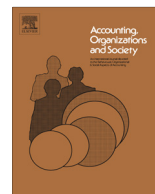




ELSEVIER

Contents lists available at ScienceDirect

Accounting, Organizations and Society

journal homepage: www.elsevier.com/locate/aos

Internal auditors' use of interpersonal likability, arguments, and accounting information in a corporate governance setting [☆]

Kirsten Fanning ^a, M. David Piercey ^{b,*}

^a College of Business, University of Illinois at Urbana-Champaign, Champaign, IL 61820, United States

^b Isenberg School of Management, University of Massachusetts, Amherst, MA 01003, United States

A B S T R A C T

Internal auditors play an important role in influencing managers' judgments. Yet, the practitioner literature indicates that, because internal audit lacks the client services incentives of external audit, internal auditors often adopt a "policeman approach" that can lead to negative interpersonal relationships with managers. We investigate three variables fundamental to internal auditors' ability to influence managers: (1) internal auditors' interpersonal likability, (2) the information used to support their positions, and (3) whether they present that information in a thematically organized argument. We find that managers agree more with an internal auditor who is *both* likable *and* uses a thematically organized argument. We find further that this joint effect occurs regardless of whether the internal auditor's information is relatively supportive or unsupportive of his position. Overall, our theory and findings suggest that an internal auditor can achieve agreement from managers on important corporate governance issues with this fairly straightforward presentation tactic, even when the underlying information is relatively unsupportive and managers otherwise tend not to agree with the internal auditor's position. Our study contributes to accounting, psychology, and writing and discourse theories with new evidence of the effects of an argument structure (holding the underlying information constant) on users' judgments, and how those effects depend on the likability of the source of information. Our findings have important implications for internal auditors, managers, external auditors, and others interested in corporate governance.

© 2014 Elsevier Ltd. All rights reserved.

[☆] We are grateful for the comments and assistance of Chris Agoglia, Jim Bierstaker, Joe Brazel, Tom Clausen, Joshua Herbold, Jessen Hobson, Carol Jessup, Eric Johnson, Kathryn Kadous, Tom Kida, Benjamin Luippold, Mario Maletta, Mike Peters, Kimberly Moreno, Robert Resutek, Chad Simon, Jim Smith, Dan Stone, Hun Tong Tan, David Wood, Arnie Wright, May Zhang, and the editors and two anonymous reviewers. We also thank workshop participants at the University of Massachusetts, Northeastern University, and Villanova University, and conference participants at the American Accounting Association (AAA) Annual Meeting, the AAA Accounting, Behavior, & Organizations Research Conference, and Brigham Young University Accounting Research Symposium for their helpful comments. We thank Sudip Bhattacharjee, Kimberly Moreno, and Tracey Riley for access to their experimental materials.

* Corresponding author. Tel.: +1 217 300 1981/413 545 5585.

E-mail addresses: kirstenf@illinois.edu (K. Fanning), piercey@isenberg.umass.edu (M. David Piercey).

<http://dx.doi.org/10.1016/j.aos.2014.07.002>

0361-3682/© 2014 Elsevier Ltd. All rights reserved.

Introduction

In this study, we examine how three variables, each fundamental to internal auditors' interactions with managers, explain internal auditors' influence on managers' judgments: (1) internal auditors' interpersonal likability, (2) the underlying information supporting their positions, and (3) their use of thematically organized arguments to present that information to managers. As [Prawitt, Smith, and Wood \(2009, p. 1258\)](#) point out, internal auditors tend to interact with managers frequently, and are "often the party primarily responsible for the day-to-day monitoring of management's actions, including those related to external financial reporting" (see also [Bariff, 2003](#); [Cohen,](#)

Hayes, Krishnamoorthy, Monroe, & Wright, 2013; Mercer, 2004).

The practitioner literature indicates that the tone of the interactions between internal auditors and managers varies widely in practice (Deloitte, 2010; Dittenhofer, Ramamoorti, Ziegenfuss, & Evans, 2010; Pickett, 2010; Ratliff & Brackner, 1998). Clearly, many internal auditors have exceptional interpersonal interactions with managers. However, Pickett (2007, 2010) notes that internal audit lacks the client services incentives of external audit, allowing internal auditors to adopt a “policeman approach,” which places little emphasis on positive interpersonal interactions with managers as clients, compared to external audit. Deloitte (2010) similarly notes that the “police” approach to internal audit can harm the manager–internal auditor relationship, and contend that “a dysfunctional relationship [between managers and internal auditors] is a contributing cause, and in some cases, a primary cause” of a variety of accounting problems, including “material weaknesses, financial restatement, regulatory compliance, and the like” (p. 3). Despite the importance of the interpersonal relationship between internal auditors and managers, Archambeault, DeZoort, and Holt (2008), and Prawitt et al. (2009) point out that it has received relatively little research.

