise of:

- *Auditor ineptitude.* This ineptitude may arise due to absence of proper supervision or training, inability to understand the client business and the related risk of fraud, a lack of client appropriate fraud analytic capabilities, and failure to perceive fraud cues. Auditors must draw on numerous pieces of information, implicit and explicit during the audit process. The auditor must analyze information from a myriad of tangible and intangible sources and decide if the fraud risk is elevated, to what degree it is elevated, and if that warrants additional audit procedures. This step can result in failures to connect the dots, as can be seen in an almost disastrous non-audit context described in Lipton, Schmitt, and Mazzetti (2010).[6]

- *Auditor uncertainty* (and anxiety) caused by whether to conduct the additional procedures, given the time constraints, justification for the procedures, and possible consternation of the client or the partner-in-charge may cause the auditor to simply maintain the planned audit program, even if there are obvious fraud cues (Kleinman and Palmon, 2009). Staying with the planned audit program reduces auditor uncertainty and anxiety and increases the ability of the auditor to cope with the current circumstances. Anxiety and uncertainty are within-auditor factors that may differ between different auditors. Situational factors particular to an audit or a class of audits may interact with the personal factor to have an impact on auditor feelings of anxiety and uncertainty. For example, the degree of complexity of the audit may create uncertainty for some auditors more than others and thereby differentially result in greater self-serving behavior (Graham and Cooper, 2013) on their part. This behavior would include not administering additional tests to reduce uncertainty and anxiety.

- *Lack of a sense of urgency* because the auditor does not perceive the possibility of a fraud being perpetrated. The auditor may not believe, based on experience with the given client or other clients that the auditor may believe are similarly situated to the focal client that a fraud could happen now/with this client/with him or her on the job. This failure also could be attributed to overconfidence/inflated ego of the auditor as well as other personality dispositions (e.g., a phlegmatic personality disposition) or also may be reflected in a failure to take responsibility, which is described next.

- *Failure to take responsibility.* DeZoort and Harrison (2016) used a sample of 878 external and internal auditors to evaluate the factors affecting the auditor's perceived responsibility to detect fraud. Basing their work on Schlenker, Britt, Pennington, Murphy and Doherty (1994) and Schlenker's (1997) triangle model of responsibility, which emphasizes the importance of task clarity, personal control and professional obligation on impacting responsibility, the authors found that personal control and professional responsibility were related to taking responsibility while clarity of the task was not so related. As would be expected, the greater the perceived responsibility, the more detection procedures were brainstormed by the auditors in the experimental setting. The same perceived responsibility also served as a mediator of the relationship between the accountability and brainstorming relationship. The authors also note that their findings show that auditor and fraud type, perceived responsibility, accountability and the country affiliation of study participants (the external

[6] The development of expertise in itself may lead to its own problems. See, for example, the discussion of how expertise and vigilance may be counterproductive—in Ellis's (2/13/18) view, presented at http://imperfectcognitions.blogspot.com/2018/02/rationalization-why-your-intelligence_13.html?m=1.

audit sample of 241 was from the U.S. alone, the internal auditor sample of 637 was from five nations) affected performance on the brainstorming task. accountability, perceived responsibility, and country affiliation.

- *A failure to see the big picture*. The auditor is unable or unwilling to consider other perspectives and possibilities during the audit, thus failing to get a valuable birds-eye view of the audit and the audit client. The failure of the auditor to consider information, data, and nuances from every viewpoint (and not only think carefully about personal observations and knowledge about the client) is critical to more deeply understanding the fraud risk during an audit. Satisficing, insufficient cognitive need to know (Kleinman, Anandarajan, Medinets, and Palmon, 2010), laziness, and other factors may all contribute to this failure to see the big picture. Hurtt et al., (2013) note that client complexity and auditor expertise may interact in such a way that the auditor becomes overwhelmed (overloaded) and ends up believing less believable client explanations than are called for. Limited cognitive resources, confronted by client arrangements, therefore may lead to satisficing, with satisficing meaning the auditor stops well short of the goal with respect to fraud determination.

