

# E-Collaboration and the Financial Auditor

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## INTRODUCTION

Accounting firms are constantly seeking ways to improve the financial audit function within their practice. The audit industry, like many other service industries, is highly competitive and requires firms to complete the audit for their clients as efficiently as possible. In many instances, accounting firms cannot raise the price of their service and can therefore maximize profits only by reducing the cost of the audit. As such, firms are constantly searching for ways to improve the efficiency of the financial audit. Two customary means by which efficiency improvements for an accounting firm can manifest themselves are a decrease in the number of employees or a decrease in the time to complete the audit. While an accounting firm can only decrease its staff by so much, many of the efficiency improvements of the financial audit are produced by the adoption of new technology to facilitate better and faster collaboration by the employees within the firm.

The financial audit function has changed significantly over the past 100 years. While the theory and purpose of the audit has changed slightly, the methods and applications have modified with the use of technology over time. Thirty years ago, the most common tools used in audit were a red pencil and a blue pencil. With these tools, the auditor would cross-check and list all transactions to the financial statements. Today, the common tools for the auditor are his laptop and audit software. What used to take many hours for the audit team to complete can now be done in a fraction of the time and staff. This is an example of how the accounting firms have adopted technology to improve the efficiency and effectiveness of the audit. However, one form of technology audit firms have not been quick to adopt is e-collaborative technology.

E-collaboration is defined as “collaboration among individuals engaged in a common task using electronic technologies” (Kock & Nosek, 2005, p. 1). E-collaboration is commonly associated with and perceived as computer mediated communication (CMC); though strictly speaking, e-collaboration can be non-CMC,

such as the telephone or other electronic communication device. However, the most common forms of e-collaboration used in accounting firms are net meeting, virtual workplaces, and Internet communication such as e-mail and instant messaging.

The purpose of this article is to address how accounting firms can adopt e-collaboration within their organizations. Examples of current e-collaboration adoption by accounting firms are examined. This article will also suggest how e-collaboration could benefit the audit function by making it more efficient and effective. A discussion of how e-collaboration research can be applied to audit research is explored as well as how audit research can help e-collaboration research.

## BACKGROUND

### E-Collaboration Research

Prior research has shown that the adoption of new technologies can have a positive effect on the financial performance of the firm. A common area of benefits within the firm is in supply chain management (SCM). For example, firms are relying more on the flow of information between the organization and the supplier to maximize efficiency and to maintain market competency. If the information does not flow smoothly between the channels, then the results can have a dramatic effect on the performance of the firm (Cassivi, Lefebvre, Lefebvre, & Leger, 2004). Studies have shown that firms that adopt e-collaborative technologies may sometimes have a negative effect on the performance of their business because the adoption was done incorrectly or was not used in the areas best suited (Marquez, Bianchi, & Gupta, 2004). Firms must understand that with any technology, there are not only benefits that arise from adoption of new technologies, but also barriers and limitations of adoption.

Many of the barriers and limitations of collaborative technology can be explained via media richness theory. This theory suggests that the use of collabora-

tive technology will decrease the quality of the work as performed by the firm because individuals prefer face-to-face communication the most (Daft & Lengel, 1986). However, compensatory adaptation theory (Kock, 2005) proposes that in the long run, collaborative technology can be more beneficial than traditional forms of communication. This theory argues individuals prefer face-to-face because our biological development has been formed for this method of communication. Over time, through the use of collaborative technology, individuals overcompensate for barriers and obstacles to the use of collaborative technologies, therefore achieving a superior outcome compared to face-to-face.

### **Financial Audit Research**

The traditional financial audit is the examination (usually by an individual certified public accountant [CPA] or an accounting firm comprised of CPAs) of the financial statements of a firm to provide an opinion as to whether the financial statements fairly portray an accurate picture of the firm's financial position. All publicly traded firms in the United States are required to have their financial statements audited by CPAs. Further, government agencies and financial institutions require audits for regulation and credit purposes.

Auditing research is a broad spectrum and can be broken into two areas: the individual audit and the accounting firm. While this subject is a wide open topic, there are many opportunities for research. For example, there is research examining how the number of staff in the accounting firm affects the quality of the audit (Glover, 1997; Margheim, Kelley, & Pattison, 2005). Another example of audit research is the impact of accounting firm tenure and audit quality (Carcello & Nagy, 2004). Firm tenure and audit quality have gained an increased level of attention with the Sarbanes-Oxley Act of 2002 (SOX). Some examples include increase focus of the company's internal controls, further documentation required by the auditor, and greater attention on the quality of the auditor and the accounting firm. Yet, with the increase of acceptance of technology by accounting firms, audit research has begun to focus on the success of technology implementation into the audit (Fischer, 1996).

Studies have examined how communication within the firm is affected by technology. For example, Murthy and Kerr (2004) compared the audit team effectiveness of those who use e-collaborative technologies (specifically,

bulletin boards and online chat) versus the traditional face-to-face collaboration. The results of their work demonstrate that auditors who use technologies for solving team task tend to be more efficient and effective than those performing the same tasks with traditional face-to-face meetings. Specifically, they find that the bulletin board method was the most effective, followed by the online chat and face-to-face communication, respectively.

### **Adoption of Collaborative Technologies by Accounting Firms**

Two of the most important factors for an accounting firm to consider when adopting a new technology are efficiency and effectiveness. Efficiency can be thought of simply as outputs divided by inputs. Though the outputs and inputs are often different for each accounting firm and specific situation, often the output for the accounting firm is the audit work and the inputs are anything associated with producing the audit work. The effectiveness for an accounting firm can be thought of as the quality of the audit work performed. The dilemma accounting firms are having is trying to maximize efficiency while at the same time at least maintaining their current level of effectiveness. These are issues accounting firms find themselves discussing whenever they are considering adopting any new technology.

The most common forms of e-collaboration used in accounting firms are real-time communication (e-review), and collaborative content management (electronic workpapers). E-review allows auditors to communicate with colleagues the review notes concerning issues of the audit and to review several audit engagements concurrently while reducing costs. This method tends to decrease the time spent in face-to-face collaboration, while increasing the speed of decision making process. In addition, auditors who use e-review are more likely to meet their time budget for the audit (Brazel, Agoglia, & Hattfield, 2005).

A common method of documenting the audit, by auditors, is via workpapers. Traditionally, the workpapers have been done on paper, and stored in filing cabinets at the accounting firm's headquarters or offsite locations. Because of the sheer volume of these workpapers, the costs associated with the maintaining and storing can be enormous (since the accounting firms are required to maintain their workpapers for a period of 5 years). To decrease this cost, many large accounting firms

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