We develop theory and experimentally test how internal auditors can use arguments, personal likability, and information to influence managers' judgments. According to theories of writing and discourse, an *argument* is a flowing arrangement of information into thematically connected groups in support of a particular conclusion (e.g., Conners, 1981; Smith, 2003). However, individuals often simply provide information in support of a position as it comes to mind, without organizing it into a structured argument, leaving it to the user to decide how the pieces fit together (Booher, 2001; Guffey, 2010; May & May, 2012). The internal audit practitioner literature indicates a wide variance in the effectiveness of internal auditors' use of arguments in practice (Chambers, 2009; Dittenhofer et al., 2010). For example, Chambers (2009) interviewed managers and executives who indicate that internal auditors often do not provide information in a manner that allows users to easily see how related pieces of information connect together. In other words, internal auditors provide information, but without always structuring it into a coherent, thematically organized, flowing argument (cf. May & May, 2012).

Writing and discourse scholars distinguish arguments (which organize information supporting a position into thematically connected groups) from at least three other forms of rhetoric: narration (connecting information into temporal order), description, and exposition (e.g., Conners, 1981; Smith, 2003). As an example, an internal auditor using an *argument* to recommend a write-down of obsolete inventory (cf. KPMG, 2003) could structure information into thematically connected groups by, for example, first introducing the state of the inventory and its competition, then discussing information about how slowly the inventory is selling, followed by details about the technologically superior products, then discussing the viability of any other sales prospects for the older

inventory, etc. Prior research has shown how other ways of structuring information (holding the underlying information constant) influences how users react to that information (e.g., Lipe & Salterio, 2002; Ricchiute, 1992; Sedor, 2002). For example, Sedor (2002) manipulated whether analysts received optimistic earnings guidance in temporal, causal narratives that linked past states of the firm to current states to plans for the future, or the same information in randomized order. Earnings forecasts were more optimistic when a temporally causal narrative format was used.

In our experiment, managers provide a controller with their input into an inventory write-down judgment for their divisions (e.g., Duncan, 2002), while interacting with an internal auditor who prefers conservatively writing-down the value of the inventory in the financial statements (e.g., KPMG, 2003; Mercer, 2004; Moeller, 2009; Prawitt et al., 2009). We examine this setting within a $2 \times 2 \times 2$ experimental framework, in which the internal auditor is either interpersonally likable or dislikable, and presents information that is either more supportive or less supportive of write-down, in either a coherent, thematically flowing argument structure or not. Similar to Sedor's (2002) manipulation of temporal narratives, our manipulation of arguments holds the underlying information about inventory constant by comparing the argument condition to a condition in which the internal auditor presents the same statements about inventory in an unorganized order.

We combine theories from writing and discourse, psychology, and accounting to build our predictions. Because people find the thematically structured flow of an argument appealing, and because positive affective states lead to heuristic processing, we predict that managers will heuristically agree more with an internal auditor who is both likable and uses an argument structure, beyond the effects of how supportive or unsupportive the internal auditor's information is of his position. Our findings are consistent with this hypothesis. First, our most basic finding is that managers (unsurprisingly) agree more with an auditor who uses more supportive information than one who uses less supportive information. However, beyond that, they *also* agree more with an internal auditor who is *both* likable *and* uses a thematically organized argument structure, *regardless* of whether the information presented is relatively supportive or unsupportive of the internal auditor's position. In fact, our results demonstrate that an internal auditor can achieve (on average) agreement from managers simply because he is likable and uses a flowing argument structure, even when the underlying information is relatively unsupportive and managers otherwise (on average) do not to agree with the internal auditor. Overall, our theory and findings suggest that internal auditors can achieve additional agreement from managers on important corporate governance issues, above and beyond how supportive or unsupportive their information is, by using an argument structure and likability jointly, as a fairly straightforward presentation tactic.