- *Skewed perception* (not seeing things the way they really are of the client, the firm or the self). All individual cognition is inevitably limited. Failure to use available tools that might prompt for additional cognitive evaluations and search behaviors also may be at fault. There may be lapses also in judgment and communication resulting in failure to assess management's incentives and opportunities.

- *Loyalties* to client, loyalty to firm, and loyalty to self. The issue of auditor independence, from the client and from the auditing firm, as a professional whose first loyalty should be excellence in the pursuit of professional practice even when such calls for the auditor to distance themselves from the employing firm, and loyalty to self. Loyalty to self, as outlined in Kleinman and Palmon (2001), is a difficult and complex issue. For example, what constitutes loyalty to self? Does adherence to professional standards even when one's personal fortunes are negatively affected or does loyalty to self-constitute doing one's best to protect one's material well-being, and that of one's family even when doing so compromises the individuals own sense of professionalism and integrity?

For the profession, and its long-term survival, the answer must be that loyalty to the profession, and its proclaimed values, must come first. Individuals, though, live their lives one day at a time, one dilemma at a time. Taking the long view, that standing up for the profession's values at the cost of personal pain (e.g., unemployment and facing attacks on one's character from one's thwarted employer), may be problematic. As Kleinman and Palmon (2001) laid out, the auditor is at the center of a web of claims upon him/her. These claims are for service to the self, family, profession and employer. These claims may not call for consistent action by the object of such claims.

- *Check-the-box mentality*. A check the box mentality places a premium on the process being applied rather than true goal of gaining a progressively more complete understanding of the client being audited. Process and progress may move forward in tandem but need not. Process (checking the box) may be moving forward but the rate of progress in understanding the client being audited may move forward in a nonlinear fashion, at times outpacing the boxes being checked, and other times falling behind in the amount of understanding gained compared to boxes checked. The cognitive qualities of the audit manager may play a key role in this failure.

- *Dilution of authority.* Authority is a complex concept. Conceptions of authority include the authority of position, knowledge, ethical standing, and personal authority. Any or all of these *may be* in conflict. Understanding unfolding situations on an audit may call for input from various sources with varying levels of authority (however defined), and it is not necessarily the case that understanding who the most appropriate authority is, and most appropriate kind of authority, to follow will be obvious.

- *Malfeasance.* Malfeasance can take many forms. Here, it is put forth as intentional mal (evil) feasance (doing). The fraud triangle holds that doing such is a function of opportunity, rationalization, and capability. Malfeasance in the audit context may include taking bribes from clients, gaining and using access to insider information—and trading on it—from the client, negotiating for a position with the client while on an audit with it, all in return for perhaps giving the client a 'pass' on audit concerns, resulting in an inappropriate audit opinion. There may, of course, be other types of malfeasance, such as the auditor using information legitimately acquired from the client during an audit to make illicit stock trades, etc., even without any attempt by the client to persuade the auditor to act inappropriately.

- *Failure of failsafe mechanisms* (control issues). Control and evaluation functions may not work well or have their operations stunted due to time/budget pressures. Such systems may fail also due to misalignment of incentives—that is, finding problems may result in problems with the client. Thus, alerts may be ignored. There is also the issue of motivated reasoning. (Bazerman and Tenbrunsel, 2011, p. 61; quoted in Hurtt et al., 2013) note that ''…people see what

they want to see and easily miss contradictory information when it's in their interest to remain ignorant—a psychological phenomenon known as motivated blindness.''

- *Plain bad judgment.* Although not an auditing firm issue, the Target hacker intrusion of 2013, was spotted by the automated FireEye system Target employed to monitor the security of their cyber operations. The alerts from FireEye were ignored, costing Target many tens of millions of dollars as it moved to clean up the mess caused by ignoring the alarms (Schwartz, 2014). Thus, even automated monitoring of transactions may fail due to ignored signals or signals buried in noise and distraction (Finkle and Heavey, 2014). Such issues are separate from the failure of such systems to notice problematic behaviors and data as well.[7] Auditors also may overstate the significance (or lack thereof), as well, a phenomenon known even in the courts where the consequences for individual defendants may be severe (e.g., Murphy, 4/20/2019).

