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The effect of alternative fraud model use on auditors' fraud risk judgments

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A B S T R A C T

This study evaluates how the use of alternative fraud model practice aids affects external auditors' fraud risk judgments. The extant fraud literature, including professional audit standards, focuses almost exclusively on the fraud triangle model (Cressey, 1973) and its components (i.e., pressure, opportunity, and rationalization) to explain the occurrence of fraud. However, the fraud triangle has not been tested empirically relative to other proposed fraud models designed to address the triangle's limitations. For example, Wolfe and Hermanson (2004) proposed a fraud diamond model that adds individual "capability" to the fraud triangle as a fourth component reflecting the personal skills and attributes needed to recognize and act on fraud opportunities in an organization. A sample of 89 auditors in public accounting participated in a 2 × 2 experiment with fraud model practice aid type (fraud triangle or fraud diamond) and CEO risk level (low or high) manipulated randomly between subjects in a fraud risk assessment task. The results indicate a significant fraud model type effect, with auditors evaluating fraud risk factors based on a fraud diamond practice aid providing significantly higher (more conservative) fraud risk assessments than auditors evaluating fraud risk factors based on a fraud triangle practice aid. Subsequent factor analysis provides initial support for a revised fraud triangle that includes pressure,

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opportunity, and a broader capability dimension (that includes rationalization/attitude) as the three formative components.

1. Introduction

Stakeholders rely greatly on auditors to serve in a "public watchdog" role (U.S. vs. Arthur Young, 1984) and help to manage fraud risk and protect the investing public (McEnroe and Martens, 2001; Abdel-Khalik, 2002; Ping, 2007; Arel et al., 2012). Fraud risk assessment is a critical part of the audit process and one of the toughest challenges facing auditors (Carpenter, 2007; Carcello and Hermanson, 2008; Hogan et al., 2008; Beasley et al., 2010; Hammersley et al., 2011; Johnson et al., 2013; Trompeter et al., 2013). The extant fraud literature in accounting focuses heavily on the fraud triangle (Cressey, 1973) as a theoretical framework for understanding why fraud occurs and evaluating fraud risk factors that impact financial reporting. The fraud triangle posits that the occurrence of fraud depends on the existence of pressure to commit fraud, an opportunity to commit fraud, and the ability to rationalize the wrongdoing. Current auditing standards (e.g., Statement on Auditing Standard (SAS) No. 99 (AICPA, 2002) and International Standard on Auditing (ISA) 240 (IFAC, 2010)) use the fraud triangle as a basis for prescribing "reasonable assurance" detection responsibility and identifying fraud risk factors for auditors assessing fraud risk in financial statement audits.

Beyond authoritative standards, the fraud triangle also dominates fraud-related training and guidance provided by professional associations (e.g., IIA et al., 2008; AICPA, 2009; CAQ, 2010), public accounting firms (e.g., PwC, 2009; Deloitte, 2010), and textbooks (e.g., Albrecht et al., 2012). Finally, although the empirical fraud literature reflects strong interest in understanding and improving auditors' fraud-related judgments (e.g., Asare and Wright, 2004; Wilks and Zimbelman, 2004; Carpenter, 2007; Hogan et al., 2008; Kochetova-Kozloski et al., 2011; Johnson et al., 2013; Trompeter et al., 2013), it reflects an almost exclusive focus on the fraud triangle as a basis for evaluating auditor fraud detection performance.

Despite the fraud triangle's dominant position in the literature, questions exist about whether the original framework can be improved for use by auditors and others involved in fraud risk management. The fraud literature includes a number of alternative theoretical models proposed to provide a more comprehensive analysis of the fraud problem (e.g., Albrecht et al., 1984; Wolfe and Hermanson, 2004; Crowe Horwath, 2010, 2012; Dorminey et al., 2010, 2011, 2012; Kassem and Higson, 2012). Dorminey et al. (2011, 19–20) reviewed extant proposed fraud models and concluded that "professionals and academics have offered important insights that have gone beyond the fraud triangle". For example, Wolfe and Hermanson (2004) introduced the "fraud diamond" to extend Cressey's fraud triangle to include a capability component that prompts consideration of individual capabilities to act on fraud opportunities and commit fraud. This capability dimension includes such elements as expertise needed to exploit fraud opportunities, ability to coerce others to commit or conceal fraud, and ability to lie effectively. Thus, while opportunity reflects weakness in an *organization's* governance and controls (characteristics of the fraud *target*), capability reflects the *personal* traits needed to identify and exploit the opportunity (characteristics of the fraud *source*).

Although proposed alternatives to the fraud triangle have the potential to improve understanding of the fraud problem, the literature lacks comparative testing among competing models. This study provides an initial empirical test of the effects of alternative fraud model practice aids on auditors' fraud risk judgments. We are motivated by suggestion that the traditional fraud triangle model is incomplete in its specification and that this possible misspecification could affect auditors' evaluation of critical fraud risk factors and subsequent fraud-related audit judgments. For example, Hammersley et al. (2011) highlight continuing concern about auditors' abilities to identify relevant fraud risks during engagements in the triangle-based SAS No. 99 (AICPA, 2002) environment.