This is the first study of which we are aware to demonstrate how structuring information into thematically organized arguments (holding constant the underlying information presented) interacts with an information

provider's likability to prompt additional agreement from users that would not otherwise occur. As a result, we contribute to both the research literature on interpersonal likability (e.g., Kida, Moreno, & Smith, 2001; Moreno, Kida, & Smith, 2002), as well as the literatures on persuasion and other related theories (e.g., Kadous, Leiby, & Peecher, 2013; Pennington & Hastie, 1986, 1988, 1993; Rich, Solomon, & Trotman, 1997; Sedor, 2002; Suedfeld, Tetlock, & Streufert, 1992). In addition, our study also has other important implications for accounting theory, research and practice. Accounting is not just about the mere aggregation of data, but how accountants present that data to other social beings in a social–organizational setting (Bonner, 2008; Kachelmeier, 2010; Kinney, 2001). While prior research has shown that internal auditors have at least some impact on managers' judgments (Prawitt et al., 2009), our study can help develop a theory about day-to-day behavioral factors that drive variance in internal auditors' influence over managers' judgments, as called for by Prawitt et al. (2009) and Archambeault et al. (2008). Internal auditing is a "relationship and communications business" in which information is communicated within an organizational context to influence managers (Dittenhofer et al., 2010). As Kachelmeier (2010) puts it, firms do not make accounting decisions, people make accounting decisions, and those decisions are shaped by the behavioral interactions of individuals within the social environment of their firms. Our study can help form an empirical basis for the soft skills education and training called for in the internal audit practitioner literature (e.g., Dittenhofer et al., 2010; IIA, 2013a, 2013b; Moeller, 2009; Pickett, 2010). In addition, our findings should also be informative to external auditors, managers, researchers, and others interested in influencing managers' judgments and corporate governance.

Theory

Interpersonal likability

As noted in the introduction, the practitioner literature indicates that the tone of the interactions between internal auditors and managers varies widely in practice, with some internal auditors occasionally adopting a "police" approach that can lead to dysfunctional manager–internal audit relationships (e.g., Deloitte., 2010; Pickett, 2007, 2010). Prior research suggests that managers have affective reactions to others' interpersonal likability as they interact with them within organizational settings (Kida et al., 2001; Moreno et al., 2002). Individuals are more likely to incorporate their affective reactions into subsequent judgments when other task factors prompt heuristic processing (e.g., Chaiken, 1980; Finucane, Alhakami, Slovic, & Johnson, 2000; Schwarz, Strack, Kommer, & Wagner, 1987; Shiv & Fedorikhin, 1999; Siemer & Reisenzein, 1998). This research suggests that, for our setting, when managers do incorporate their affective reactions into their subsequent judgments, they would tend to respond positively (negatively) to a likable (dislikable) internal auditor.

Argument structure and likability

An argument is a form of rhetoric which structures underlying information into thematically related groups of connected ideas that flow together to support a particular position (e.g., Conners, 1981; Smith, 2003). For example, an individual trying to persuade others to support a particular political candidate could organize supportive information into thematically connected groups by, e.g., first discussing information about the high moral character of the politician, then various advantages of the politician's social policy, followed by various advantages of the politician's fiscal policy, then information about the politician's experience and history in past public offices, etc., in a coherent argument structure. Alternatively, individuals can convey the same information supporting a particular position, but without structuring it into an argument (May & May, 2012).¹

An argument structure provides an apparent, appealing thematic flow to the information. Kida (2006) suggests that individuals naturally prefer verbally flowing accounts to raw presentations of data. We propose that an internal auditor's use of an argument structure (holding constant the underlying information) can create additional agreement from managers, without increased attention to how supportive (or unsupportive) the presented information actually is of the internal auditor's position. Specifically, this additional agreement is likely to be the result of a heuristic whereby people simply respond favorably to the apparent thematic flow that an argument structure provides. The strength of the underlying information would still have a predictable directional effect on managers' agreement with the internal auditor's position. But the