- *Tunnel vision.* A series of experiments by Simons and Chabris (1999) demonstrated how focusing on one thing may lead to ignoring salient other information. In this instance, subjects were asked to count the number of times that actors wearing white shirts were tossing a basketball between them. During the video, another actor wearing a guerrilla outfit walked across the stage, beat its chest, and then moved on. Typically, less than half of the subjects noticed the guerrilla. Othman and Laswad (2019) tested Kleinman and Anandarajan's (2011) theorization as to the impact of perceptual blindness in the forensic accounting field. Othman and Laswad (2019) found, using six fraud-linked scenarios, that perceptual blindness impacted the ability of the authors' student sample to perceive fraud. This blindness is of course reflective of a more general phenomena, that much of what exists/occurs around us is *missed* (Horowitz, 2013).

- *Satisficing.* The Simon (1997) concept of satisficing argues that exhaustive searches for, and evaluations of, all possible choices is impracticable. Simon argues that there should be a search for a solution that is good enough. In auditing terms, given the time and budget pressures of the audit, as well as potentially unavoidable client constraints, this process would mean defining enough evidence as the best evidence one can get given constraints on the search. One does not, yet at least, examine all transactions in a database but just a sufficient number as defined by a sample size chart to be able to project the result from that sample to the relevant population of transactions.

- *The complexity of transactions* in accounting may be an issue, causing auditors to shy away from direct contemplation of the same in order to avoid expending the mental energy and search time to find answers with respect to the quality or accuracy of the client's reporting. Accordingly, complex transactions may be ripe places to hide fraudulent entries because the auditor may not follow through the thicket to the truth. This complexity may be an increasing problem, given the growth in the size and complexity of accounting standards (i.e., the derivatives standard with its rules and guidance weigh in at over 800 pages) (Beresford, 2004).

Institutional Factors

This section discusses factors that may influence the failure to detect fraud that are larger than audit individual or firm factors.

- *Generally Accepted Auditing Standards* not focusing adequately on fraud may result in auditors not effectively trained to perceive fraud cues, pick up on red flags, hear what is unspoken. The often extremely detailed nature of some U.S. Financial Accounting Standards Board (FASB) standards may be a problem. The derivative standard with interpretations runs some 800 pages, according to Beresford (2004), a former chairman of the U.S. FASB. With such detailed standards, memory matching of presenting information in a client's books to the agglomerated standard is certain to be a challenge. Kleinman, Strickland, and Anandarajan (2015) state that principles-based standards lack such detail but present other problems in that too much becomes a matter of opinion. If, under IFRS standards, the criterion is management judgment, when the auditor disagrees, then what is the auditor to do? The problem with U.S. GAAP, as illustrated in the derivatives standard noted above, is that there is so great an attempt to nail down every eventuality that the whole becomes incomprehensible. In effect, the attempt is to try to board up every hole in the standards that can be exploited with the result that the whole becomes too much for the auditor to understand and correctly react to. Hurtt et al., (2013) note that accounting

[7] The growth of artificial intelligence technology's ability to create deep fake videos and deep fake content may also lead to the creation of deep fake transactions on a comprehensive basis (e.g., Zegart, 2019; Simonite, 2019). The human inability to cope with potential outputs of self-learning systems the basis for whose action is unknowable raises important issues for auditors, forensic and not (see Kissinger, Schmidt, and Huttenlocher, 2019).

complexity may diminish the ability of the auditors to maintain professional skepticism. Accordingly, fraud may be hide-able in the accounting for such transactions, and in transactions for which the accounting itself is complex, leading the auditors to satisfice (believe that they have done enough), engage in motivated reasoning with respect to the quality of their own work, and generally shirk, thereby allowing fraudulent entries to be maintained unscathed within the record.

