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The effect of auditor IT expertise on internal controls☆,☆☆

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ABSTRACT

Material weaknesses in internal controls related to information technology (IT) represent unique threats to organizations. Utilizing the external auditor as an example of an externally observable governance mechanism, we investigate if firms with revealed IT internal control deficiencies employ a strategy of disassociation with their current auditor. Our tests show that prior evidence of disassociation strategies hold in both IT and non-IT contexts. Of particular focus to our study, we document a positive association between firms that report IT material weaknesses and subsequent auditor dismissals or switching. We next investigate the potential internal control benefits of switching to auditors with greater expertise in environments that emphasize the importance of IT. We argue that greater audit firm IT expertise promotes improved internal controls for their clients, especially those controls that are dependent on IT. We find that clients that switch to auditors with greater IT expertise, relative to their former auditor, have a greater likelihood of material weakness remediation within one year of reporting control weaknesses. Complementing these findings, we find that audit IT expertise is negatively associated with both non-IT and IT material weaknesses in an ex ante reporting setting. Prior literature takes a longstanding interest in both the incentive for developing auditor expertise and the effects of that expertise. We contribute to this literature stream by providing additional evidence related to a specific type of expertise.

1. Introduction

Companies invest in information technology (IT) to improve their operational performance (Kobelsky et al., 2008a, 2008b) and the quality of their financial reporting (e.g. Dehning and Richardson, 2002; Dehning et al., 2003; Lim et al., 2011). Moreover, regulatory and academic literature suggests that IT serves as the foundation of an effective system of internal controls (COSO, 2009; Masli et al., 2010; Li et al., 2012). When there is a breakdown in IT-related controls, the resulting weaknesses in the firm's financial reporting environment can be acutely detrimental to the company (Klamm and Watson, 2009; Haislip et al., 2015; Li et al., 2012). As a result, when firms experience IT control deficiencies, these same firms often experience a need to engage governance mechanisms that will either signal and/or bolster the strength of such controls. We examine whether clients are more likely to switch auditors after experiencing reported IT material internal control weaknesses (ITMW). We next examine if switching to auditors with more IT expertise is associated with subsequently stronger internal controls.

☆ Data availability: The data used are publicly available from the sources cited in the text.

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Prior literature takes a longstanding interest in the incentives for and effects of auditor expertise with respect to a firm's financial reporting environment (e.g. Mayhew and Wilkins, 2003; Dunn and Mayhew, 2004; Solomon et al., 1999; Balsam et al., 2003; among others). We add to a growing auditor expertise literature that addresses specific attributes of financial reporting systems, namely IT.[1] As suggested by Ettredge et al. (2011), we argue that auditors with certain expertise can act as signals of improved financial systems. We provide an extension to Ettredge et al. (2011) by exploring the extent that a switch to auditors with greater levels of IT expertise provides benefits to the client's IT environment.

The importance and ubiquitous nature of IT within financial statement audits provides auditors with incentives to develop expertise for addressing IT. Practitioners often name IT as an area in which more training and attention is needed (Protiviti, 2006; KPMG, 2011). The American Institute of Certified Public Accountants (AICPA) includes gaining an understanding of IT in its standards for planning, evaluating risk, and performing audit procedures (AICPA, SAS 108-110, 2006a, 2006b, and 2006c). The PCAOB also recommends that auditors should "have an understanding of how the organization is dependent on or enabled by information technologies; and the manner in which information systems are used to record and maintain financial information" (PCAOB, QC Section 40, 2003). Despite the importance of IT knowledge, such knowledge is not costless. Therefore, not all auditors develop or employ equal levels of IT expertise. For example, recent research also shows that ITMW can be attributed to IT problems auditors could have detected ahead of time or a lack of IT understanding by general auditors (Canada et al., 2009; Bedard and Graham, 2011).