¹ Prior accounting research has examined constructs that share similarities with arguments, yet also have important differences as well. Compared to arguments (which arrange *thematically* related pieces of information together in support of a position), the "scenarios" construct in Sedor (2002) matches what writing and discourse scholars refer to as "narratives," a different form of rhetoric from "arguments" that arranges information *temporally* (e.g., Conners, 1981; Smith, 2003). In fact, Sedor (2002) describes the "scenarios" construct as "narratives that concretely describe the sequence of events in which proposed actions lead to future outcomes" (p. 734), and the theory relies on narratives laying out the causal links in the temporal sequence from past states to current states to future outcomes in order to influence forecasts of the future. In addition, similar to our setting of internal auditors providing input (with or without an argument structure) to managers, Kadous et al. (2013) examine the effects of an auditor providing input (with either high or low integrative complexity) to other auditors. Low integrative complexity involves simple, one-sided justifications of advice that do not go into much depth and are not self-critical in the sense that they do not consider tradeoffs on both sides of the issue. High integrative complexity involves deeper justifications that consider more information, including information on both sides of the issue as well as more complex information (see Suedfeld et al., 1992). As a result, integrative complexity is not the same construct as argument structure, since integrative complexity cannot be reduced to a formatting manipulation that holds the underlying information constant, as argument structure can (also, e.g., Lipe & Salterio, 2002; Sedor, 2002). Additionally, arguments and integrative complexity may create different effects. For example, Kadous et al. (2013) predict that auditors become *insensitive* to integrative complexity when receiving input from a coworker whom they respect, know well and like, and have benefitted from working with in the past. In contrast, our theory will suggest that managers will become *more sensitive* to argument structure when receiving input from a likable internal auditor.

additional agreement prompted by such an “argument heuristic” would be likely to occur over and above the effects of the underlying information, and to be insensitive to how strongly or weakly the underlying information supports the internal auditor’s position.

However, whether such an “argument heuristic” would influence managers’ judgments may depend on the likability of the internal auditor providing the argument. Psychology research indicates that individuals in positive affective states are more likely to engage in heuristics than are people in negative affective states, who tend to be significantly less heuristic (e.g., Bless et al., 1996; Bodenhausen, Kramer, & Süsser, 1994; Hertel, Neuhof, Theuer, & Kerr, 2000; Schwarz, 2002; Sinclair, 1988; Sinclair & Mark, 1992). While these studies primarily use mood and emotion to prompt the positive affective states that lead to heuristic processes, Schwarz (2002) notes that the likability of another person is likely to prompt similar positive affective states. The interpersonal likability or dislikability of an internal auditor is likely to trigger positive or negative affective reactions from managers. If so, then the argument heuristic that we propose would be most likely to occur among managers in positive affective states. That is, managers would be likely to agree more with an internal auditor’s position simply because (s)he is *likable* and uses an *argument structure* for the information (s)he presents, above and beyond the effects of how supportive or unsupportive that information is of the internal auditor’s position.

Our theory suggests that an internal auditor’s likability is more likely to impact managers’ agreement with his or her position when the internal auditor uses an argument structure than when s(he) does not. Whether likability is *unlikely* or just *less likely* to impact managers when the internal auditor does *not* use a coherent argument structure is more difficult to predict ex ante. Chaiken (1980) found that the likability of a communicator trying to persuade participants *only* influenced their judgments when other task factors were present that encouraged easier agreement. Thus, when the internal auditor uses an argument structure that facilitates agreement, there is a stronger ex ante basis for predicting that the internal auditor’s likability will influence managers’ judgments. On the other hand, when the internal auditor does not use a coherent argument, this does not facilitate agreement, and it may be more difficult for an internal auditor’s likability alone to influence managers without being offset by self-correction processes that individuals can attempt within social and persuasive settings (see, e.g., Fabrigar, MacDonald, & Wegener, 2005; Wegener & Petty, 1995; Wegener, Petty, Smoak, & Fabrigar, 2004). Still, likability effects may still occur even under conditions that do not maximize their likelihood (Sinclair & Mark, 1992; Slovic, Finucane, Peters, & MacGregor, 2002). Thus, an internal auditor’s likability is more likely to influence managers’ judgments when the internal auditor uses a coherent argument structure. When the internal auditor does not use an argument structure, likability effects may or may not occur, but if they do, they are unlikely to be as large as when an argument structure is used.