- *International Financial Reporting Standards* or other principles-based standards define the legitimate reporting alternatives which are subject to management whim. The reporting alternatives provide a basis for management justification of unorthodox reporting. These are institutional issues of the top sort. Other issues exist as well, for example the role of the courts and the SEC in enforcing such standards as there be. In sum, the law is often what a particular court or SEC administrative law judge says it is (e.g., Jena, Sunstein and Hicks, 2018), a finding consistent with the theory of legal realism (Kleinman, Anandarajan, and Palmon, 2012). Such a result is more likely where evaluation standards are vaguer. Since fraud is defined as a violation of law, the nature of the law and the quality of its drafting is an issue, something particularly true regarding insider trading allegations.)

In this regard, Hurtt et al., (2013, p. 69) note, "Marden and Brackney (2009) suggest that the complex task of trying to assess management's judgments on IFRS compliance and the 'spirit of the law,' rather than assessing compliance based on the established U.S. GAAP set of benchmark rules, may prove challenging to auditors. Assertions regarding valuation may be the most difficult area for auditors to examine. Given Marden and Brackney's (2009) work as well as research findings indicating that the audit of complex estimates (a subjective area) often results in auditors over relying on management assertions (Griffith, Hammersley, and Kadous, 2012), it is important to understand the issues expressed by regulators in countries where IFRS has been adopted."

- *Auditing curricula* may not be focusing adequately on how to detect fraud. Forensic accounting is rarely taught to undergraduate accounting students, but auditing is likely a universal requirement. Ferreting out fraud requires a much greater investment of time than is possible in the typical one-semester undergraduate auditing course. In our experience, the rudiments of what used to be called SAS 99 (see AICPA, 2015) are taught, for example brainstorming and audit team meetings are discussed in an early chapter of many popular undergraduate auditing texts (for example, see chapter 2 in the introductory auditing text Whittington and Pany, 2018). The undergraduate auditing course largely focuses on ethical requirements, legal liability, the nature of evidence, the timing and types of evidence collection, some work on IT auditing, and the application of audit evidence collection in, typically, the sales-and-collection cycle. Extensive time is not, therefore, spent on the topic of fraud generally and ferreting out and following up upon deliberate attempts to defraud an organizational entity. Given the iron grip of CPA exam preparation on the structuring of materials presented at the undergraduate level, this circumstance is unlikely to change. Hope for the future may lie in the growth of targeted accounting *graduate* education. While the 150-hour requirements for being certified as a CPA in the United States require completion of more than 120 credit hours or so at the undergraduate level, further education in accounting itself is not required. That said, though, the opportunity to pursue greater fraud-ferreting education at the master's level exists, but only as one of several options for graduate education in accounting. In summary, auditors may fail to detect fraud because:

- They (auditors) do not understand the conditions that allow fraud to occur
- They do not totally understand how frauds are perpetrated
- Fail to identify cues that signal that a fraud scheme is operating
- Lack understanding on how to test for the occurrence of various fraud schemes

Moral Issues and Ethics

Morality can be considered a function of individual, or institutional or professional valuation. Morality can play a role on all three levels. Hence it should influence the auditor. We need to address how, or will, morality affect an auditor's ability to detect fraud? We postulate that lack of morality might have such an effect.

- *Groupthink.* Socialization in the firm could have an impact on morality. This issue is not extensively examined in the literature. Our issue of interest relates to moral issues and especially a psychological construct referred to as groupthink. Scharff (2005) posited that much of WorldCom's unethical behaviors may have been caused by the psychological construct of groupthink. Groupthink is caused when concurrence seeking (the urge to blend in during decision making) becomes paramount in team decision making (see Kleinman and Palmon, 2009). There could be a tendency to cave into group pressure even when there is disagreement. Janis (1982) defined groupthink as a mode of thinking that people engage in when they are deeply involved as a cohesive group. Here members' striving for unanimity override their motivation to realistically appraise alternative courses of action. Janis maintains that some popular examples of groupthink included President Kennedy's decision to invade Cuba at the Bay of Pigs or America's decision to escalate war in Vietnam.

