

**AUDITORS' EVALUATION OF EVIDENCE: THE EFFECT OF  
COMMUNICATION CHANNEL AND MANAGEMENT  
INFORMATION**

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By

Melissa Carlisle

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COMMUNICATION CHANNEL AND MANAGEMENT  
INFORMATION**

Approved by:

Dr. Bryan K. Church, Advisor  
Scheller College of Business  
*Georgia Institute of Technology*

Dr. Jeffrey Hales  
Scheller College of Business  
*Georgia Institute of Technology*

Dr. Shankar Venkataraman  
Scheller College of Business  
*Georgia Institute of Technology*

Dr. Adam Vitalis  
Scheller College of Business  
*Georgia Institute of Technology*

Dr. Tina Carpenter  
J.M. Tull School of Accounting  
*University of Georgia*

Date Approved: June 8, 2015

## **DEDICATION**

This work is dedicated to my husband, Michael, for his constant support and encouragement. For the great sacrifices he has made so that I could pursue my dream of obtaining a PhD, along with the torturous proofreading he has had to bear that I have greatly benefitted from. For this, along with the many other ways in which you have supported me and our family, I am forever grateful. I would also like to dedicate this to my daughter, Corinne. I hope that my example can encourage her to never give up when things get tough, persistence will always get you through. A special thank you to my father as well as my brothers and sisters for always providing a loving and supportive environment. Dad, you were my first example of true perseverance. And to my mother, I do everything in honor of her memory.

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## SUMMARY

This study investigates the effect of communication channel (e.g., face-to-face, written) and management information (i.e., background information on the reliability of client personnel) on auditors' judgments of evidence persuasiveness in a management inquiry setting. Management information directs auditors to focus on the source of the evidence, creating a goal of assessing management during evidence collection. Auditors are distracted away from the evidence when the communication channel presents management characteristic cues (i.e., face-to-face), unrelated to the message and related to their new unconscious goal of assessing management. By comparison, when evidence is communicated by a channel that does not provide additional management characteristic cues (i.e. written), auditors are better able to evaluate the evidence without distraction. I predict an interaction effect, where communication channel effects auditor judgments when management information is provided, but not otherwise.

I design a 2x2 between-participants experiment to test my theory and present results of an experiment with 122 practicing senior auditors. Auditor participants receive an explanation from a client's assistant controller to explain an unexpected fluctuation in a financial ratio. I manipulate the means by which the assistant controller communicates with the auditor (communication channel) and the presence of background information about the assistant controller (management information). Results of my experiment indicate an interaction effect of the communication channel and management information. When management information is provided, auditors assess the evidence as more persuasive when communication is face-to-face versus text. Auditors not receiving

management information do not assess the evidence any differently, irrespective of communication channel. I also find evidence that auditors assess management differently when management information is provided. The results suggest that auditors are focused more on evaluating management when communicating through face-to-face versus written channels. Further, these assessments of management are consistent with the pattern of persuasiveness, indicating that they use this information more in their judgments when communicating face-to-face versus text and only when management information is provided. The results of this research suggest auditors may be assessing evidence as more persuasive than merited when management information is present and auditors are communicating with management face-to-face. Auditors as well as regulators should be aware of this effect so that adjustments can be made. Future researchers should consider these results in future research on management inquiry.

# CHAPTER 1

## INTRODUCTION

This study reports the results of an experiment designed to investigate the effect of communication channel and management information (i.e., background information on the reliability of client personnel) on auditors' evaluation of evidence during management inquiry. Auditors collect evidence by communicating directly with client management throughout the audit to clear up uncertainty and ambiguity (PCAOB 2010b). Although auditor-management interactions occur routinely, the nature of such interactions can vary widely based on the setting. For example, in some situations auditors communicate with management through written means (via email) and in others, the communication occurs face-to-face. The nature of communication, or the channel chosen, is often a matter of convenience. Yet, recent evidence suggests that certain situations cause auditors to prefer one communication channel as opposed to others (Bennett & Hatfield 2012). Importantly, social psychology research suggests that communication channel affects individuals' processing of information in social interactions. As such, when collecting evidence through management inquiry, auditors' processing of evidence may differ depending on the communication channel.

Features of the audit environment potentially affect how communication channel impacts information processing. Professional guidance requires auditors to evaluate client personnel as a source of evidence (PCAOB 2010a). Further, auditors are expected to maintain an attitude of professional skepticism, particularly when evaluating the

reliability of the source of evidence (i.e., management information)<sup>1</sup> (Messier, Glover, & Prawitt 2006, p. 97). Indeed some firms are beginning to introduce formalized procedures for evaluating management's competence (i.e., education and experience). Although the content of this information arguably influences auditors, social psychology research indicates that providing management information, regardless of its content, can change the way that auditors process information (Higgins & Bargh 1987). Such information can lead auditors to focus more on the source of the evidence rather than its diagnosticity. As elaborated subsequently, this focus on management information likely interacts with the communication channel in determining auditors' judgments. The interaction leads to larger differences in persuasiveness judgments between channels of communication when management information is provided to auditors as opposed to when the information is not provided.

Dual process theories in social psychology shed light on the expected interaction and identify two routes individuals can take when making judgments, central and peripheral<sup>2</sup> (Chaiken 1980; Petty & Cacioppo 1986). Although both routes influence the resulting judgment, many factors affect the likelihood that an individual takes the central or the peripheral route. In general, higher motivation and ability to process information leads to central route processing (Petty & Cacioppo 1986). Motivation to process information stems from the consequences of an individual's judgment, such as accountability. The ability to process the information relates to environmental/task

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<sup>1</sup> In a management inquiry setting, the source of the evidence is management personnel. The information provided pertains to the reliability of that source, independent of any management information acquired during the inquiry.

<sup>2</sup> These two routes have many variations on the terms used to articulate the two routes. Their meanings are similar across the literature (e.g. system 1, system 2; deliberative, intuitive; systematic, heuristic; central, peripheral). I focus on central and peripheral model in the current paper due to its direct application to persuasive communications.

specific factors such as time pressure and experience (Bonner 1999). Communication channel affects an individual's *ability* to process information using the central route based on the inclusion of additional cues, which crowd out the content of the message (Booth-Butterfield & Gutowski 1993). This crowding out increases the likelihood an individual will process the message peripherally. Peripheral route processing can lead to a multitude of short cuts in processing, one of which is heuristics.

Heuristics can be triggered due to the nature of the task or environment, or they can be activated as a result of prior recent experience (Kahneman & Frederick 2002). Management information focuses auditors' attention on management personnel, increasing their attention to assessing management's characteristics (Clark, Wegener, Sawicki, Petty, & Briñol 2013; Wilson & Sherrell 1993). In the presence of this information, individuals focus their attention on the personal attributes of the source (Higgins & Bargh 1987; Mae, Carlston, & Skowronski 1999), with a goal of forming an impression of the person (Higgins, Rholes, & Jones 1977). When auditors evaluate the source of evidence, they are more likely to use the characteristics of management as a heuristic as opposed to the message in making their judgment (eg. Higgins & Brendl 1995).

When management information is provided, a heuristic of the source is triggered. Auditors using face-to-face communication will base their assessments of evidence on management as evaluated during the message delivery because of the salient management characteristic cues. This allows auditors to easily evaluate evidence using their assessments of management as a heuristic of the persuasiveness of evidence (Booth-Butterfield & Gutowski 1993). On the other hand, because a written channel does not

present salient management characteristics, the evidence can be evaluated on the merits of the message (Petty & Wegener 1998b). This focus on assessing management drives auditors' judgments of evidence persuasiveness to differ between face-to-face and written communication. Their judgments of evidence persuasiveness will differ consistently with their assessments of management. If management information is not provided, heuristics of the person are not triggered and, thus, no difference between face-to-face and written communication is expected.

I design a 2x2 between-participants experiment that manipulates communication channel (video/written) and the presence of management information (information provided/information not provided). I use 122 practicing senior auditors as participants. They perform an analytical procedures task as part of an audit engagement, similar to Anderson et al. (1994). Communication channel is manipulated through a difference in the method of delivery, holding the content of the explanation constant. The presence of management information is manipulated consistent with prior studies and is independent of any management information received from the communication channel (Bhattacharjee, Moreno, & Riley 2012; Hirst 1994). To measure auditors' judgments of the persuasiveness of evidence, I use their assessed likelihood of material misstatement before and after receiving an explanation from the client. Those who decrease their assessed likelihood of material misstatement more after the explanation are deemed to find the evidence more persuasive.

An experiment is ideal for investigating this issue because the constructs of interest in the present study are difficult to control in practice. For example, management information is always present in an audit environment as auditors typically know about

the person they are communicating with ahead of time. Additionally, various channels of communication are used throughout the audit, making it difficult to investigate the impact of a specific channel on audit conclusions. An experiment allows me to carefully manipulate these variables, while controlling for other factors to ensure the effects found are based on the variables of interest. It allows me to pinpoint an aspect of the audit environment, management information, which interacts with the communication channel.

I find results consistent with my theoretical prediction. When management information is provided, the persuasiveness of evidence is affected by communication channel. Specifically, evidence is deemed more persuasive when communicated using visual and audio cues. This difference does not arise when management information is not provided. In addition, in the presence of management information, auditors evaluate management more favorably when communication occurs face-to-face. This pattern is consistent with a stronger effect of management characteristics on auditors' assessments of evidence persuasiveness when communicating face-to-face and when management information is provided to the participants.

Because management inquiry happens routinely during an audit in formal and informal ways, its impact on the quality of evidence collected and the resulting audit opinion cannot be overstated. Judgments made in the evaluation of evidence collected during management inquiry determine the nature and extent of additional testing, impacting the quality and quantity of audit evidence. An audit opinion is supported by the evidence collected throughout field work, whereby higher quality evidence leads to a higher quality audit. The importance of audit evidence is confirmed by the focus that the PCAOB places on documentation in their inspections. A large number of the deficiencies

identified during their inspection process focuses on sufficient appropriate evidence and its documentation (Church & Shefchik 2012; Hermanson, Houston, & Rice 2007).

Understanding the impact of communicating with the client through written versus face-to-face channels on judgments of evidence persuasiveness can inform practitioners, researchers, and regulators.

This study has strong practical implications. Public accounting firms should be aware of the influence of communication channel and management information on auditors' judgments. These differences in judgments may partially explain observations by regulators of auditors' lack of documentation or professional skepticism in practice. In current practice, auditors are more likely to have management information, indicating that auditors may perceive evidence as more persuasive based only on the communication channel. When communicating face-to-face, auditors may fail to sufficiently follow up with client personnel to collect additional evidence. Failure to follow up can lead to inadequate documentation due to a lack of sufficient evidence and the appearance of an absence of professional skepticism. Further, academics should be interested in these results due to the impact on research design. Due to the interactive effect of communication with management information, investigating auditor judgments in a written only environment, without interaction with the client, may lead to incomplete conclusions.

The balance of this paper is organized as follows. First, I provide background on relevant research and provide theory to set forth hypotheses. Second, I describe the experimental design. I then provide a summary of the experimental results and analyses. Lastly, I conclude with implications from this study and directions for future research.

## **CHAPTER 2**

### **BACKGROUND AND RELATED LITERATURE**

In this chapter I provide background into the setting for the current study. First, I provide context into what management inquiry is and why I believe it to be an important evidence collection mechanism to examine. Next, I discuss management inquiry studies which explore the impact of management information on auditor judgments. In addition, I discuss how communication channels may impact auditor judgments based on prior studies both within and outside of accounting. Lastly, I describe dual process theories and their relationship to management inquiry and the current study. Throughout this section, I provide insight into how this study can contribute to the current audit literature.

#### **2.1 Management Inquiry**

Auditors collect evidence in a variety of ways. They may collect evidence through inspection, observation, confirmation, recalculation, reperformance, analytical procedures, and inquiry (PCAOB 2010b). Management inquiry is a unique form of evidence collection in that it is used along with other methods. Indeed, whenever an auditor receives inconsistent or ambiguous evidence, their first course of action is to inquire of management. Though evidence received through management inquiry cannot stand on its own, the persuasiveness of the evidence determines the extent of additional testing the auditor will perform. The nature and extent of further testing, which constitutes the evidence behind the audit opinion, depends on auditors interpreting evidence appropriately, particularly that collected through management inquiry.

Consequently, management inquiry has a pervasive effect on audit conclusions and overall audit quality.

With the pervasive impact management inquiry has on audit quality, research in this area is lacking. Of the few studies that have researched this setting, most are limited in the constructs they investigate. Studies investigating management inquiry are typically depicted with a *written* response from management (e.g., Anderson & Koonce 1995), even though management inquiry can occur through various channels. Further, although these studies provide insight into the impact of the *content* of management information on auditor judgments, there remains two gaps in the literature. First, the majority of these studies were completed prior to recent significant changes in the audit regulatory environment (i.e., the institution and increased power of the PCAOB), which has changed the way that auditors approach evidence evaluation. Second, because they primarily investigate a written management inquiry setting, they cannot generalize to all channels of communication.

Although the earlier studies find auditors are influenced by the content of management information, research suggests that recent regulatory changes have altered the way auditors approach evidence. Auditors assess audit evidence differently due the higher level of scrutiny from the PCAOB, applying more of a presumptive doubt perspective (Quadackers, Groot, & Wright 2014). This perspective leads auditors to be more skeptical of unsupported evidence, such as evidence from management inquiry. These studies also fail to recognize how channels of communication may interact with the presence of management information. Social psychology literature suggests that management information can prompt different processing depending on the channel of

communication. Based on this social psychology research I expect that management inquiry evidence, and specifically information on the reliability of management (i.e., management information), would influence auditor judgements depending on whether management information is provided and the channel of communication used.

## **2.2 Management Information**

Audit standards require auditors to consider the reliability of the source of evidence they collect (PCAOB 2010a). Management inquiry is no exception. In fact formal documentation of the reliability of client personnel (i.e., management information) occurs in practice. Reliability is comprised of assessments of an individual's level of objectivity or competence. An individual high in objectivity and competence would be considered a highly reliable source. While an individual low in objectivity and low in competence would be considered a source low in reliability. Management is assumed to be low in objectivity as they are providing evidence in support of their own work during management inquiry. Therefore, when evaluating the reliability of management, the information auditors should be most concerned about relates to the competence of management. I term this information on the competence of management, including background on their training and experience, management information.