By extension, our theoretical development also suggests that use of an argument is more likely to achieve additional

agreement from managers when the internal auditor is likable, than when (s)he is not. Whether a significant argument effect is *unlikely* or just *less likely* to occur when people are in negative affective states is more difficult to predict ex ante. For example, Bodenhausen et al. (1994) found across multiple experiments that stereotyping heuristics *only* occur among people in positive affective states, and Hertel et al. (2000) similarly found that social norm heuristics in free-rider games *only* occur in positive affective states. In contrast, Bless et al. (1996) found that intrusion heuristics were less likely (but still occurred) among people in negative affective states. Whether negative affective states simply reduce or impose a boundary condition on argument effects is unclear. If the appealing aspects of an argument structure facilitate agreement, positive affective states may help individuals reach that agreement more quickly and easily, without engaging in self-correction processes (e.g., Fabrigar et al., 2005; Wegener & Petty, 1995; Wegener et al., 2004). Overall, the strongest ex ante case for making a firm directional prediction for argument effects on agreement with the internal auditor is when managers are in positive affective states. Similar effects may or may not occur when the internal auditor is dislikable, but those effects should be stronger when the internal auditor is likable.

In summary, an internal auditor’s likability is most likely to influence managers’ judgments when (s)he uses an argument structure, and his or her use of an argument structure is most likely to influence managers when the internal auditor is likable. Whether likability and argument structure will create additional agreement *on their own* (i.e., without the other factor present) is less clear based on prior theory and research. They may, or they may not. Still, the best case for predicting additional agreement with the internal auditor (beyond the effects of the internal auditor’s underlying information) is when the internal auditor is *both* likable *and* uses an argument structure. This suggests the following hypothesis:

Hypothesis. Managers will agree relatively more with a likable internal auditor using an argument structure, and, in comparison, relatively less with a likable internal auditor not using an argument structure, with a dislikable internal auditor using an argument structure, or with a dislikable internal auditor not using an argument structure.

Interpersonal likability, argument structure, and the underlying information

Our hypothesis suggests that internal auditors can use likability and arguments in combination to their advantage, as a relatively straightforward presentation tactic. While internal auditors can generally control how they present information and how they present themselves to managers, they may not always be able to directly control how *supportive* the underlying information is of their recommendation. As such, the information related to the internal auditor’s recommendation may be relatively supportive or relatively unsupportive of the internal auditor’s preferred conclusion. Clearly, we would expect managers

to agree more with an internal auditor when the underlying information is more supportive (vs. less supportive) of the internal auditor's recommendation.

Still, there are at least two advantages to examining the effects of the internal auditor's underlying information in our setting. First, this enables us to test our hypothesis under conditions of relatively supportive information and relatively unsupportive information, and determine whether our hypothesized joint effect appears to be robust to internal auditors' persuasion attempts given either type of information. For example, the argument heuristic predicted by our theory suggests additional agreement from managers without necessarily increased attention paid to the underlying information. This suggests internal auditors could potentially use likability and argument structure jointly to their advantage even when the underlying information is relatively unsupportive of the internal auditor's position. If so, then internal auditors could potentially achieve agreement from managers by this fairly simple joint presentation effect, even when the underlying information is relatively unsupportive and managers otherwise would not agree with the internal auditor. Manipulating the underlying information allows us to test for this possibility. Second, by manipulating the underlying information, we can test for any interactions involving the strength of the underlying information.²

Method

Setting and participants

As Duncan (2002) notes, accounting controllers are specialists in accounting rules, but regularly consult with non-accounting operational and divisional managers (who are closest to the economics of the transactions) for their input into subjective accounting estimates. For instance, Duncan (2002, pp. 402–404) discusses examples of controllers seeking input from operations managers, divisional sales managers, and vice-presidents about the likelihoods of inventory write-downs, write-offs of doubtful receivables, and appropriate accruals of estimated operating liabilities.

² In related research, Sedor (2002) manipulated whether or not a firm used narrative "scenarios" to provide its optimistic earnings guidance. Specifically, that study compared narratives, which arranged the optimistic earnings guidance *temporally* (along the causal path from past states to present states to planned future outcomes), to an unorganized presentation of the same optimistic information. Sedor (2002) suggested that the temporally causal arrangement of the information would lead analysts to process the underlying optimistic earnings guidance more easily, see the causal linkages from past and present states to future outcomes better, and ultimately form more optimistic future-oriented earnings forecasts. Consistent with this, analysts' earnings forecasts were higher when firms structured the underlying optimistic information into narrative scenarios leading to future outcomes. Compared to our setting, narratives arrange information into temporal, causal order, while arguments do not (Connors, 1981; Smith, 2003). Therefore, arguments (with their simpler, thematically organized, and less temporally causal presentation) may not lead managers to process causal linkages within the underlying information more deeply than other (similarly non-causal) ways of presenting the information would. Still, by manipulating the internal auditor's underlying information, we can observe whether arguments similarly affect sensitivity to the internal auditor's information by testing for interactions involving argument structure and the underlying information.