Another example cited is President Reagan's Iran Contra arms for hostage dealings. The characteristics of groupthink include a(n):

- Feeling of invulnerability
- Rationalization of events and group decisions
- Group members believe their action or decision is the correct one despite moral consequences
- Stereotypes of those outside of the group, causing members to discount alternative decisions
- Self-censorship within the group, pressure to conform
- The assumption of unanimity in decision making

In the case of WorldCom, groupthink may have contributed to auditors' unethical behavior (Scharff, 2005). The audit team is comprised of individuals who have varying degrees of experience and training and who are subject to various cognitive biases. Although individuals in the audit group may be subject to group think, there are moderating factors and traits to reduce that likelihood. The individual characteristics of the audit team members may act to avert group think and improve outcomes when brainstorming fraud as part of the audit program. Brainstorming material misstatement due to fraud is a required step in the client audit. Audit team members are required to discuss "…how and where they believe the entity's financial statements might be susceptible to material misstatement due to fraud" (American Institute of Certified Public Accountants, 2015, p. 153).

The variety of personal characteristics that persons bring to the audit group, or the diversity of the group, can be important to help negate episodes of group think (Kleinman and Palmon, 2009). Diversity may reduce correlated errors that are introduced when colleagues work and learn together over a period. Kleinman and Palmon (2009) offer additional moderators of the impact of degrees of ability and cognitive bias, including controversy, insight and resolution. Controversy provides an avenue for more thorough exploration of an issue and insight, should it exist in the group. This variety might counteract ill-formed ideas of some of the lesser experienced or knowledgeable individuals in the group. Finally, resolution is achieved, a compromise reflecting the stages of negotiation and the bias and experience of the group. Fundamentally, group dynamics may result in morally problematic decisions. Doing the right thing is difficult when the perceptions of what is 'right' are heavily impacted by the opinions and pressures (overt, covert) of one's peers.

➢ *Serving the public interest*. Leaders of the U.S. and more broadly professional international accounting organizations often sonorously proclaim the duty of auditing to serve the public interest. The extent to which this duty happens in practice is the subject of frequent headlines as one scandal involving CPAs after another hits the press. Ethical and moral choices must be made all along the command chain in auditing organizations (McKenna, 2010), the focus here. Eisner (2011) points to the problem of defining morality in given contexts, and how morality is affected by situational pressures and influences, when she notes that the Nazis may have believed their medical experiments were moral. She states, drawing on earlier research, that "Researchers from Germany and Israel have discovered that the Nazis systematically taught their own version of medical ethics to students throughout Germany, intended not only to justify the regime's horrors but also to shape future generations of physicians."

Fraedrich, Thorne and Ferrell (1994) discuss Cognitive Moral Theory, noting its widespread use in business ethics studies. In pointing out its flaws, the authors note that moral philosophies are principles of conduct typically described as affecting the decision-making behavior of individuals. L. Ponemon (1992), for example, studied the relationship between Defining Issue Test scores and auditor intentions to report audit time on a task.[8] He found that lower DIT scoring auditors had greater intentions to underreport audit time as compared to auditors who scored more highly on this widely accepted measure of morality. Also, higher DIT-scoring auditors were more likely to become whistle-blowers and maintain independence than were lower DIT-scoring auditors **(**Arnold and Ponemon 1991**;** Ponemon and Gabhart 1990).

Often, however, individuals change their behavior to fit the demands of the situation. Fraedrich et al., (1994, p. 833) note that, "To assume that ethical decision making in the context of a business organization is identical to ethical decision making in nonwork situations is highly questionable." Further, the authors note that the work group, and not so-called principles of conduct, may have the dominant influence on determining ethicality of behavior within firms. The authors continue by noting that significant others in the workplace may determine ethical behavior of individuals too.