Regulators who require auditors to consider management information presume that the *content* of such information is influencing auditors' judgements. However, research on the impact of the content of management information on auditor judgments is mixed. Early research suggests that information about the source of evidence only matters when the source is high in objectivity. Bamber (1983) finds the competence of the source impacts audit managers' judgments of evidence persuasiveness when the

source is a senior auditor on the audit team. Hirst (1994), on the other hand, compares sources low and high in objectivity using evidence from another auditor and the CFO. His results suggest that the competence of the source impacts auditors' judgments of evidence persuasiveness *only* when the source is another auditor on the audit team. These results imply that management information, which is about a source low in objectivity, would have little influence on auditor's judgments. Alternatively, other audit research suggests management information impacts the persuasiveness of evidence when the source is low in objectivity. Anderson, Koonce, and Marchant (1994) find the competence of the source impacts auditors' assessment of the likelihood management's explanation accounted for all of the unusual fluctuation. They deem the explanation more likely to account for the fluctuation when management is high in competence. Along with these mixed results in the accounting literature, psychology literature documents mixed conclusions on the impact of the *content* of management information on persuasion (e.g. McGinnies & Ward 1980; Wilson & Sherrell 1993).

Although these prior studies find mixed results, there has been a shift in the regulatory environment, which has influenced auditors' approach to evaluating evidence. Auditors have gone from being primarily self-regulated to being regulated by an independent third party, the PCAOB. With the institution of the PCAOB, inspections have been made a regular part of the oversight process. These inspections call out audit firms for failure to properly document their procedures and exercise professional skepticism (Church & Shefchik 2012; Hermanson et al. 2007). There is evidence that the current regulatory environment has made auditors more skeptical in approaching evidence evaluation. Indeed, results of a recent study suggest that auditors in current

practice are approaching the audit with presumptive doubt professional skepticism. Presumptive doubt skepticism essentially means that auditors distrust management due to their inherent bias or lack of objectivity (Quadackers et al. 2014).

Along with the change in auditors' approach to evaluating evidence, auditing standards require that evidence acquired through management inquiry must be corroborated with additional documentation to support management assertions (PCAOB 2010c). Therefore, management's response alone should not be enough to influence an auditor's judgment, regardless of the content of management information. Because of the increased oversight from the PCAOB, auditors are even more likely today to ensure appropriate evidence has been documented. Taken together, the regulatory changes have led auditors to be less likely to accept management inquiry evidence due to the management's lack of objectivity and, hence, less influenced by the *content* of management information.

The current study differs from the prior research in that it investigates the presence and absence of management information rather than its content. Because recent research indicates that the content of management information should not influence auditor's judgments, I include both positive and negative management information, to ensure this expectation is correct. However, because audit standards require this information, the current study investigates the influence that just the presence of this information has on auditors' processing of the information.

### **2.3 Communication Channels in Accounting Decision Making**

Few studies have investigated communication channel and its impact on judgments in auditing. This is surprising as the channel through which communication

can occur varies widely. Although there is limited research on the impact of communication channel in a management inquiry setting, there is evidence in other accounting contexts which indicate that the communication channel affects individuals' judgments.

The overarching theme of these studies in accounting is that the channel of communication does matter. Therefore, ignoring the channel of communication may result in incomplete conclusions. Management, investors, and auditors all have been found to change their judgments depending on the communication channel. In a negotiation setting, management is likely to offer more biased evidence when auditors communicate through email as opposed to visual and audio channels. This occurs because management feels less accountable and cooperative when communicating through a written channel versus face-to-face (Saiewitz & Kida 2014). Further, non-professional investors' trust in management, and their subsequent investment decisions, vary depending on the channel through which management communicates (Elliott, Hodge, & Sedor 2012). Auditors are also affected by the channel of communication. Staff auditors have been shown to request more evidence when email communication is available to them (Bennett & Hatfield 2012). This avoidance of communicating face-to-face is due to staff auditors feeling uncomfortable when having to communicate with more experienced, older client management. These studies show that individuals in accounting contexts, including auditors, are sensitive to the communication channel. However, current accounting literature has yet to investigate the influence of communication channel used in management inquiry on auditor judgments of evidence persuasiveness.

This lack of research on the impact of communication channel on auditor's judgments is especially troubling as auditors believe that communicating face-to-face with the client gives them additional insight when dealing with possible deception as compared to written means. Research suggests that audio cues are an important component that auditors use to evaluate the credibility of management (Comunale, Sexton, & Sincich 2005). In addition, survey responses from seniors through partner auditors specify:

...the manner in which the client responds is an important cue when judging the validity of the response. If client personnel do not have an immediate and convincing explanation (e.g., they hesitate or hedge in their response), auditors indicate they are more skeptical about the client's response than if the client's explanation comes quickly and convincingly (Hirst & Koonce 1996, pp. 472-473).

Further, most auditors rely on cues they receive from communication with the client as it relates to the risk of misstatement:

And often times you can find out...by sitting down, looking them in the eye and asking them a question. If you get a blank stare that probably tells you you've got a control problem because they are not even aware of it (Trompeter & Wright 2010, p. 691).

These responses indicate how important audio and visual cues are to auditors as they assess the validity of evidence. Notwithstanding, research indicates that auditors are likely unable to identify deception at a rate statistically greater than chance, even when trained to detect such deception (Lee & Welker 2007). Indeed, Ekman and O'Sullivan

(1991) find results that indicate only professionals in the secret service are able to predict deceit better than chance. Further, evidence suggests that auditors put too much focus on client characteristics and fail to consider the content of the inquiry leading to inaccurate risk assessments (Wilks & Zimbelman 2004). My study is designed to systematically investigate whether auditors' judgments of evidence persuasiveness differ depending on the channel of communication. Furthermore, as discussed in the following chapter, there is reason to believe an interaction exists between management information and communication channel. My study addresses this potential interactive effect.

## **2.4 Dual Process Theories**

Management inquiry is an opportunity for management to persuade the auditor that the information provided is without error or misstatement. However, management is not necessarily trying to deceive the auditor.<sup>3</sup> Quite the contrary, in the majority of instances management believes their numbers to be accurate based on their recordkeeping and judgments. Thus, they simply want to provide auditors with persuasive evidence as to why the information provided is accurate.

Dual process theories to understand how individuals process a persuasive message, as in management inquiry. The elaboration likelihood model (ELM) (Petty & Cacioppo 1986) suggests that the extent to which a person considers and evaluates the relevant arguments in a message varies depending on individual and situational factors that affect the motivation and ability to process such arguments. The level of thought about relevant information, or elaboration, in persuasive arguments can range from no thought about relevant arguments (low elaboration) to complete thought and

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<sup>3</sup> In some instances management may be trying to deceive the auditor; however, I do not focus on such instances due to the low likelihood of occurrence in practice.

incorporation of those arguments into attitudes (high elaboration). Although the amount of elaboration can vary along a continuum from low to high, the process is divided into two persuasion routes. When the central route is taken, attitude change is the result of high cognitive effort in which all of the factors relevant to the persuasive message are evaluated. The peripheral route is taken when an individual has low motivation and ability to consider relevant information. When the peripheral route is taken, attitude change is not based on the content of the persuasive arguments, but instead using little cognitive effort by taking short cuts (Petty & Cacioppo 1986).

#### 2.4.1 Central Route Processing

The central processing route is taken when an individual is motivated and has the ability to consider the arguments relevant to a message, using a significant amount of cognitive effort to evaluate the message. This evaluation focuses on the content of the message, with non-content cues, such as characteristics of the source, having minimal influence (Chaiken 1980). This means that message-specific characteristics, such as argument strength and plausibility, have the most influence on an individual's judgment, leading to a judgment that is thoroughly evaluated and supported (Petty & Wegener 1998a). Because individuals cannot always exert high effort, different situations lead to differing levels of cognitive effort. With that said, auditors are professionals tasked in making high quality judgments. Because central route processing leads to higher quality judgments (Bonner 1999, p. 276), auditors are expected to exhibit more central route processing.

There are various methods of central route processing that lead to effortful evaluation of the arguments presented (Petty & Wegener 1998a). Of these methods, auditors are most likely to use information integration. Information integration theory

indicates that individuals identify different information units that must be integrated into a judgment. Individuals then put forth high levels of effort to determine the weight each piece of evidence should receive (Anderson 1971). Consistent with audit standards (PCAOB 2010b), auditors should take all relevant pieces of evidence and incorporate them into their judgments based on the importance of each in satisfying management assertions. Auditors should therefore incorporate all of the information received, including the management information, and weight it according to its importance in making judgments. If auditors are using central route processing, their judgments should be influenced by the quality of the management's explanation with minimal influence of the content of management information.

#### 2.4.2 Peripheral Route Processing

Peripheral processing refers to low elaboration methods of evaluating a persuasive message. These low effort methods lead to judgements that are not based on a thorough evaluation of relevant information (Petty & Wegener 1998a) and, therefore, can be of lower quality.<sup>4</sup> Heuristics are a low elaboration process most likely impacting auditor judgments with the presence of management information. Heuristics are intuitive simple rules that require little thought and effort to use when motivation and ability to process information is low (Chaiken 1980; Kahneman & Frederick 2002; Petty & Cacioppo 1986).

Heuristics are knowledge structures that influence individual judgments. In order for a heuristic to influence an individual's judgment it must be stored in memory,

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<sup>4</sup> There may be some cognitive shortcuts that are as effective and at times more effective than high cognitive effort. However, in the long run low cognitive effort produces lower quality judgments than high cognitive effort processing.

activated or accessed from memory, and applicable to the judgment goal. Activation of a heuristic can occur through either recent exposure *or* accessing it from memory through a situational trigger (Kahneman & Frederick 2002). For example, a situational trigger may be glasses. When an individual interacts with someone wearing glasses, it may trigger a heuristic used to assess that individual as intelligent. An example of a heuristic from recent exposure may be an anecdote about recent plane crashes. Such recent exposure may lead an individual to believe flying is more dangerous than driving.

The predictions of the current study are based on management information, being provided or not, prior to a neutral communication with management. The following section describes how management information fits into the dual process theories framework, by prompting the use of a heuristic. It also describes how the communication channel interacts with management information by either promoting or discouraging heuristic processing in the presence of management information.

## **CHAPTER 3**

### **HYPOTHESES DEVELOPMENT**

#### **3.1 The Effect of Communication Channel**

Social psychology studies research the impact of the channel of communication in persuasive communications. These studies primarily find that video communication intensifies the characteristics of the person during the communication due to the presence of peripheral cues. Therefore, individuals' ability to use simple heuristics of the person as a determinant of opinion change when communicating through video increases.

A stream of literature by Chaiken and colleagues find differences in communication channels as it interacts with other variables when investigating individuals' opinion change. In the first study in this stream of literature, the impact of communication channel on the persuasiveness of the message differs depending on the complexity of the message. When the message is complex, the written channel is most persuasive, whereas when the message is easy to understand, the video channel is most persuasive (Chaiken & Eagly 1976). This is due to the comprehension of the message. When the message is difficult to comprehend, individuals are more persuaded when they can understand the message fully, which the written channel provides the ability to process the information with more focus on the message. However, in a video, there is more peripheral cues, making it more difficult to focus on message. When the message is easier to comprehend, the individuals are more influence by the likeability of the individual, which is assessed using the salient peripheral cues that are provided in the video communication. More closely related to the current study, Chaiken and Eagly

(1983) find that individuals focus more on communicator characteristics when exposed to video and audio messages versus written ones. Further, the opinion change in the video and audio conditions were consistent with their assessments of the source, indicative of using heuristics of the source when processing the message.

Andreoli and Worchel (1978) study communication channels along with individuals of different levels of source trustworthiness. The communication channel was found to interact with trustworthiness. Video lead to the most opinion change for the most trustworthy source and was least effective for the least trustworthy source. The results indicate that the trustworthiness was made more salient and was used as a heuristic in assessing the individuals change in opinion. It's important to note that in these psychology studies with differences in trustworthiness and likeability, the differences between the communicators was made even more salient in the video communication (i.e. the trustworthy communicator is depicted as a newscaster, the untrustworthy communicator is depicted as a politician). Therefore, even though the delivery of the message is the same, the video communication make this difference apparent. However, in the current study, the various levels of competence is not changed (i.e., I do not vary the title of the individual as well) therefore, the video communication does not make this descriptor more salient. Therefore I would expect no differential impact of this variable.

Social psychology studies would suggest the channel of communication in persuasive communication would lead to differential processing, peripheral processing in the video condition and central processing under the written communication. However, I do not expect this effect in the current study. This is because of the differences in context

between the social psychology studies and those in an auditing context. Individuals in the social psychology studies are being persuaded on their opinion. Whereas auditors are being persuaded on their professional judgment. Therefore, auditors are held accountable for the decisions they make, which is not captured in the prior social psychology studies. Recall that the route used by an individual depends on both the individual's motivation and ability (Petty & Cacioppo 1986). Auditors are high motivation individuals due to the accountability and therefore are more likely to default to processing the information using the central route (see Bonner 1999). However, as discussed below, when auditors are provided management information, their unconscious goals change, leading to a different effect of communication channel.

### **3.2 The Effect of Management Information**

Auditors today are less likely to alter their judgments of evidence persuasiveness purely based on differences in management information (see Quadackers et al. 2014). However, social psychology literature indicates there are instances when individuals attribute source characteristics for their overall judgments without being aware of it. This occurs when trait adjectives, such as management information, are provided to an individual (Higgins & Bargh 1987, p. 374).

The presence of such information activates a new goal of assessing the characteristics of the source (Higgins et al. 1977) and it focuses the individual to attend to the characteristics of the source (Higgins & Bargh 1987; Mae et al. 1999), instead of just the message. This research suggests that an auditor will develop a goal of assessing management and will focus more on doing so when management information is provided

versus when it is not provided. Therefore, auditors will collect more information about management, to the extent possible, during management inquiry.

The extent of information collected is dependent on the channel of communication used in management inquiry. When individuals interact directly with another, they are more strongly influenced by information received through such direct interaction (Wu & Shaffer 1987) versus through description. Indeed, the more accessible characteristics of the source are, the more influence they have on an individual's assessment of the source (Higgins & Bargh 1987, p. 374). Auditors will, therefore, make an assessment of management's characteristics depending on the interaction with management and will substitute that assessment as a heuristic of the persuasiveness of evidence (Carlston & Skowronski 1994).