We examine whether switching to auditors with greater IT expertise, gained through experience with environments that emphasize the importance of IT, fosters stronger financial reporting environments by bolstering the firm's internal controls over financial reporting, particularly as it relates to IT controls. We argue IT expertise advances identification of internal control deficiencies, especially those related to IT, and the remediation of material internal control weaknesses. We develop a measure of IT expertise based on the IT expenditures of the auditor's clients.[2] We argue that audit firms develop IT audit expertise through prior experience with client environments that are particularly prone to emphasizing the importance of IT. Similar to an auditor's development of industry or tax expertise, IT expertise would shape the auditor's focus on IT-related issues or audit concerns, as well as the need to protect their potential reputation for serving clients in IT intensive environments. As a result, prior IT experience likely manifests itself in the audit firm's overall audit methodologies and investments in training. Since audit firms tend to use training "with standardized curricula" for all of their employees, it is likely that audit firms with a greater percentage of clients with IT heavy environments will allocate more training time to IT within their curriculum (Cooper, 2009). Over time, firms are seeing the need to increase significant investments to redesign audit methodologies and training to accommodate emerging technology (IFIAR, 2015). Moreover, the focus on IT investments can also spill over into other areas of audit and client support.[3] Investments in technology knowledge within the firm can also produce compounded opportunities to emphasize client-service opportunities (Lingor, 2015).

We first extend Ettredge et al. (2011) by documenting that firms follow dissociation strategies by dismissing their external auditor following both IT and non-ITMW. We next examine if the certain auditors are better at actually correcting both ITMW and non-ITMW. We apply our proxies for IT auditor experience to subsamples of firms who switch auditors in the wake of reporting material control weaknesses. We find that companies that switch to auditors with more IT expertise are more likely to remediate ITMW within one year. Consistent with the switching benefits, we find that auditor IT expertise is negatively associated with the occurrence of both IT and non-ITMW overall, in an ex ante setting. The specific impact associated with a switch to an auditor with greater IT expertise suggests that it is not just the switch decision or pre-existing client condition that is important, rather the specific switch to an auditor with more IT expertise appears to deliver the incremental benefits to the audit client.[4] Our results suggest that auditors with IT expertise are able to benefit their clients through the improvement of internal controls. It is important to note that such benefits are not dependent upon whether the client has attributed IT expertise to the auditor.

Our study contributes to the accounting literature that investigates the benefits of engaging auditors with distinct capabilities and knowledge. Specifically, prior research suggests that engaging auditors with client-industry expertise is positively associated with financial reporting quality (e.g. Reichelt and Wang, 2010; Hammersley, 2006; Ettredge et al., 2011). While the experimental literature examines the importance of IT and how it can affect auditor decisions (Messier, 1995; O'Donnell and David, 2000; O'Donnell and Schultz, 2003; Brazel et al., 2004; Bible et al., 2005; Bedard et al., 2007; Dowling and Leech, 2007; Dowling and Leech, 2009), less is known about the engagement of auditors with alternative forms of expertise, such as IT expertise, outside of experimental settings. We contribute to these lines of literature by showing that auditors with more IT expertise are better able to assess the quality of internal controls, as evidenced by the remediation of ITMW. This suggests that IT knowledge is an area where auditors can gain competitive expertise that benefits clients in ways that are consistent with the management of strategically important IT resources.

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1 A recent example of investigation into alternatives forms of auditor expertise includes McGuire et al. (2012) who investigate the impact of engaging audit firms with distinct tax expertise.

2 A thorough discussion on sample selection appears in the Research design section.

3 For example in response to the announcement of the 2015 expansion of KPMG's technology personnel in St. Louis Missouri, Harry Moseley, KPMG's chief information officer, noted "our technology organization provides innovative solutions that are critical to our firm's ability to deliver high-quality services to our clients and our professionals."

4 In untabulated results we find no relation between IT material weaknesses and the choice of the new auditor. This suggests that although companies that report material weaknesses are more likely to switch auditors, as suggested by Ettredge et al. (2011), these companies do not recognize auditor IT expertise. However, our results suggest that these companies do benefit from switching to auditors with IT expertise.