[8] The Defining Issues Test (Rest, 1979, 1986) is an instrument developed by Rest in order to test an individual's placement in the 6-stage model of moral development developed by Kohlberg. Appendix A of Fraedrich et al., (2014) describes the six stages of the Kohlberg's model.

Understanding the determinants of moral or ethical behavior in a workplace, then, is difficult. For example, Kleinman and Palmon (2001), in presenting their multi-level model of auditor independence, independence being the sine qua non of the auditor's ethical requirements, argue that auditors are caught in a web, with behavior of individual auditors being a result of internal psychological factors (e.g., career aspirations, personality, work group factors, office factors including structuring of the firm, firm-level factors and happenings in the interorganizational field. However individual auditors may be then, their personal preferences for ethical/moral behavior may be overwhelmed in their fight for survival by other factors that affect their judgment. For example, one set of personal factors in the Kleinman and Palmon (2001) model, is the influence and needs of one's nuclear family, status in the community and how that is affected by behaviors and the outcomes thereof, and attachment to the profession and its ideals. Fraedrich et al.'s (1994) writing underlines the importance of understanding how all these factors come together in determining ethical behavior by auditors in given situations. Such an understanding is vital, despite the difficulties of doing so, given Warmoll (2015) report that a global survey of accountants finds that corruption is rife among accountants. Despite calls for greater ethical education for business students generally and accountants in particular, Schwitzgebel, , a professor of philosophy, finds that professional ethicists behave no more ethically, on average, than non-professional ethicists (Schwitzgebel, 2015). If this situation is the case, and if pressures within accounting firms are not consistent with generally, as opposed to organizationally-limited, ethical behavior (desirable) norms, then the outcome of many behavioral dilemmas in ethical situations may be foreordained: the more convenient behavior-even if unethical-may be chosen.

Conclusion

Financial statement fraud can be categorized as material or immaterial depending on the audit client's specific circumstances. In this article, we focus on material financial statement fraud. Auditors may not be detecting immaterial fraud since audit procedures are designed to detect material misstatements. The auditor is responsible for conducting the audit in accordance with Generally Accepted Auditing Standards which require that the auditor obtain reasonable assurance rather than absolute assurance about whether the financial statements are free of material misstatement (whether caused by error or fraud).

This study was motivated by a study by Asare, Wright and Zimbelman (2015). Asare et al., (2015) developed a framework of factors that may affect an auditor's ability to detect fraud and validated the framework using fraud expert testimony and survey instruments. The authors concluded that there are three main factors that may contribute to an auditor's failure to detect fraud: ineffectively assessing management incentive and opportunity to commit fraud and failing to modify audit tests when fraud cues are present.

This article contributes to the literature by proposing additional factors that may affect the auditor's ability to detect material fraud. All these items, alone or in combination, may act to affect the auditor's ability to accurately perceive fraud when it exists. Despite the existence of guidance and tools to help detect fraud and strong internal and external preventive controls there remains a high and growing frequency of financial statement fraud. Identifying potential causes for the inability of auditors to detect material fraud is a matter of concern and is a primary objective of this article.

During the audit, the auditor has unparalleled access to management, processes, and financial records and yet it is usually not the auditor that discovers financial statement fraud. In the extant literature, studies that delve into potential alternative causes of the continued failure of auditors to identify fraud are quite sparse. Here we provide a topical review of various factors that may contribute to the failure of auditors to identify fraud when the signs of fraud appear to be evident. In this review, using theories espoused in the current literature, we propose that auditor failure to discover fraud may be attributable to:

- Mistakes around the audit process
- Auditor inherent factors
- Institutional factors
- Morality

Despite closer regulatory scrutiny and harsher penalties for financial statement fraud, there seems to be little improvement in identifying material fraud among those who seek to uncover it. Based on our topical review we surmise that various factors, not yet fully investigated in auditing research, may prevent auditors from identifying fraud. For example, lack of confidence, a general inability to aggregate data and draw conclusions, failure to generate an accurate picture of the whole financial scenario, and misinterpreting client information. Framing and other cognitive and perceptual issues may impact the auditor's ability to draw correct conclusions from data. For example, the auditor's judgment of the credibility of client management and its internal audit staff is critical in developing a risk assessment model of the client.