### **3.3 The Joint Effect of Management Information and Communication Channel**

Different communication channels provide varying amounts of information regarding the source (Booth-Butterfield & Gutowski 1993). When auditors are provided management information, the heuristic of the source is triggered, leading them to seek out information about management during the exchange. Face-to-face communication provides cues, which make management characteristics more accessible and lowers the ability of an individual to evaluate just the message (Chaiken, Wood, & Eagly 1996). The channel then increases the likelihood for peripheral processing, while the management information prompts the use of a heuristic during that peripheral processing. Consistent with attribute substitution, the personal characteristics provided by the direct communication are then used to assess the persuasiveness of the message (Hamilton, Katz, & Leirer 1980; Wu & Shaffer 1987).

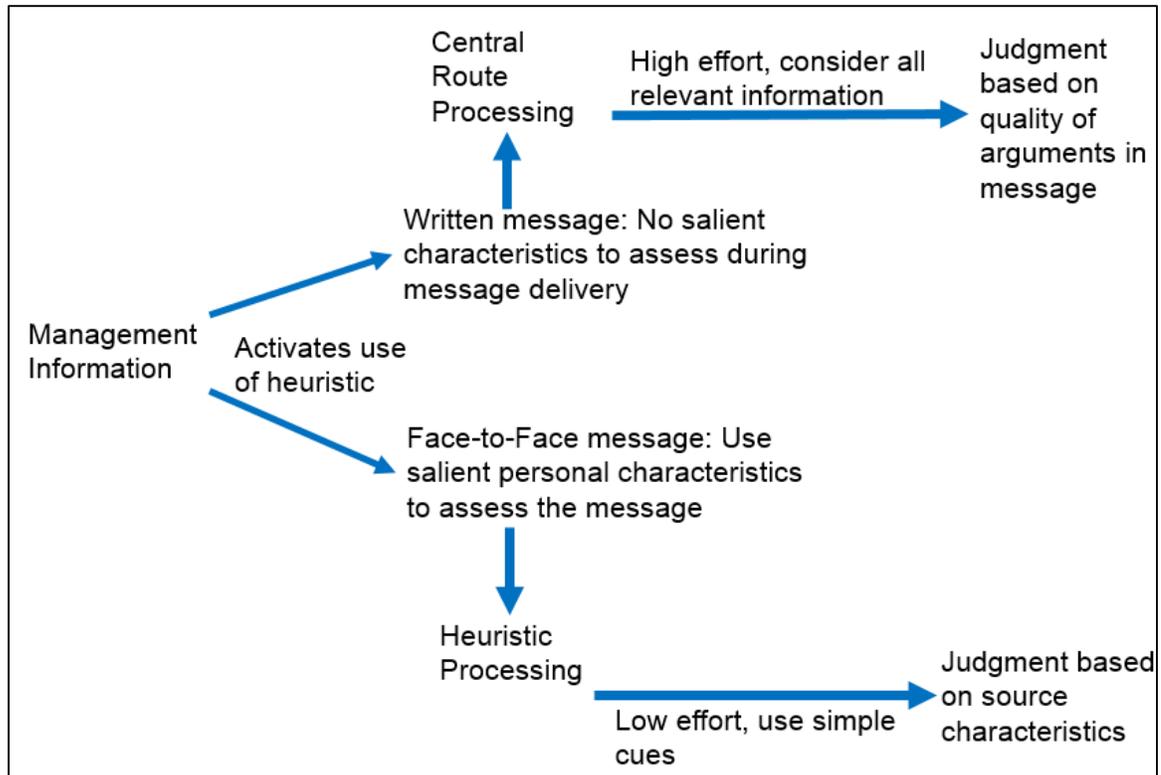
The current study is interested in understanding how neutral communications with management (i.e. not overly positive or negative) influence auditor's judgments. Research suggests that individual's process information conveyed with minimal affect with a positivity offset. Indeed, unless an individual comes across as extremely negative, at which point individuals process the information with a negative bias, they are likely to be perceived in a positive light (Cacioppo, Gardner, & Berntson 1997). Furthermore, in management inquiry, the client can effectively communicate explanations for changes in accounts.<sup>5</sup> Individuals expect knowledgeable sources (such as client management) to have valid arguments, leading them to process their messages with a positive bias (Chaiken & Maheswaran 1994). Overall, communication that provides neutral salient characteristics from knowledgeable sources, much like that experienced in a management inquiry setting, is likely to lead to positive assessments of management. Therefore, auditors will assess the evidence as more persuasive, because they substitute their assessments of management for their assessments of the evidence.

When the communication channel lacks management characteristic cues, even with management information triggering a goal of assessing management, auditors will be unable to further assess management. Furthermore, the lack of cues allows auditors to have a high ability to evaluate the message without distraction. Therefore, they will assess the evidence systematically, weighting each piece appropriately for the impact it should have on their judgment. The content of management information will have little influence on the auditors' evidence persuasiveness judgments due to their presumptive doubt professional skepticism, which minimizes the impact of competence information in

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<sup>5</sup> It is possible for there to be differences in management's ability to communicate explanations to auditors. This is beyond the scope of the current study.

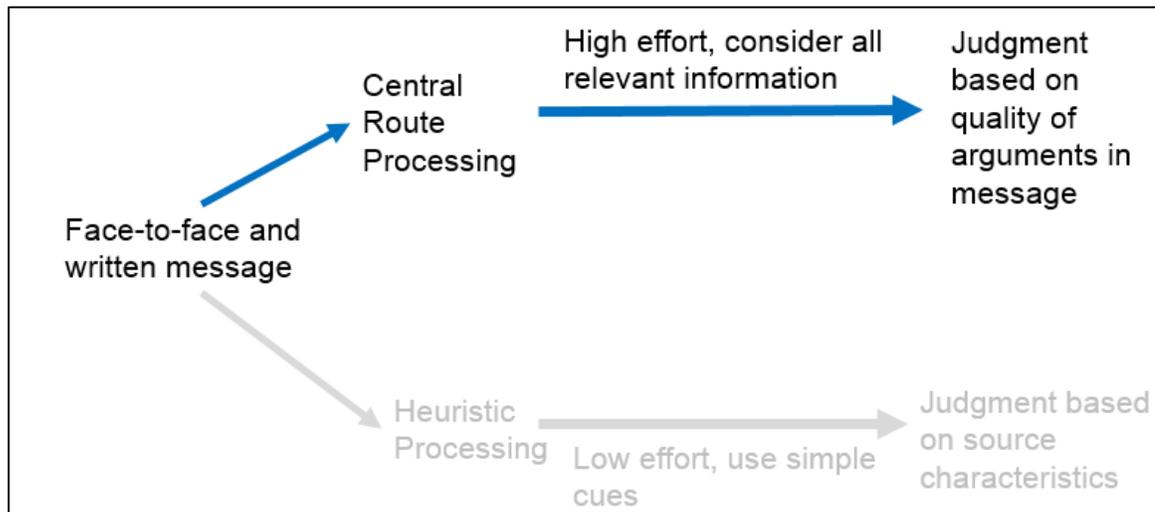
light of low objectivity. As management is expected to be assessed more positively under face-to-face communication, auditors' assessments of evidence persuasiveness are expected to be higher in face-to-face versus written when management information is provided. See Figure 1 for a depiction of this hypotheses.



**Figure 1:** This figure depicts the theoretical path for the predictions set forth in hypothesis 1a. It depicts the paths of processing that arises when management information is provided and management inquiry occurs through written and face-to-face communication.

If auditors are not provided management information, no clear heuristic of the source is triggered. The salience of management characteristics are likely not sufficient for auditors to use a heuristic of the person, especially due to the high motivation auditors feel towards an auditing task (Bonner 1999). In turn, auditors will take the central route for processing information (high elaboration), evaluating the message systematically.

Consequently, face-to-face and written communication are not expected to differ when management information is not provided. See figure 2 for a depiction of this hypotheses.



**Figure 2:** This figure depicts the theoretical path for the predictions set forth in hypothesis 1b. This panel depicts the path of processing that arises when no management information is provided for management inquiry that occurs through both face-to-face and written communication.

I predict the above interaction in two the formally stated hypotheses below.

**Hypothesis 1a:** When management information is provided, auditors will assess the persuasiveness of evidence higher under face-to-face versus written communication.

**Hypothesis 1b:** When the management information is not provided, auditors will not assess the persuasiveness of evidence differently under face-to-face versus written communication.

# **CHAPTER 4**

## **EXPERIMENTAL METHOD**

### **4.1 Design Overview**

A 2x2 between-participants experiment is used to test my hypotheses. I manipulate communication channel (written versus video) and management information (provided versus not provided). Participants are asked to perform analytical procedures as part of an audit engagement, similar to Anderson et al. (1994), and tasked with investigating an unusual fluctuation. Prior to receiving the explanation, management information is provided, or not. In the task, the assistant controller provides auditors with an explanation for the unusual fluctuation from the client's assistant controller. The explanation comes to the participants through either a video or email communication. To measure auditors' assessed persuasiveness of the explanation, I collect their judgments of the likelihood of material misstatement in the affected accounts before and after being given the explanation. I also ask participants to document all they can remember about the message and the assistant controller as well as answer questions about the assistant controller's personal characteristics to help in capturing the cognitive process auditors use to evaluate the evidence.

### **4.2 Experimental Procedure**

Prior to performing any procedures, all participants are asked to view a video of the assistant controller (i.e. management) introducing himself. This video is provided to all participants, regardless of their condition to ensure that all participants are provided with the same information about the assistant controller's physical appearance and verbal

cues.<sup>6</sup> Accordingly, any differences between the channel of communication conditions are directly related to the channel used to communicate the evidence.<sup>7</sup> Participants then receive background information about a first-year client and are asked to calculate financial ratios as part of analytical procedures. They are asked to calculate financial ratios as part of analytical procedures because it helps auditors feel more invested in the task (see Anderson et al. 1994), and therefore more accountable for their performance. Participants are then directed toward an unexpected increase in gross margin from the prior year and asked to assess the likelihood that the accounts are materially misstated (referred to as the “prior probability”).

Next, participants in the “management information provided” condition are provided with a brief background about the assistant controller, including experience in accounting and prior training. Participants in the “management information not provided” condition do not receive any background about the assistant controller. Participants then receive a video or written message, depending on their communication channel condition, with the client’s explanation for the unexpected fluctuation. The explanation is that the unusual increase in gross margin is due to a change in sales mix. The explanation should appear plausible, as the change in sales mix is consistent with the ratio fluctuation (Libby & Frederick 1990) and not suggestive of an error or misstatement.

After the message is presented, participants are asked to assess the likelihood that the accounts are materially misstated (referred to as the “posterior probability”).

Participants then evaluate the assistant controller on several dimensions (e.g. friendly,

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<sup>6</sup> I confirm participants viewed the video by asking them to record who is in the video and what is said. All participants responded correctly.

<sup>7</sup> The inclusion of the video in both conditions is conservative, giving everyone an idea of the assistant controller’s appearance and mannerisms.

objective, trustworthy, sincere, etc.) and provide demographic information. See Table 1 below for a timeline of the task.

**Table 1: Task Timeline**

1. Participants receive background on company and task, introduced to the assistant controller – all participants view the same video
2. Participants are asked to perform analytical procedures, attention is directed to unusual fluctuation in gross margin
3. Participants assess the likelihood that the accounts are materially misstated <b>[prior likelihood]</b>
4. Participants are provided description of the assistant controller ( <b>management information manipulation</b> )
5. Participants are provided the explanation from the assistant controller explaining unusual fluctuation ( <b>channel of communication manipulation</b> )
6. Participants assess the likelihood that the accounts are materially misstated <b>[post likelihood]</b>
7. Participants fill out additional measures and demographic information

#### 4.2.2 Independent Variables

The two independent variables of interest are communication channel and management information. These variables are manipulated randomly between participants. Communication channel is manipulated using a video or written explanation

for the unexpected fluctuation in the gross margin ratio. In the video condition, an actor portrays the assistant controller and explains the reason for the fluctuation. The written communication is an email sent by the assistant controller explaining the fluctuation. In all conditions, the content of the message is exactly the same with the dialogue of the video precisely matching the content of the written message. This design choice, along with a video being provided to all participants, ensures the only difference across conditions is the channel by which the message is *communicated*. The video allows me to operationalize face-to-face communication, while ensuring that all participants receive identical information in the same manner.

Although there are differences in face-to-face and video communications, the presence of salient personal characteristics are consistent, and if anything, dampened in the video communication. Face-to-face communication may result in stronger results although it would be at the sacrifice of introducing other possible confounds (e.g. variations in interactions that cannot be controlled for in face-to-face communication). I avoid this potential confound by using the same video for all participants. This manipulation choice does not impact the theory I am testing. I am focused on the ability to convey visual and audio cues, which video does.

Management information is manipulated by including or omitting information about management's training and experience (i.e. competence) from the experimental materials. When information is included, participants are provided with one of the following:

“Consensus from others within your engagement team regarding the Assistant Controller is that he is well trained and has extensive experience in accounting”

“Consensus from others within your engagement team regarding the Assistant Controller is that he has limited formal training and little experience in accounting”

I provide two variations of management information, consistent with prior literature on source reliability. Because I am investigating a management inquiry setting, and the client is consistently deemed to be low in objectivity, I provide information about the management’s competence. To avoid differences being due to the valence of competence information (i.e. highly competent sources are more reliable), I manipulate management competence information to include both low and high competence. Although competence was assessed differently between these two conditions, consistent with my theory above, I make no predictions on differences between these two conditions. Furthermore, because there were no significant differences between them, I collapse these cells in the data analyses.

#### 4.2.3 Dependent Measures

The dependent measure of interest in this study is the persuasiveness of evidence. I use the log likelihood ratio to operationalize this measure. The log likelihood ratio measures the perceived persuasiveness of the evidence (i.e., the assistant controller’s explanation) by incorporating both the diagnosticity of the evidence and the reliability of the client. Using the prior and posterior probabilities elicited from participants, the log likelihood ratio ( $X^*$ ) is calculated following the likelihood formula adapted from Hirst (1994), as derived from cascaded inference theory.