Flawed judgment could bias the client risk assessment model which could impair the ability of the auditor to detect fraud which are more exhaustively examined in our article.

Future research should examine how to promote auditor investigative success in finding fraud by exploring whether new or differently configured current tools can promote greater auditor confidence, more capable data aggregation, and whether better data presentation tools enable more accurate understanding of the whole financial scenario. Framing, cognitive, and perceptual issues have often been studied in the accounting arena. This review reinforces our own perception as to the importance of these issues. After all, lack of cognitive ability and fallibility mitigate the ability of the auditor to think outside the box (ability honed from many years of experience and training.). As a result, even experienced auditors could fail to make the connection between intertwined bits of evidence that could alert them to the possibility of material fraud. Situational factors such as anxiety and uncertainty arising from the degree of complexity of the audit may skew auditor perception. Further, focusing predominantly on one issue at the expense of others may lead to ignoring salient details and issues such as budget pressures and time constraints may impede collection of the best available evidence.

Another issue largely ignored in the literature relate to the increasing complexity of transactions (examples include pension funds, post-retirement benefits, deferred tax among a plethora of others) which may afford management the opportunity to hide information from the auditor. The complex accounting rules in the U.S. are a solution to a perceived problem, how to correctly present certain transactions. The solution to one problem, how to correctly present certain transactions, gives rise in our view to the problem of how to understand the rules that should govern accounting for such transactions.

Perhaps future research should address both aspects of this over-all problem. On the one hand, researchers should consider what is the best way to present financial results and is it necessary for this best way to also be the most complex way? The tools of experimental economics may play an important role here as may the convening of panels of disinterested wise people to ponder what makes accounting relevant to topics both more relevant and simpler. It is important in this context to ask; do we expect too much from our accounting systems and the statements they generate? While it may seem far afield from our current topic to advocate for further research into financial statement user decision models, we beg to differ. Generating a better understanding of user decision models, what they look for in accounting information and what the content they see means to them, is also a means of understanding what can go wrong—intentionally or not—in the generation of such information and therefore how to detect such going astray.

Further, morality of the auditor, group think, audit office and audit firm culture and auditor socialization in the firm, and the auditors personal and professional ethical fortitude may unduly influence audit decisions. The auditor's underlying bias, if any, may, act "like a rock under a rushing stream. You can't see it, and you might get through the rapids without hitting it, but that rock is steering the current the whole…time. The rock itself doesn't even know what effect it's having. But in the end, it's decisive." (Iles, 2017, pp. 380–381). Understanding the impact of any factor in the list (e.g., auditor morality, audit firm culture, work group influences and that of significant others, communities and the impulse to protect and provide succor to family) constitutes a research agenda that can last ages, and as such understanding is pursued and the society around the researcher changes, old understandings may no longer hold. Nevertheless, gaining such an understanding should, as available—subject to adaptation—better permit structures to be put in place in audit firms to mitigate the impact of these influences on the auditor's behavior. The broader system within which the audit firm itself swims, of course, is also part of the problem. Sociological inquiries may help develop an understanding of the interactions of firms and those parts of the society to which their fates and being are most closely wedded. Even so, even with an understanding of these interplays, the roots of a solution lie in the successful exercise of political skill.

Our goal in this study is to have it act as an impetus for innovative thought and further research by individuals, firms, and the accounting profession that might lead to new insight to help mitigate the occurrence of financial statement fraud. Future research might include stratifying the amount of client data being analyzed to investigate whether greater amounts of data impede the auditor's ability to draw correct conclusions from analysis, or whether systems, software, neural networks, artificial intelligence or other analytical techniques are providing the needed results to help auditors properly assess audit risk. Determining whether auditor inherent factors influence the actions, decisions and outcomes of an audit seems another fruitful avenue for future research.