Cascaded inference theory uses probabilities to determine the inferential value that is associated with a report of an event or data as support for a hypothesis. The adjusted likelihood ratio is the probability of a given hypothesis,  $H_1$ , being true given

report,  $D^*$ , over the probability of the mutually exclusive hypothesis,  $H_2$ , being true given the same report,  $D^*$  (Schum & Du Charme 1971):

$$\frac{P(D^*|H_1)}{P(D^*|H_2)}$$

This definition is derived from Bayes theorem and can be used to incorporate the reliability of the source:

$$\frac{P(D^*|H_1)}{P(D^*|H_2)} = \frac{P(D^*|H_1 \cap D)P(D|H_1) + P(D^*|H_1 \cap \bar{D})P(\bar{D}|H_1)}{P(D^*|H_2 \cap D)P(D|H_2) + P(D^*|H_2 \cap \bar{D})P(\bar{D}|H_2)}$$

The reliability of the source can be seen in terms of the probability of an accurate report,  $P(D^*|H_1 \cap D)$  and  $P(D^*|H_2 \cap D)$  (the probability that the source reports  $D^*$  when actual event  $D$  occurred) as well as the probability of an inaccurate report,  $P(D^*|H_1 \cap \bar{D})$  and  $P(D^*|H_2 \cap \bar{D})$  (the probability that the source reports  $D^*$  when the actual event  $\bar{D}$  occurred) (Schum & Du Charme 1971).

The log likelihood is calculated as follows:

$$X^* = -\ln \left[ \frac{\text{Posterior Probability} \times (1 - \text{Prior Probability})}{(1 - \text{Posterior Probability}) \times \text{Prior Probability}} \right]$$

The  $X^*$  is used to determine the inferential value participants assign to the explanation provided:  $X^*$  closer to zero have less inferential value. I use this measure as opposed to a simple difference measure to ensure increases and decreases in probabilities are evaluated equally and properly represent the persuasiveness of the message.

I collect two different types of processing measures to determine the route of processing taken by the auditors: their recall of the message and management and a Likert-scale measure of management characteristics. First, participants are asked to list everything they can recall about management and the message. Auditors should demonstrate more recall of management when processing the evidence using heuristics

(Chaiken & Eagly 1983). Next, auditors are asked to assess the characteristics of the assistant controller on the following traits: friendly, objective, trustworthy, sincere, competent, warm, intelligent, likeable, approachable, motivated to be accurate, and reliable. The Likert scale asks participants to indicate to what extent the characteristics are like the assistant controller, anchored by 1 = “not at all like him” and 5 = “just like him”. Auditors should find the assistant controller more like these positive traits, consistent with their persuasiveness judgments, when they are processing the message heuristically.

Lastly, participants are asked several questions to ensure the message was realistic and they understood the task. They were asked how plausible the explanation was (0 = not plausible at all to 10 = completely plausible). It should be expected that they find the message plausible with an assessment greater than the mid-point. They also were asked how difficult/easy the explanation was to understand (1 = very difficult to 7 = very easy) and how confident they are in their judgment (0 = not confident at all to 10 = completely confident). There should be no differences between conditions on these measures. See Appendix A for the Experimental Instrument.

## CHAPTER 5

### RESULTS

#### 5.1 Demographics

One hundred twenty-two senior auditors from three Big 4 firms and four national public accounting firms participated in the study as part of the Center for Audit Quality's Access to Audit Personnel Program.<sup>8</sup> The instrument was distributed by firm representatives through a link using Qualtrics Survey Software. Senior auditors are appropriate participants because they typically interact with management throughout the audit and, specifically, during analytical procedures (Hirst & Koonce 1996). Participants were randomly assigned as they accessed the survey to one of four experimental conditions. Participants are 66 percent male and on average 27 years old (median, 26) with a mean of 39 (median 36) months of work experience. There were no significant differences between conditions on experience, age, sex, and firm affiliation.

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<sup>8</sup> The participation request was made for 150 senior auditors prior to busy season. However, 16 participants recruited were audit staff or managers. Further, 13 senior auditor participants from one firm completed the instrument after busy season (four months after the rest of the participants). Due to significant effects of rank and firm in my overall analyses, I exclude these participants from the tabulated results. The inclusion of these participants does not change the pattern of the results and overall conclusions are unchanged.

**Table 2: Demographics****Panel A: Descriptive Statistics**

	Minimum	Maximum	Mean	Standard Deviation
Age	23	47	27	3.194
Months Worked	7*	190	39	22.430

\*This individual is an outlier, in that all other participants have over a year's worth of experience. Although I cannot verify why this person has only seven months worked, the individual reported an age of 32 and therefore may have been promoted to senior due to their past work experience. Further, this individual was excluded from the analyses below due to failing a manipulation check.

**Panel B: One Way ANOVA Results**

	Management Information		No Management Information		Test Statistic	P-Value
	Video Means (SD)	Written Means (SD)	Video Means (SD)	Written Means (SD)		
Age	27.05 (3.65)	26.37 (2.50)	27.11 (2.25)	27.92 (3.96)	1.215	0.307
Months Worked	38.24 (22.51)	39.76 (28.29)	40.28 (18.01)	38.08 (13.20)	0.061	0.980

**Panel C: Sex Chi-Square Results**

	Management Information		No Management Information		Test Statistic	P-Value
	Video	Written	Video	Written		
Sex*	0.67	0.60	0.72	0.71	1.21	0.750

\* Numbers reported are the proportion of males in the given cell

**Panel D: Firm Chi-square Results**

	Management Information		No Management Information		Test Statistic	P-Value
	Video	Written	Video	Written		
Firm A	7	5	3	3		
Firm B	3	5	2	2		
Firm C	7	5	3	3		
Firm D	0	1	1	0		
Non-Big4	17	16	9	8		
Firm E	9	9	4	7		
Firm F	6	8	2	4		
Firm G	7	8	3	5	5.608*	0.998
Big4	22	25	9	16	1.361 <sup>+</sup>	0.715

\*Test is for differences in the number of participants in each cell across firms. Not significant as  $df = 18$ .

<sup>+</sup>Test is for differences in the number of participants in each cell between Big 4 and Non-Big 4 firms.

## 5.2 Manipulation Checks

I use two manipulation checks to ensure that participants acquired the information in the message consistently across the communication channel conditions. First, I ask participants to identify the reason for the unusual increase in gross margin from the Assistant Controller giving them the following choices: higher per unit sales price, change in sales mix, or lower per unit expenses. Only three participants failed this manipulation check question, with no significant differences between the communication channel conditions ( $\chi^2 = 0.492$ ,  $p = 0.598$  using Fisher's exact test). Further, participants in the management information condition were asked how the assistant controller was depicted in the case materials, given the following options: the assistant controller is well trained and has extensive experience in accounting and the assistant controller has limited formal training and little experience in accounting.<sup>9</sup> Four participants failed the manipulation check question with no significant differences between the channel conditions ( $\chi^2 = 1.257$ ,  $p = 0.343$  using Fisher's exact test). Participants who failed either manipulation check were removed from further analyses, but retaining their responses does not change the results.

**Table 3: Manipulation Check Questions, Chi-Square Tests of Proportion**

	Video	Written	Test Statistic	P-Value
Explanation Content*	0.035	0.015	0.492	0.598
Management Information*	0.053	0.015	1.257	0.343

\* Numbers reported are the proportion of individuals in the given cell that failed each manipulation check.

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<sup>9</sup> These choices are verbatim with the manipulation of management information as described in the methods chapter.

Next, participants were asked to assess the plausibility of the assistant controller's explanation. To ensure that the explanation is perceived as plausible, I test whether participants' mean responses to this question are significantly higher than the mid-point of the scale (six). The mean response of 7.63 is significantly higher than the scale midpoint ( $t = 8.20$ ,  $p < 0.001$ ) and there are no significant differences between the communication channel conditions ( $t = 0.699$ ,  $p = 0.486$ ) or the management information conditions ( $t = 1.092$ ,  $p = 0.277$ ).<sup>10</sup>

**Table 4: Assessments of Plausibility, T-Test**

	Video Mean (SD)	Written Mean (SD)	Total Mean (SD)	T-Statistic	P-Value
Management Information	7.86 (1.94)	7.13 (2.29)	7.47 (2.15)		
No Management Information	7.65 (2.52)	8.13 (1.80)	7.93 (2.11)	1.092*	0.277
Total	7.79 (2.12)	7.51 (2.15)	7.63 (2.14)	0.699**	0.486
Test of Scale Midpoint				8.20 <sup>+</sup>	<0.001

\* Test compares the Management Information Conditions

\*\*Test compares the video and written conditions

<sup>+</sup> Test compares the total mean to the mid-point of the scale, six.

### 5.3 Evidence Persuasiveness

Once participants are directed to investigate the significant increase in profit margin, they are asked to make a judgment of how likely the accounts in question are materially misstated. Participants' responses represent a measure of their prior likelihood

<sup>10</sup> As a robustness test, I remove all responses that reported the plausibility of the explanation below the midpoint (6.1% of them) and re-run my main analyses. My conclusions remain unchanged.

assessment. Because this assessment is made prior to any experimental manipulations, there should be no difference in prior likelihoods between conditions. Indeed, I find that the prior likelihood does not differ between experimental conditions ( $F = 0.367$ ,  $p = 0.777$ ).

**Table 5: Prior Likelihood Judgments**

	Management Information		No Management Information		Test Statistic	P-Value
	Video	Written	Video	Written		
Mean	0.389	0.353	0.400	0.338	0.367	0.777
Standard Deviation	0.200	0.265	0.195	0.199		
Median	0.400	0.290	0.420	0.345	1.167	0.762

Participants are then provided background information about the assistant controller (management information condition) as well as the explanation for the significant increase in profit margin either in a video or written email. After participants receive the explanation, they are asked to again assess how likely the accounts in question are materially misstated. This response measures auditors' post likelihood assessment. I use the prior and post likelihoods, as described in the methods chapter above, to calculate the likelihood ratio, taking the log to ensure changes in assessed likelihood of material misstatement are analyzed equally.<sup>11</sup> Along with the parametric

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<sup>11</sup> Due to the nature of the likelihood ratio, increases and decreases of equal distance are calculated as different amounts when just the likelihood ratio is calculated. The log normalizes the ratio, leading to increases and decreases in likelihood to be equal in amount (although positive and negative, respectively). I transform the initial prior and post likelihood measures by adding one to ensure no observations are lost

tests, I report nonparametric results for robustness because  $X^*$  is not normally distributed. Conclusions remain the same across tests and the pattern of means and medians are consistent.

My hypotheses predict that when management information is provided, evidence will be more persuasive when communicated in a video as compared to in writing. By comparison, no difference in evidence persuasiveness is expected between communication channel when no management information is provided. To test the interaction predicted with H1a and H1b, I perform an ANOVA. I expect a significant interaction between the two independent variables, management information and communication channel. Consistent with my predictions, I find a marginally significant interaction ( $F = 1.705$ ,  $p = 0.097$ , one tailed).

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due to no change in likelihoods when the log is taken. Further, the log likelihood ratio is multiplied by negative one so that positive amounts indicate that auditors' evaluate the assistant controller's explanation as being *more* persuasive for ease of analysis. Note that 30% of responders reported no change in persuasiveness after the explanation.

**Table 6: Log Likelihood Ratio Results**

**Panel A: Descriptive Statistics**

	Communication Channel	Management Information	No Management Information	Overall
N	Video	35	17	52
Min		- 1.77	- 0.96	- 1.77
Max		3.24	1.70	3.24
Mean		0.56	0.25	0.46
Median		0.296	0.041	0.279
SD		1.04	0.70	0.95
N	Written	39	24	63
Min		- 1.40	- 2.00	- 2.00
Max		3.70	4.64	4.64
Mean		0.18	0.39	0.26
Median		0.026	0.114	0.060
SD		0.91	1.18	1.02
N	Overall	74	41	
Min		- 1.77	- 2.00	
Max		3.70	4.64	
Mean		0.36	0.33	
Median		0.098	0.106	
SD		0.99	1.00	

**Panel B: Results of ANOVA**

	df	F-Ratio	P-value
Intercept	1	23.771	<0.000
Management Information	1	0.074	0.787
Communication Channel	1	0.390	0.533
Management Information x Communication Channel	1	1.705	0.097*

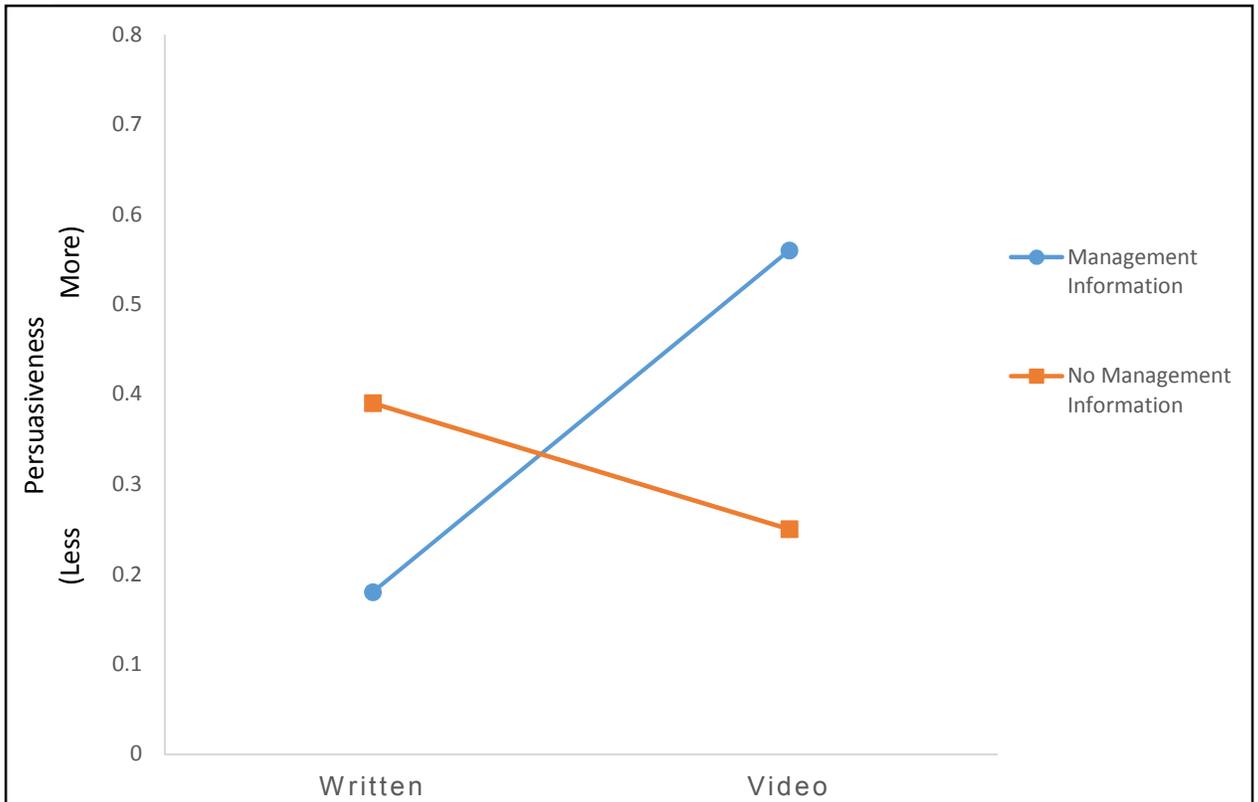
**Panel C: Results of Planned T-Test Comparisons**

	Test-Statistic	P-value
Management Information, video > written	1.650	0.051*
No Management Information, video = written	- 0.414	0.681

**Panel D: Results of Planned Mann Whitney Tests**

	Test-Statistic	P-value
Management Information, video > written	1.893	0.029*
No Management Information, video = written	- 0.148	0.882

\*Tests of directional predictions, (interaction and t-test) use one-tailed p-values.