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Table 1: Factors That May Prevent Auditors From Identifying Fraud

		Description	**Asare, Wright & Zimbelman (2015)** Elements included in Asare et al. (2015) Framework of Factors Affecting Auditors' Detection of Fraud. The factors identified by Asare et al. (2015) are listed below and exist within and around the audit process and may inhibit the auditors ability to identify fraud.	**Our Contribution** We add the elements in this column to the elements that Asare et al. (2015) already identified. We believe that Asare et al's elements plus ours provide a more complete picture of the issues that may inhibit the auditors ability to identify fraud.
The Audit Process	Understanding the Clients Business	Comprehending economic and non-economic influences that affect a clients success or failure.	Failure to understand the clients business may result in a failure to identify fraud or a heightened risk of fraud.	How the auditor conceptualizes what is going on in the client firm may cause false suppositions.
	Assessing Fraud Risk	Recognizing fraud cues and understanding fraud schemes well enough to detect them	Subtle fraud cues can be easily missed and since fraud is a rare event, auditors may not recognize risk indicators when present. Auditor bias, rationalization or attitude may affect fraud risk assessment.	Poor interfaces between systems and applications, humans and systems or computer to computer may result in unexpected or incorrect outcomes. An inability to pull data together or failure to interpret information correctly may cause failure to detect fraud.
	Designing and Executing Audit Tests	Designing effective tests to detect fraud	Auditors use the same procedures year after year, which allows the client to predict audit tests. Technology or computer assisted audit techniques might be helpful to detect fraud	Data or software limitations, inefficient or in appropriate use of algorithms or audit software, neural networks and other techniques incorrectly applied or a failure to apply other audit techniques.
	Consulting Experts	Knowing when to involve fraud specialists	Partners may not know when to involve fraud experts on an engagement. Cost, changes to the audit plan and "scope creep" are some reasons why an auditor might not call on an expert.	Failure to recognize the need for a forensic expert, misjudging the usefulness of the expert, or the proper nature, timing and extent of expert consultation. Experts may not be called due to auditor overconfidence or the auditor underestimating client complexity and likelihood of fraud.
	Resolving Audit Issues	Communication with audit team and audit partners, discussing audit issues with client	Lack of communication or poor communication within the audit team or between the client and the audit team might lead to unresolved issues and conflicts with the client.	Poor communication between the audit team members
Factors Affecting the Audit Process	Institutional Factors	Regulatory and legal environment, standard setting bodies	Standard setters may be reluctant to require new procedures to detect fraud, auditing standards are not focused on detecting fraud and the audit structure is not conducive to detecting fraud. Potential legal ramifications and liability influence an auditors effectiveness at detecting fraud.	Auditing Standards do not adequately focus on fraud, the complexity of US Financial Accounting Standards, management judgement as a criterion, and principles-based standards reporting alternatives.
	Knowledge, Training, Experience	Cumulative fraud knowledge, experience and formal or informal fraud training	Lack of knowledge about subtle fraud cues, insufficient fraud education and training	Lack of forensic training, auditing curricula not adequately focused on fraud detection.
	Auditor Incentives	Financial and retention pressures, conflicts of interest	Litigation costs, loss of clients, time and fee constraints are common incentives. Lack of auditor independence due to Moral Seduction and Strategic Issue Cycling theories.	
	Auditor Inherent Factors			Auditor ineptitude or uncertainty, auditor misperception of possibility of fraud with respect to focal client, failure to consider other perspectives and possibilities, skewed perception, loyalty to the client, the firm or to self, check-the-box mentality, dilution of authority, malfeasance, control issues, motivated blindness, bad judgement, tunnel vision, satisficing, the complexity of transactions.
	Morality issues & Ethics			Groupthink, Cognitive Moral Theory, ethical behavior influenced by internal psychological factors, firm culture or norms, auditor socialization in the firm, the auditors personal and professional ethical fortitude, attachment to the profession.