**Figure 3: Persuasiveness Judgment Results.** This figure depicts the pattern of results for the main dependent measure, the log likelihood ratio( $X^*$ ), which is used to estimate the persuasiveness of the evidence. Consistent with H1a and H1b, there is a marginally significant interaction between management information and communication channel ( $p = 0.07$ , one tailed). Consistent with H1a, there is a significant difference in the persuasiveness of evidence between written and video communication when management information is provided ( $p = 0.05$ , one tailed). Consistent with H1b, there is no significant difference between written and video communication when management information is not provided ( $p = 0.34$ , one tailed).

Although I find significant results for the interaction effect predicted by my two hypotheses, I further validate the predicted pattern by testing H1a and H1b separately. H1a predicts that when management information is provided, video communication leads to higher assessed persuasiveness versus written communication. To test H1a, I compare the simple main effects between those with management information provided. I expect to see a significant difference between the video and email conditions when management information is provided. See table 6, panel C for the results of planned t-tests performed

for the main dependent measure,  $X^*$ . When management information is provided there is a significant difference between channels. Auditors in the video condition find the explanation more persuasive than those in the email condition ( $t = 1.65$ ,  $p\text{-value} = 0.051$ ;  $z = 1.893$ ,  $p\text{-value} = 0.029$ , both one tailed). This result is consistent with H1a. H1b predicts that when management information is not provided, there is no difference between the communication channels. I find that when management information is not provided, there is no significant difference in persuasiveness of the message between channels ( $t = -0.414$ ,  $p = 0.341$   $z = -0.148$ ,  $p\text{-value} = 0.882$ ). This result is consistent with H1b.

## **CHAPTER 6**

### **SUPPLEMENTAL ANALYSES**

#### **6.1 Heuristic Processing Analysis**

The predictions of this study are based on the idea that management information will activate the use of a heuristic when processing the message. The activation of the heuristic will lead auditors to focus more on assessing management during the management inquiry communication. Auditors will then use their assessments of management personnel as a heuristic for the persuasiveness of the evidence. I perform several supplemental analyses to validate this. First, I test whether a heuristic of the source was indeed activated by the management information. I then test whether the judgments auditors make on evidence persuasiveness are consistent with their assessments of the assistant controller. Lastly, I use path analysis to determine whether the assessments of management characteristic mediate the relationship between communication channel and evidence persuasiveness.

##### 6.1.1 Recall of Management and Message

The first step in understanding whether a heuristic of the source is triggered is to test whether it is triggered when management information is provided. I use an analysis similar to prior literature to determine whether a message is evaluated systematically or heuristically (Chaiken & Eagly 1983). Theory indicates that heuristics can be activated by recent exposure. Therefore, I expect auditors in the management information condition to be prompted to focus on the source of the evidence more, with a goal of assessing management's characteristics. After their post likelihood assessments, I ask the

auditor participants to record everything they can recall about the message and the person. These free responses are coded by two independent coders who are blind to the manipulations. Responses were coded as items about the person, the message, or other. Inter-rater reliability was 70 percent, and the coders reconciled any inconsistencies.

To determine whether the individuals are more likely to use heuristics about the person, I evaluate two different variables. First, I code each observation as either mentioning something about the person or not (frequency), allowing me to determine the number of individuals in each condition who focused on management during their collection of evidence. Second, I evaluate the proportion of mentions of the person to mentions of the message. This variable provides me with the proportion of time or effort that the auditors spent on evaluating management versus the evidence in each condition. Consistent with a heuristic of the source being triggered when management information is provided, I expect to see that those auditors under the management information condition will be more likely to mention management (frequency), and focus on the source more in proportion to the message (proportion). Table 7 reports the results of these analyses.

**Table 7: Evaluation of Recall of Management and Message**

**Panel A: Frequency of Mentions of Management**

	Management Information n = 74		No Management Information n = 41	
	Number	Proportion	Number	Proportion
Video	15	0.429	6	0.353
Written	20	0.513	2	0.083
Total	35	0.473*	8	0.195*

\* Chi-square test of proportions finds those in the management information condition are significantly more likely to mention the person delivering the message  $\chi^2 = 8.700$ ,  $p = 0.001$ , one tailed.

**Panel B: Proportion of Mentions about Management**

	Management Information		No Management Information	
	Mean	Standard Deviation	Mean	Standard Deviation
Video	0.171	0.232	0.153	0.218
Written	0.216	0.237	0.033	0.117
Total	0.195 <sup>+</sup>	0.234	0.083 <sup>+</sup>	0.174

<sup>+</sup> t-statistic = 2.911,  $p = 0.002$ , one tailed.

The results of these analyses indicate a significant difference between the management information conditions in both the frequency of auditors who mention management ( $\chi^2 = 8.700$ ,  $p = 0.001$ , one tailed) and the mean proportion of mentions of management to the message (t-statistic = 2.911,  $p = 0.002$ , one tailed). Further there is no significant difference between the video and written condition when management information is provided ( $\chi^2 = 0.525$ ,  $p = 0.469$ ; t-statistic = 0.827,  $p = 0.411$ , both two tailed). These results indicate that regardless of the channel of communication used, auditors are more likely to focus on management as is the predicted effect of the inclusion of management information. Further, there is a significant difference between the communication channel conditions, with auditors in the video condition being more

likely to mention management ( $\chi^2 = 4.606$ ,  $p = 0.032$ , two tailed) and also a higher mean percentage of mentions of management (t-statistic = 2.058, p-value = 0.051, two tailed). This result is indicative of the effect of channel of communication. Without being prompted to focus on management through management information, those communicating face-to-face are given more cues about management, leading them to have a higher recall of them.

These results are indicative of the path auditors take to evaluate the message: those who are provided with management information are likely to focus more on management. However, even if more information is collected (as measured through recall) about management, the impact of the information on auditors' evidence persuasiveness judgments is still unknown. Therefore, I further test how auditors assess management depending on their condition. In the next section I evaluate the differences in auditors' assessments of management.

### 6.1.2 Assessments of Management

Chaiken and Eagly (1983) indicate that recipients of videotaped messages base their opinions primarily on their assessment of the communicator, with less influence from the message. Further, my theory relies on the fact that individuals will use heuristic processing based on the personal attributes when primed by management information. For heuristic processing to lead to a higher assessment of the persuasiveness of evidence, auditors' assessments of the client should be more positive in the video communication when management information is provided. After participants make their judgments of evidence persuasiveness, they are asked to assess the assistant controller on several positive adjective scales (friendly, objective, trustworthy, sincere, competent, warm,

intelligent, likeable, approachable, motivated to be accurate, reliable). These characteristics were assessed by participants after the task was completed and the main dependent measures were collected. Participants responded on a likert scale, ranging from 1 – “not at all like him” to 5 – “just like him,” how consistent the characteristics listed were with the Assistant Controller. Table 8 reports the results of these assessments partitioned by the video and email conditions when management information is provided and not provided.

**Table 8: Perceptions of Client between Channels**

	Management Information			No Management Information		
	Video Means (SD)	Written Means (SD)	P-Values T-Statistics (Z-Statistics)	Video Means (SD)	Written Means (SD)	P-Values T-statistics (Z-statistics)
Friendly	3.43 (0.82)	3.10 (0.64)	0.062* (0.073)*	3.24 (0.83)	3.25 (0.68)	0.951 (0.965)
Objective	3.14 (0.73)	2.90 (0.55)	0.106+ (0.153)+	2.88 (0.99)	3.08 (0.50)	0.451 (0.521)
Trustworthy	3.00 (0.73)	3.00 (0.65)	1.000 (0.887)	2.94 (0.83)	3.17 (0.48)	0.278 (0.161)
Sincere	3.29 (0.83)	3.10 (0.60)	0.283 (0.298)	3.41 (0.87)	3.21 (0.59)	0.377 (0.468)
Competent	3.20 (0.87)	3.08 (0.81)	0.529 (0.598)	3.47 (1.01)	3.21 (0.59)	0.345 (0.185)
Warm	3.09 (0.95)	2.90 (0.55)	0.309 (0.397)	2.76 (0.97)	2.96 (0.81)	0.490 (0.495)
Intelligent	3.34 (0.87)	3.13 (0.70)	0.250 (0.313)	3.59 (0.71)	3.42 (0.58)	0.403 (0.391)
Likeable	3.34 (0.84)	3.10 (0.60)	0.165+ (0.200)+	3.29 (0.85)	3.08 (0.58)	0.384 (0.367)
Approachable	3.40 (0.85)	3.18 (0.68)	0.225 (0.169)+	3.24 (0.83)	3.38 (0.82)	0.597 (0.842)
Motivated to be Accurate	3.34 (0.94)	3.05 (0.69)	0.136+ (0.112)+	3.29 (1.26)	3.38 (0.71)	0.841 (0.779)
Reliable	3.20 (0.83)	2.97 (0.63)	0.197+ (0.262)	2.94 (1.03)	3.17 (0.57)	0.373 (0.449)

\*  $p < 0.05$ , one tailed

+  $p < 0.10$ , one tailed

The assessments have a consistent trend when management information is provided, management is consistently assessed more positively on all characteristics. However, when management information is not provided there is no consistent assessment differences.

To further assess the overall impact of these characteristic assessments on evidence persuasiveness, I perform factor analysis on these variables and find they all load on one theoretical factor. This factor has an eigenvalue equal to 5.898 and accounts for 53.6% of the variance. Based on the predicted interaction, I would expect those provided management information will have greater differences between video and written communication. More positive assessments of client characteristics are expected in the video versus the written condition. I use the new theoretical factor to test the differences between the video and email conditions when management information is provided and when it is not provided. See Table 9 for Factor analysis results.

**Table 9: Factor Analysis**

	Management Information				No Management Information			
	Video n=35	Written n=39	Test Statistic	P- Value	Video n=17	Written n=24	Test Statistic	P- Value
Mean	0.161	-0.210	1.54	0.064*	0.041	0.078	-0.12	0.905
Standard Deviation	1.203	0.798			1.263	0.729		

\*Due to directional prediction, one-tailed

The mean factor value is highest when management information is provided and communication occurs through video. It is also marginally different from those who are

provided management information and received the written message ( $t = 1.54$ ,  $p$ -value = 0.064, one-tailed). Those who are not provided management information do not assess the characteristics of the person any differently between video and email ( $t = -0.12$ ,  $p$ -value = 0.905). These results are consistent with the auditor's judgments of evidence persuasiveness, which is indicative of the influence their assessments of management has on their judgements.

The characteristics that the auditor is asked to assess about the assistant controller can be further categorized into two groups, those related to the friendliness of the assistant controller and those related to the reliability of the assistant controller. The reliability characteristics could influence the auditors' judgments differently than those based on friendliness (Chaiken & Eagly 1983). As such, I further separate the management characteristics into those friendly characteristics (i.e. friendly, warm, sincere, likeable, approachable), and those characteristics related to reliability (i.e. objective, trustworthy, competent, intelligent, motivated to be accurate, and reliable), and I again use factor analysis and find one factor loads on each of the friendly and reliability characteristics, eigenvalue of 3.665 which accounts for 73.3% of the variance and eigenvalue of 3.68 which accounts for 61.3% of the variance, respectively. The friendly is most different between communication channels when management information is provided versus the factor based of the reliability of management ( $t$ -statistic = 1.538,  $p$ -value = 0.065,  $t$ -statistic = 1.303,  $p$ -value = 0.099, one tailed respectively). There is no difference between the friendliness and reliability factors between communication channels when management information is not provided ( $t$ -statistic = 0.096,  $p$ -value = 0.924,  $t$ -statistic = -0.257,  $p$ -value = 0.799, respectively). These results further indicate

that the difference between auditors' judgements when management information is provided is not based on different assessments of reliability, but instead other characteristics that should have no impact on evidence persuasiveness.

**Table 10: Factor Analysis, Characteristics Break Out**

	Management Information				No Management Information			
	Video n=35 Mean (SD)	Written n=39 Mean (SD)	Test Statistic	P- Value	Video n=17 Mean (SD)	Written n=24 Mean (SD)	Test Statistic	P- Value
Friendliness	0.20 (1.18)	-0.17 (0.81)	1.54	0.064*	0.01 (1.13)	-0.02 (0.91)	0.096	0.927
Reliability	0.10 (1.16)	-0.21 (0.81)	1.30	0.099*	0.06 (1.34)	0.16 (0.70)	-0.257	0.799

\*Due to directional predictions, p-values are one tailed.

To evaluate the robustness of the above result, I also perform an additional analysis comparing the number of individuals who assess the assistant controller more positively. I dichotomize the assessments of personality characteristics as either positive, greater than the mid-point of 3, or negative, at the midpoint of 3 or lower. I then perform chi-squared analysis to determine if those in the management information condition are more likely to assess management more positively under the video than written condition. Consistent with my theory, I would expect to find more positive assessments of the assistant controller on the video condition versus the written condition when management information is provided. As indicated in the table, several dimensions were assessed more positively by a greater proportion of individuals under this condition. Of the 11 personality characteristics assessed, four have significant differences. These significant differences show a greater proportion of individuals assessing the assistant controller

positively under the video versus written condition. Even for those characteristics with differences that are not significant, individuals in the video condition consistently assess the assistant controller more positively when management information is provided. Conversely, when no management information is provided there are no significant differences between written or video communication.

**Table 11: Management Characteristics, Chi Square Tests of Proportion**

	Management Information				No Management Information			
	Video (n=35)		Written (n=39)		Video (n=17)		Written (n=24)	
	Number	Proportion	Number	Proportion	Number	Proportion	Number	Proportion
Friendly	16	0.457*	10	0.256*	6	0.353	7	0.292
Objective	8	0.229	4	0.103	6	0.353	4	0.167
Trustworthy	6	0.171	7	0.179	3	0.176	5	0.208
Sincere	11	0.314	9	0.231	7	0.412	7	0.292
Competent	13	0.371	11	0.282	9	0.529	7	0.292
Warm	10	0.286**	4	0.103**	4	0.235	5	0.208
Intelligent	15	0.429	11	0.282	10	0.588	11	0.458
Likeable	14	0.400	9	0.231	7	0.412	5	0.208
Approachable	17	0.486	12	0.308	8	0.471	8	0.333
Motivated to be Accurate	16	0.457**	9	0.231**	10	0.588	10	0.417
Reliable	12	0.343*	6	0.154*	4	0.235	6	0.250

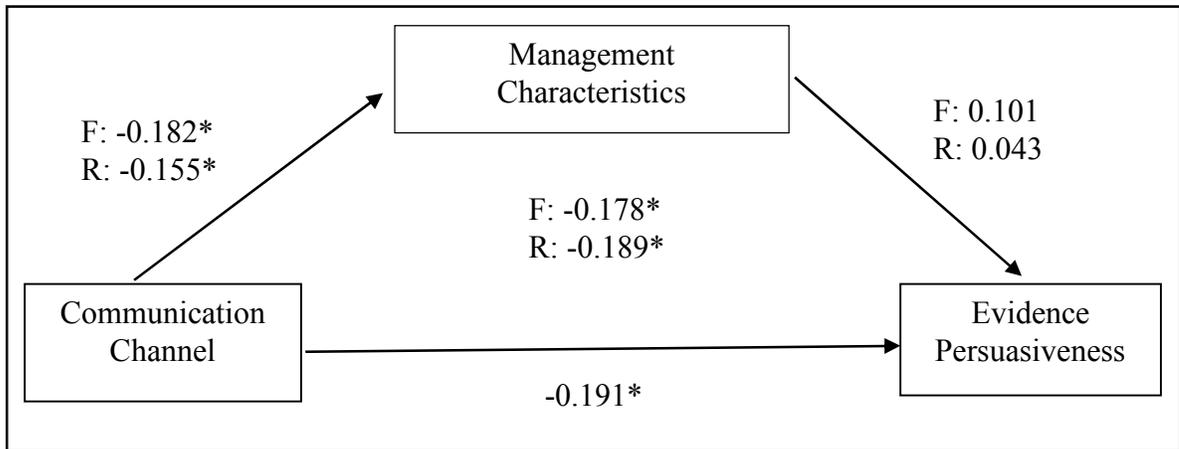
\* Chi-squared significant at < 0.10, two tailed

\*\* Chi-squared significant at < 0.05, two tailed

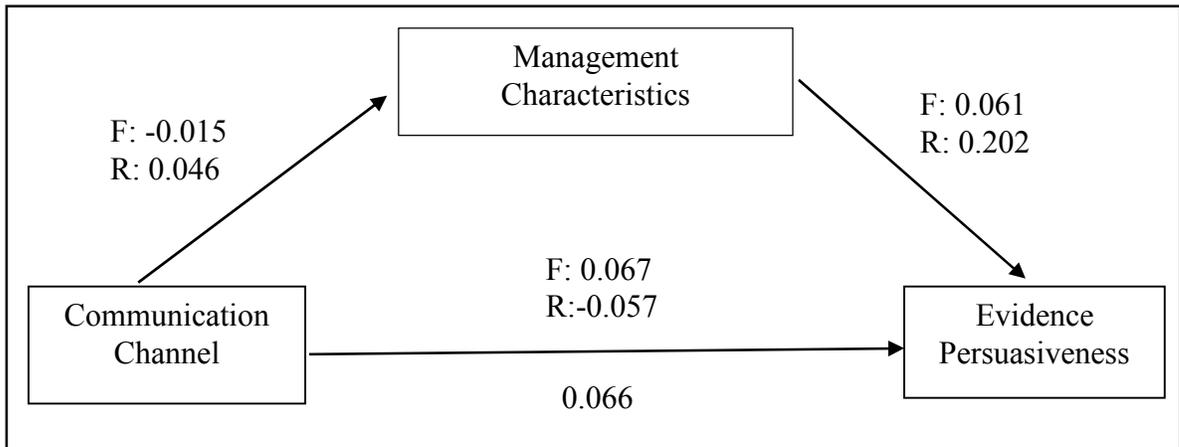
### 6.1.3 Path Analysis

The analyses above suggest that those provided management information are more likely to focus on management characteristics during the collection of evidence. Further, when management information is provided, the assessments of management are more positive under video versus written communication, with no difference when management information is not provided. The pattern of management characteristics under the management information condition is consistent with the pattern of evidence persuasiveness judgments, indicating that there is more influence of management's characteristics when management information is provided and communication occurs through video. I perform a path analysis below to further validate the impact that management characteristics have on auditors' evidence persuasiveness judgments (Baron & Kenny 1986).

I use the theoretical factors created as part of factor analysis above as the dependent measures for management characteristics. I separate out the variables by both friendly and reliability based characteristics. Figure 4 reports the p-values for the 4-step procedure as outlined by Baron and Kenny (1986).



**Figure 4, Panel A:** This figure depicts the path analysis for management characteristics. The top coefficients are reported for the friendly characteristics and the bottom coefficients are reported for the reliability based characteristics. This panel provides the results for the analysis of those in the management information condition. \* indicates significance at a 0.10 level, p-values are one tailed due to directional predictions.



**Figure 4, Panel B:** This figure depicts the path analysis for management characteristics. The top coefficients are reported for the friendly characteristics and the bottom coefficients are reported for the reliability based characteristics. This panel provides the results for the analysis of those in the no management information condition. None of the coefficients are statistically significant.

My predictions would expect to find a significant mediation when management information is provided (Figure 4, Panel A) and an insignificant mediation when management information is not provided (Figure 4, Panel B). When management information is provided, step one and step two of the mediation analysis show the

communication channel is significantly associated with auditors' persuasiveness judgments and both management characteristics. However, step three fails to find a significant association between both factors used for management characteristics and the persuasiveness of evidence. Step four demonstrates that when each management characteristic factor is controller for, the relationship between the communication channel and evidence persuasiveness does not become insignificant. When management information is not provided, no relationship in the analysis is significant. Therefore, the results of the path analysis are inconclusive. Although the pattern of results under the management information condition are consistent with expectations, both the friendly and reliability based characteristics fail to significantly predict the persuasiveness judgments.<sup>12</sup> Therefore I am unable to confirm that the differences in persuasiveness judgments are due to the difference in management characteristic assessments.

## **6.2 Big 4 and Non-Big 4 Analysis**

Although participants from all firms are randomly assigned between conditions (see Table 2, Panel D), when the ANOVA from the main hypotheses tests is run including a variable categorizing Big 4 and Non-Big 4 firms, that variable becomes significant. Further, the significance for the interaction between management information and communication channel becomes more significant ( $F = 3.348$ ,  $p = 0.035$ , one tailed) and there is a significant interaction between both variables and the Big 4 variable ( $F = 3.454$ ,  $p = 0.066$ ). See Table 12, Panel A for the results of the ANOVA.

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<sup>12</sup> If the one factor that all characteristics load on is used, the results are consistent with the path analysis of the two separate factors as reported: the path between management characteristics and evidence persuasiveness is not significant.

**Table 12: Big 4 and Non-Big 4 Analysis****Panel A: Results of ANOVA**

	<u>df</u>	<u>F-Ratio</u>	<u>P-value</u>
Intercept	1	18.143	<0.000
Management Information	1	0.028	0.868
Communication Channel	1	0.117	0.733
Big 4	1	8.854	0.004
Management Information x Communication Channel	1	3.348	0.035*
Management Information x Big 4	1	0.065	0.800
Communication Channel x Big 4	1	0.001	0.980
Management Information x Communication Channel x Big 4	1	3.454	0.066

**Panel B: Results of Planned T-Test Comparisons, Big 4**

	<u>Test-Statistic</u>	<u>P-value</u>
Management Information, video > written	0.304	0.381*
No Management Information, video = written	0.213	0.836

**Panel C: Results of Planned T-Test Comparisons, Non-Big 4**

	<u>Test-Statistic</u>	<u>P-value</u>
Management Information, video > written	1.757	0.045*
No Management Information, video = written	- 1.084	0.274

*\*Tests of directional predictions, (interaction and t-test) use one-tailed p-values.*

When the analysis is further broken down to compare the Big 4 versus Non-Big 4 auditors, the results are intriguing. As can be seen by the t-tests reported in Table 12, Panels B and C, the pattern of results is consistent with the hypotheses only in the Non-Big 4 population. When the population is Non-Big 4, the persuasiveness of evidence is assessed more positively when the communication channel is video versus written (t-statistic = 1.757, p-value = 0.045, one tailed). There is no research to my knowledge that speaks specifically to why this pattern would hold most strongly in the Non-Big 4 population. However, archival literature commonly uses Big 4 as a proxy for a higher quality audit, (DeFond, Erkens, & Zhang 2014). The results of this supplemental analysis

suggest that Big 4 auditors are less likely to be influenced by the communication channel when management information is provided, indicating that the resulting judgment may be of higher quality. Indeed, it is reasonable to believe a Big 4 senior auditor may be more experienced or vary on personality factors such as trait skepticism which may influence their likelihood to use heuristics or motivation in a task. I measure experience using the number of months the auditor has worked and measure experience using the Hurtt scale for professional skepticism (converted into a percentage). I test the differences in experience level and trait skepticism between the Big 4 and Non-Big 4 groups, as reported in Table 13.

**Table 13: Big 4 and Non-Big 4 Population Differences**

	Big 4 Mean (SD)	Non-Big 4 Mean (SD)	T-Statistic	P-Value
Experience	40.57 (19.36)	38.68 (26.85)	0.439	0.661
Professional Skepticism	0.77 (0.09)	0.74 (0.09)	1.691	0.094

As reported above, Big 4 auditors do not have more experience than Non-Big 4 auditors (t-statistic = 0.439, p-value = 0.661), but they do have a marginally higher level of trait skepticism (t-statistic = 1.691, p-value = 0.094).

### **6.3 Management Information Sub Analysis**

Due to prior research which indicates that auditors are influenced by the content of management information (i.e. Anderson et al. 1994), I perform a supplemental analysis on the differences between the two manipulations for management information, high and low competence. Note that in my analyses up until this point, I collapse these

manipulations because I do not predict a difference in evidence persuasiveness between them. To further validate the results are based on the effect of the presence of information and not the content, I break down the two manipulations in both competence assessments as well as evidence persuasiveness (as measured using the log likelihood).

Recall that auditors were asked to assess the assistant controller on 11 different characteristics. Participants were asked to identify to what extent each characteristic was like the Assistant Controller on a scale from 1 – “not at all like him” to 5 – “just like him”, with a midpoint of 3. I focus on the competence assessments made by the auditor participants to ensure that the content of the manipulation was observed.

**Table 14: Management Information Competence Assessments**

	Low Competence Means (SD)	High Competence Means (SD)	T-Statistic	P-Value*
Video	2.94 (0.90)	3.44 (0.78)	1.768	0.043
Written	2.44 (0.63)	3.52 (0.59)	5.478	<0.001
	2.70 (0.81)	3.49 (0.675)	4.582	<0.001
T-Statistic <sup>+</sup>	1.853	0.360		
P-Value	0.073	0.721		

\*One tailed due to directional prediction

<sup>+</sup> Tests between the communication channel conditions within the high and low competence manipulation.

Note that under both the video and written conditions the manipulation of low and high competence was observed (t-statistic = 1.768, p-value = 0.043 and t-statistic = 5.478, p-value <0.001, one tailed respectively). Under the low competence condition, the salient management cues presented in the video appear to dampen the effect of the manipulation as there is a marginally significant difference between the video and written condition (t-statistic = 1.853, p-value = 0.073). However, there is no significant difference within the high competence manipulations between the video and written conditions (t-statistic = 0.360, p-value = 0.721). Further, those in the low competence manipulation have an average assessment of competence below the mid-point of 3, whereas those in the high competence manipulation have an average assessment of competence above the mid-point of 3. These results suggest that the manipulation for high and low competence under the management information condition was effective.

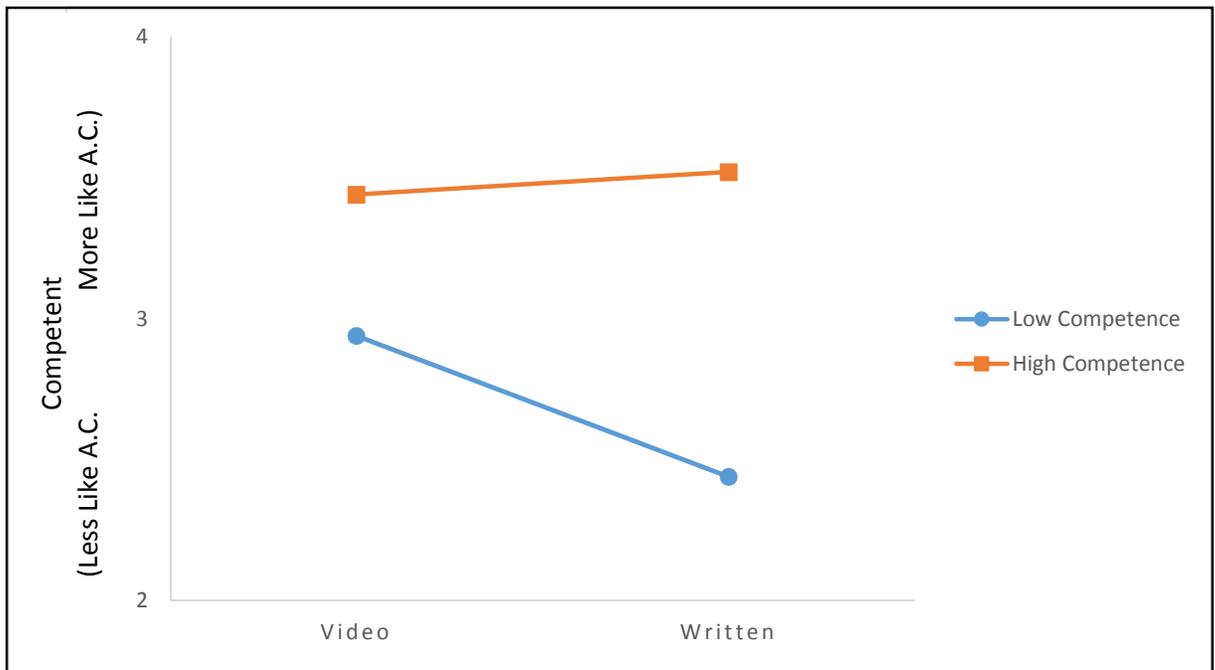
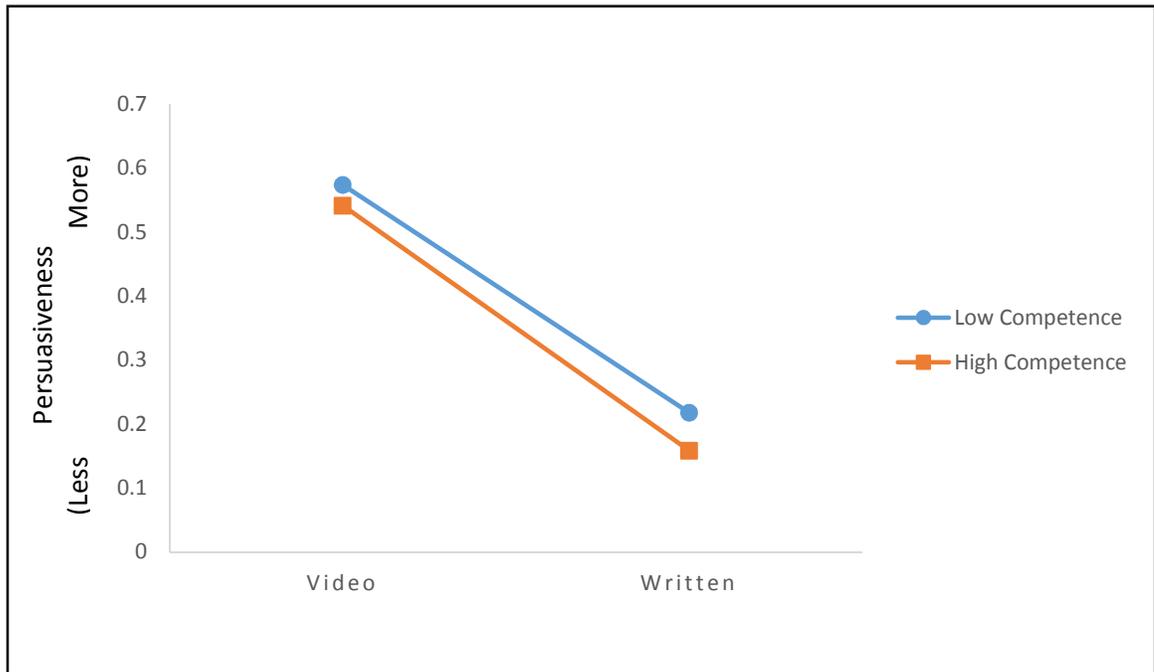


Figure 5: Management Information Breakout, Competence Assessments

The significant differences in competence assessments between the high and low competence conditions are suggestive that the content of the manipulation was effective. However, to confirm my theory that the content of the manipulations does not affect judgments of evidence persuasiveness, but merely the presence of such information does, I compare the log likelihood assessments between the low and high competence conditions. See Table 11 and Figure 5 for results.

**Table 15: Management Information Log Likelihood**

	Low Competence Means (SD)	High Competence Means (SD)	T-Statistic	P-Value
Video	0.574 (1.103)	0.542 (1.010)	0.088	0.931
Written	0.218 (1.108)	0.159 (0.771)	0.197	0.845
	0.401 (1.103)	0.327 (0.893)	0.320	0.750



**Figure 6: Management Information Breakout, Log Likelihood**

Note that there is only a main effect of communication channel, as outlined by my theory, and no impact of the content of the management information (t-statistic = 0.088, p-value = 0.931, t-statistic = 0.197, p-value = 0.845 for video and written conditions, respectively). These results help to validate my theory and may also call for a revision of prior studies' conclusions. Auditors today appear to no longer assess evidence differently based on the content of management information.

## **CHAPTER 7**

### **IMPLICATIONS AND CONCLUSIONS**

In the current study, I investigate the impact of communication channel and management information on auditor's evaluation of evidence. Based on dual process theories, I predict and find that management information will lead auditors to focus more on the source of the evidence, management. Further, the availability of management characteristic cues in the communication channel influence the auditors' ability to assess management during the management inquiry. As such influencing the propensity that the auditor will use a heuristic of management in their judgment of evidence persuasiveness. Written communication does not provide salient cues on management, whereas face-to-face communication includes salient peripheral cues about management characteristics. Those characteristic cues are assessed more positively when communicating with a knowledgeable, neutral source. Therefore, when management information is provided, the use of positive assessments of management as heuristics under face-to-face communication leads to higher assessed persuasiveness versus written communication. By comparison, when no management information is provided, no heuristic is triggered and therefore auditors evaluate evidence persuasiveness no differently between face-to-face and written channel of communication.

Supplemental analyses indicate that auditors' processing of the information varies depending on the presence of management information. When management information is present, auditors recall a higher proportion of thoughts relating to management versus the message (i.e. evidence). This is indicative of a heightened focus on management,

which is indicative of the heuristic of the source being triggered. Furthermore, under the management information present condition, the pattern of auditors' assessments of management's characteristics is consistent with the pattern of evidence persuasiveness judgments. These results are consistent with the idea that auditors' are relying on management characteristics assessed during the communication as their assessment for evidence persuasiveness.

This research is of practical importance because of an evolving audit environment, wherein the collection of evidence from management now routinely occurs through a variety of communication channels. Auditors and audit firms should be aware of these effects when performing audit procedures as well as in training auditors. Although it is important to assess the reliability of client management as part of audit procedures, and particularly fraud procedures, too much focus on such information may lead auditors to process evidence differently depending on the channel chosen for communicating. Many firms encourage face-to-face communication, however, this study speaks to a possible unintended consequence of communicating face-to-face with the client, specifically hindering the effectiveness of the audit, impacting audit quality.

Regulators should be particularly interested in these findings. Recent PCAOB inspection reports indicate a lack of documentation and professional skepticism in audit engagements (PCAOB, 2012). This study speaks to a possible source of this lack of documentation and professional skepticism. Because the current audit environment is much like the management information condition, my results suggest that auditors may be differentially evaluating the persuasiveness of evidence depending on the channel through which the evidence is collected.

This study also has theoretical implications to accounting and social psychology literature. Auditing literature has primarily studied auditor judgment with limited interaction with the evidentiary source. Furthermore, recent regulatory changes have altered the way auditors approach audits, with more presumptive doubt skepticism than in the past. Therefore, this study should prompt investigation into prior research on auditor judgments. Specifically, how the content of management information may no longer effect auditor judgments. Instead, its presence can appears to influence the processing route used and ultimately the impact that the communication channel has on auditor judgments. Social psychology studies into the impact of communication channel on persuasive communications investigate opinion change as the dependent variable. I set forth clear theory as to why auditor's processing will differ from that of individuals in the social psychology, based on the accountability auditors have for their judgments. This study adds to this stream of social psychology literature indicating how processing occurs for judgments made when the individuals are held accountable for their decisions.

Because very little has been done in this area to understand the impact of communication channel in management inquiry, this study is looking at a very general setting, which was designed to take the first step in understanding the impact of communication channel on auditor judgements. Therefore, it is important to understand its limitations, which offer a wealth of possible avenues for future research. The current study is limited by the context of the video used, which depicts management delivering the message in a neutral manner. Prior literature has indicated that other factors such as likeability impacts auditor judgments when evidence is provided in written form (Bhattacharjee et al. 2012). The theory developed in this paper should generalize to a

scenario where management is ineffective or overly negative in delivering a message. Auditors' judgments of evidence persuasiveness are expected to be lower when management information is provided and communicated face-to-face due to the impact of those negative salient management characteristics. However, future research can confirm this expectation by investigating how channel of communication may lead to differential judgments when the client differs in likeability.

This study is also limited by the mechanism through which I have manipulated face-to-face communication. I choose a video to ensure strong internal validity, and believe it to be a conservative test of the impact of peripheral cues (see Chaiken & Eagly 1983). However, there are differences between face-to-face and video which are not studied in the current experiment. Future research can investigate the other aspects of face-to-face communication, such as proximity of the communicators, immediacy of response, etc. to fully understand the impact it has on auditors' judgments. Lastly, the conclusions of this study are based on the judgements of senior auditors. It is quite likely, and actually expected, that auditors with varying levels of experience will process evidence differently, changing their propensity to rely on heuristics. Future study can evaluate the influence experience has on judgments in this context.

The results of this study speak to the most common scenario in management inquiry, when management information is present and auditors are communicating face-to-face with client management delivering the message effectively in a neutral manner. This scenario, which is seen regularly in management inquiry, leads auditors to judge the evidence as most persuasive when there is no substantive reason for such a difference. This increased persuasiveness is due to differential processing of information, and no real

difference in the information provided to the auditor. When auditors judge the evidence as more persuasive in this situation, it is indicative of a lack of professional skepticism. This lack of professional skepticism can lead to a failure to collect sufficient evidence to satisfy management assertions. Due to the pervasive nature of management inquiry, this study suggests the combination of management information and face-to-face communication with management has significant implications for audit quality.

## APPENDIX

### EXPERIMENTAL INSTRUMENT

Assume that you have been assigned to the audit of a clothing retailer, "Boundless." The Company was founded and incorporated under the laws of the State of Delaware in September 1980. They specialize in designing, manufacturing, and selling clothing through 312 retail outlets in 40 countries. Boundless has two brands each with different target consumers. Products sold under their brand names are designed in-house and manufactured by independent sources. Brand A specializes in apparel that brings fun, fashion, and value to the whole family. The brand offers customers on-trend clothing, as well as updated basics for adults, children, and babies, at affordable prices. Brand B specializes in modern, covetable workplace styles for both men and women. The brand offers customers versatile work wear that can be styled for any occasion - from desk to dinner. The high style focus of Brand B allows the company to charge higher prices than Brand A. The diversity of their customers and their global distribution give them a competitive advantage in the retail marketplace.

As part of your duties, you have been assigned the task of performing analytical procedures. Your supervisor has requested that you review the summarized financial information and ratios below and evaluate the fluctuations from prior year.

Please click on the below video and verify you can view the video and hear the sound.



Please indicate who is in the video and what they say.

During the planning procedures, your audit team documented that Boundless anticipated no noticeable business changes from 2011 to 2012 and, therefore, determined any significant change (greater than 10%) in any financial ratio merits further investigation. At the bottom of the page, you will find a schedule with 2011 financial ratios rolled forward from prior year financial statements. Please calculate the ratios for 2012. Compare the 2012 ratios to the ratios from 2011. Please mark those ratios which have changed significantly between 2011 and 2012 with a 'Y'.

Income Statement, Fiscal Years Ended 2012 and 2011

<i>In thousands</i>	Fiscal Year ended 2012	Fiscal Year ended 2011
Net Sales	\$ 14,660	\$ 14,550
Cost of Goods Sold	8,080	9,450
Gross Profit	6,580	5,100
Selling and General Expenses	4,100	3,200
Operating Income	2,480	1,900
Interest Expense and Taxes	1,400	850
Net Income	1,080	1,050

Balance Sheet, As of Fiscal Years Ended 2012 and 2011

<i>In thousands</i>	As of FY ended 2012	As of FY ended 2011
Cash and Cash Equivalents	\$ 1,810	\$ 1,900
Total Inventories	1,380	1,610
Other Current Assets	1,020	800
Total Current Assets	4,210	4,310
Net Property Plant and Equipment	2,560	2,520
Other Assets	300	590
Total Assets	7,070	7,420
Total Current Liabilities	2,100	2,130
Long Term Debt	1,380	1,600
Other Liabilities	830	930
Total Liabilities	4,310	4,660
Common Equity	2,760	2,760
Total Stockholders' Equity	2,760	2,760
Total Liabilities and Stockholders Equity	7,070	7,420

Based on the above information please calculate the following ratios for 2012 (formulas for the ratios are included in the column on the left):

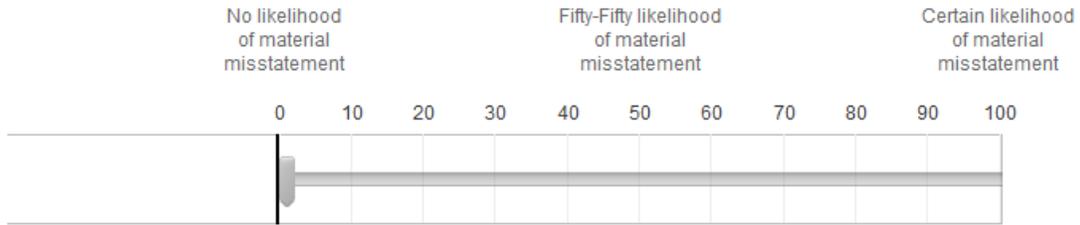
	2012	2011	Difference	Percentage Difference	Is the difference greater than 10% (Y or N)
Current Ratio = current assets/current liabilities	<input type="text"/>	2.02	<input type="text"/>	<input type="text"/>	<input type="text"/>
Quick Ratio = cash and cash equivalents/current liabilities	<input type="text"/>	.89	<input type="text"/>	<input type="text"/>	<input type="text"/>
Inventory Turnover Ratio = Cost of goods sold/Inventory	<input type="text"/>	5.87	<input type="text"/>	<input type="text"/>	<input type="text"/>
Gross Profit Margin = Gross profit/Net sales	<input type="text"/>	.35	<input type="text"/>	<input type="text"/>	<input type="text"/>
Return on Assets = Net income/Total assets	<input type="text"/>	.14	<input type="text"/>	<input type="text"/>	<input type="text"/>

Your work has been reviewed by your on-site supervisor. The table below outlines the results of the ratio analysis as part of the analytical procedures. Your supervisor would like you to follow up on the significant fluctuation in gross profit margin.

	2012	2011	Difference	Percentage Difference	Is the difference greater than 10%?
Current Ratio	2.00	2.02	0.02	1.0%	N
Quick Ratio	.86	.89	0.03	3.4%	N
Inventory Turnover Ratio	5.86	5.87	0.01	0.2%	N
Gross Profit Margin	.45	.35	.10	28.6%	Y
Return on Assets	.15	.14	.01	7.1%	N

The gross profit margin has increased 28.6% from 2011. This is the only financial ratio that has a change greater than 10%. In response to this increase you have inquired of the assistant controller regarding this change and are awaiting a response.

Based on the significant increase in gross profit margin, what is your estimated likelihood that the financial statements include a material misstatement (0-100)?



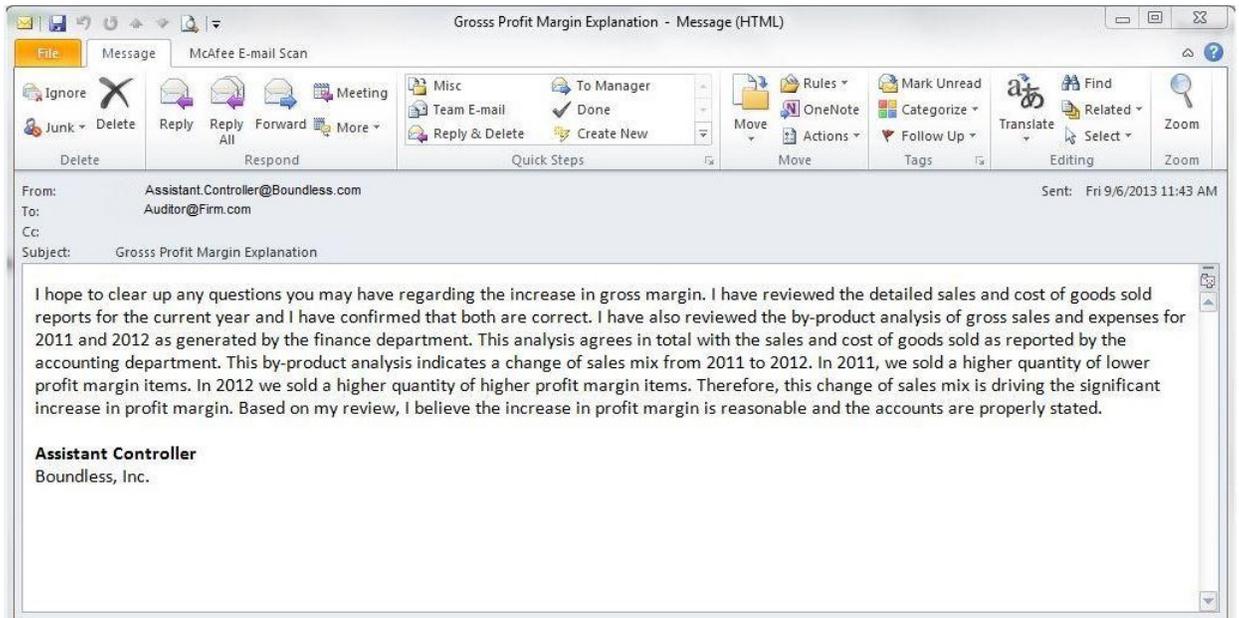
*Management Information Manipulation:*

Consensus from others within your engagement team regarding the Assistant Controller is that he has limited formal training and little experience in accounting.

Consensus from others within your engagement team regarding the Assistant Controller is that he has limited formal training and little experience in accounting.

*Communication Channel Manipulation:*

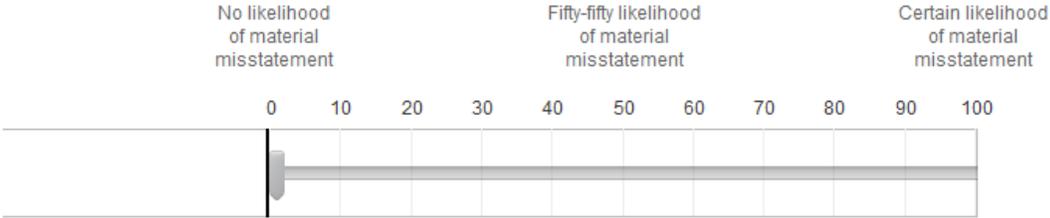
The Assistant Controller has provided you with the following explanation in response to your inquiry. Below is the email of the explanation. Please read the explanation carefully. Once you go to the next page you can not return.



The Assistant Controller has provided you with the following explanation in response to your inquiry. Please click the video to obtain the explanation from the assistant controller. *Please listen to the explanation carefully. Once you go to the next page you can not return.*



Based on the significant increase in gross margin and the explanation provided by the assistant controller, what is your estimated likelihood that the financial statements include a material misstatement?



Please answer the following questions regarding the explanation that the assistant controller provided for the significant increase in the gross profit margin:

How confident are you in your judgment of the likelihood that the financial statements include a material misstatement?

	Not confident at all (0)	(1)	(2)	(3)	(4)	Neither confident nor not confident (5)	(6)	(7)	(8)	(9)	Completely confident (10)
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please list additional questions or requests that you have for the assistant controller (If you don't have any additional questions, please respond 'none' below).

Please record everything you can remember about the explanation provided and the assistant controller.

How plausible was the explanation provided by the assistant controller?

	Not plausible at all (0)	(1)	(2)	(3)	(4)	Neither plausible nor not plausible (5)	(6)	(7)	(8)	(9)	Completely plausible (10)
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please indicate the extent to which the below characteristics describe the assistant controller:

	Not at all like him	Not much like him	Somewhat like him	Quite a lot like him	Just like him
Friendly	<input type="radio"/>				
Objective	<input type="radio"/>				
Trustworthy	<input type="radio"/>				
Sincere	<input type="radio"/>				
Competent	<input type="radio"/>				
Warm	<input type="radio"/>				
Intelligent	<input type="radio"/>				
Likeable	<input type="radio"/>				
Approachable	<input type="radio"/>				
Motivated to be Accurate	<input type="radio"/>				
Reliable	<input type="radio"/>				

How easy/difficult was it to understand the assistant controller's explanation?

	Very Difficult	Difficult	Somewhat Difficult	Neutral	Somewhat Easy	Easy	Very Easy
	<input type="radio"/>						

What was the assistant controller's explanation for the significant increase in gross margin?

- Higher per unit sales price
- Change in sales mix
- Lower per unit expenses

How was the assistant controller depicted in the case materials?

- The assistant controller is well trained and has extensive experience in accounting
- The assistant controller has limited formal training and little experience in accounting.

What is your rank in your firm?

- Staff
- Senior
- Manager
- Senior Manager
- Executive Director
- Partner
- Other (please specify):

What is your age?

Approximately how many months have you worked as an auditor?

What is your sex?

- Male
- Female

How interesting did you find this experiment?

	Very uninteresting	Uninteresting	Somewhat uninteresting	Neither uninteresting nor interesting	Somewhat Interesting	Interesting	Very Interesting
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

To what extent did you feel you had the appropriate knowledge to make the judgments requested in the experiment?

	Very Inappropriate	Inappropriate	Somewhat Inappropriate	Neutral	Somewhat Appropriate	Appropriate	Very Appropriate
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

What is the level of effort you expended on the task?

	None	Little	Some	Quite a bit	A lot
	<input type="radio"/>				

Statements that people use to describe themselves are given below. Please click in the circle associated with the response that indicates how you **generally** feel, where 1 is strongly disagree and 6 is strongly agree. There are no right or wrong answers. Do not spend too much time on any one statement.

	Strongly Disagree				Strongly Agree	
	1	2	3	4	5	6
I often accept other peoples' explanations without further thought.	<input type="radio"/>					
I feel good about myself.	<input type="radio"/>					
I wait to decide on issues until I can get more information.	<input type="radio"/>					
The prospect of learning excites me.	<input type="radio"/>					
I am interested in what causes people to behave the way that they do.	<input type="radio"/>					
I am confident of my abilities.	<input type="radio"/>					
	1	2	3	4	5	6
I often reject statements unless I have proof that they are true.	<input type="radio"/>					
Discovering new information is fun.	<input type="radio"/>					
I take my time when making decisions.	<input type="radio"/>					
I tend to immediately accept what other people tell me.	<input type="radio"/>					
Other peoples' behavior doesn't interest me.	<input type="radio"/>					
I am self-assured.	<input type="radio"/>					
	1	2	3	4	5	6
My friends tell me that I usually question things that I see or hear.	<input type="radio"/>					
I like to understand the reason for other people's behavior.	<input type="radio"/>					
I think that learning is exciting.	<input type="radio"/>					
I usually accept things I see, read or hear at face value.	<input type="radio"/>					
I don't feel sure of myself.	<input type="radio"/>					
I usually notice inconsistencies in explanations.	<input type="radio"/>					

	1	2	3	4	5	6
Most often I agree with what the others in my group think.	<input type="radio"/>					
I dislike having to make decisions quickly.	<input type="radio"/>					
I have confidence in myself.	<input type="radio"/>					
I don't like to decide until I've looked at all of the readily available information.	<input type="radio"/>					
I like searching for knowledge.	<input type="radio"/>					
I frequently question things that I see or hear.	<input type="radio"/>					
	1	2	3	4	5	6
It is easy for other people to convince me.	<input type="radio"/>					
I seldom consider why people behave in a certain way.	<input type="radio"/>					
I like to ensure that I've considered most available information before making a decision.	<input type="radio"/>					
I enjoy trying to determine if what I read or hear is true.	<input type="radio"/>					
I relish learning.	<input type="radio"/>					
The actions people take and the reasons for those actions are fascinating.	<input type="radio"/>					

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## CURRICULUM VITA

### Home Address

701 Vinings Forest Lane SE  
Smyrna, GA 30080  
419.706.0465

### School Address

Scheller College of Business  
Georgia Institute of Technology  
800 West Peachtree Street NW  
Atlanta, GA 30308  
404.894.9474  
melissa.carlisle@scheller.gatech.edu

### Education

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Doctorate of Philosophy, Accounting	Georgia Institute of Technology, 2015 (expected)
Master of Science, Accounting	Kent State University, 2007
Bachelor of Business Administration Major: Accounting, Minor: Management Certificates: Leadership, Honors College	Kent State University, 2006

### Research

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#### Research interests

Auditor judgment and decision making.

The influence of communication factors, cognitive biases, and affect on auditor judgments and decisions which impact audit quality

Regulatory oversight.

The influence of regulatory oversight, such as the PCAOB, on the market for public company audits and audit quality

#### Research Projects

Small Audit Firms and PCAOB Quality Control Criticisms. Co-authored with B. Church, and W. Yu. Presented at 2013 AAA Annual Meeting. Working paper

Does Professional Skepticism Impact Judgments Made with Evidence from Different Channels? Co-authored with B. Church and A. Vitalis. Instrument design phase

Committed to the Cause: The Joint Impact of Improving Perceptions of Audit Task Significance and Contact with Stakeholders Co-authored with E. Hamilton and J. Rasso. Instrument design phase

#### Dissertation

Auditors' Evaluation of Evidence: The Effect of Communication Channel and Source Information. Supported by the Center for Audit Quality's Access to Audit Personnel Program

### Professional Certifications and Affiliations

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Certified Public Accountant, Ohio (# 46234)

Member, American Accounting Association

Member, AAA Auditing Section

## Professional Experience

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**Ernst & Young LLP**, Cleveland, Ohio

Senior Auditor

January 2008 – August 2010

## Honors and Awards

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Center for Audit Quality Access to Audit Personnel Program (2013) – support granted

President's Fellowship, Georgia Institute of Technology (2010-2014)

Ernst & Young, You Made a Difference Award (2008)

Founders Scholar, Recipient of the Olga and Walter Mural Medallion Scholarship (2003-2007) – highest scholarship designation at Kent State University

## Conferences and Meetings Attended

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AAA Accounting, Behavior and Organizations Section Annual Conference, 2014

AAA Annual Meeting, 2014

AAA/Deloitte Foundation/J. Michael Cook Doctoral Consortium, 2014

AAA Auditing Section Annual Conference and Doctoral Consortium, 2014

AAA Annual Meeting, 2013

IFREE's (International Foundation for Research in Experimental Economics) Annual Visiting Graduate Student Workshop in Experimental Economics, Chapman University, 2013

AAA Auditing Section Annual Conference and Doctoral Consortium, 2012

AAA Annual Meeting, 2012

AAA Accounting, Behavior, and Organizations Section Annual Conference and Doctoral Consortium, 2012

AAA Auditing Section Annual Conference and Doctoral Consortium, 2011

## Teaching Experience

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Financial Accounting I, spring 2013, 2014, and fall 2014. Average rating 4.3/5

## Service

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Discussant – AAA Accounting, Behavior and Organizations Section Research Conference, 2014

Reviewer – AAA Accounting, Behavior and Organizations Section Research Conference, 2014

Reviewer – AAA Annual Meeting, 2014

Reviewer – AAA Auditing Section Research Conference, 2014

Presenter – AAA Annual Meeting, 2013

Discussant –AAA Annual Meeting, 2013

Moderator – AAA Annual Meeting, 2013

Reviewer – AAA Annual Meeting, 2013

Reviewer – AAA Auditing Section Research Conference, 2013

Moderator – AAA Annual Meeting, 2012

Reviewer – AAA Accounting, Behavior and Organizations Section Research Conference,  
2012

Wrote and revised journal summaries for the Auditing Section Research Summary  
Database, 2011

## References

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Dr. Bryan K. Church  
Professor of Accounting  
Scheller College of Business  
Georgia Institute of Technology  
800 West Peachtree Street NW  
Atlanta, Georgia 30308

Email:  
bryan.church@scheller.gatech.edu  
Phone: (404) 894-3907

Dr. Adam Vitalis  
Assistant Professor of Accounting  
Scheller College of Business  
Georgia Institute of Technology  
800 West Peachtree Street NW  
Atlanta, Georgia 30308

Email: adam.vitalis@scheller.gatech.edu  
Phone: (404) 894-3584

Dr. Jeffrey Hales  
Associate Professor of Accounting  
Scheller College of Business  
Georgia Institute of Technology  
800 West Peachtree Street NW  
Atlanta, Georgia 30308

Email: jeffrey.hales@scheller.gatech.edu  
Phone: (404) 894-3897