Our experimental case places participants into the role of a mid-level manager who provides input to a controller about whether the value of inventory should be written-down in the financial statements as obsolete. Accordingly, we recruited managers, executives, and other professionals in management training programs to participate in the study. Our 133 participants averaged 8.5 years of professional business experience and 4.4 years of managerial experience. Consistent with their role in our experimental task, approximately 71 percent of our participants ($n = 95$) were experienced mid-level managers (averaging 9.6 years of professional business experience and 5.3 years of managerial experience; e.g., production managers, project managers, operations managers). Another 5 percent ($n = 7$) were experienced upper-level managers (averaging 14.8 years of professional business experience and 11.2 years of managerial experience; e.g., C-suite executives, president), while 23 percent ($n = 31$) had no managerial experience (averaging 3.7 years of professional business experience; e.g., marketing, financial, and operations personnel).³ Participants ranged from the beginning of their careers to 26 years of professional business experience and 20 years of managerial experience. We do not detect any significant effects of years of managerial experience or years of professional business experience on any of our findings, and therefore we included all participants in our sample. Consistent with this, Anderson, Jennings, Lowe, and Reckers (1997) indicate that inventory write-down issues can be easily understood by decision makers with a wide variety of experience.

In this task, participants form a judgment after receiving input from an internal auditor who believes that the inventory in their division should be written down (cf. Mercer, 2004; Moeller, 2009; Norman, Rose, & Suh, 2011). We adapted our materials from prior research (e.g., Anderson et al., 1997; Bhattacharjee, Moreno, & Riley, 2012), with input from a former internal auditor and controller. Our completed instrument was also reviewed separately by a CPA, CMA, and CISA with experience as both an internal auditor and a controller, who commented on the high realism of the experimental setting and its relevance to practice.

Experimental task

Participants read case information as divisional managers of ManuTech, Inc., a hypothetical firm that designs, manufactures, and sells electronic products for medical and other industries. To encourage participants to pay attention and think about the case, the instrument told participants that they would document the reasons for the judgments they would make in this task. The case provided participants background information about ManuTech, its medical products inventory, and the research and development of its competitors toward a new generation of ManuTech's best-selling medical device. The controller told participants in all conditions that she wanted their input on the likelihood that the value of the

³ We obtain statistically similar results and reach the same conclusions if we include only the participants with managerial experience in our sample ($n = 102$).

division's inventory in that device may need to be written down, and that they would receive related information from an internal auditor (e.g., Bariff, 2003; KPMG, 2003; Moeller, 2009). At the end of the task, participants judged the likelihood that the value of the medical device inventory would need to be written down (*write-down judgments*, our dependent variable). We manipulated three independent variables (*likability*, *information*, and *argument structure*) in a $2 \times 2 \times 2$ full-factorial between-subjects design.

Likability

Likability manipulated whether the internal auditor providing the information about inventory was either interpersonally likable or dislikable (Appendix A).

While introducing the internal auditor as the source of information about inventory, the controller described the internal auditor in the likable (dislikable) condition as easy to be around, down to earth, nice, and understanding (hard to be around, arrogant, a jerk, and condescending). The internal auditor then politely (rudely) interacted with participants (adapted from Bhattacharjee et al., 2012), expressing his opinion that the inventory should be written down, and indicating that he would provide supporting reasons for this conclusion in a separate email.

Information and argument structure

Participants then received the internal auditor's email. The information in this email was devoid of the *likability* manipulation. Instead, it manipulated two variables: *information* and *argument structure* (Appendix B).

Information manipulated whether the available information was more or less supportive of write-down (adapted from Anderson et al., 1997). Specifically, the competition produced a new product that was technologically superior but unproven in the marketplace, brought to market in a rush with inadequate testing, while the company's product was technologically inferior but had an established reputation and alternative sales markets. The information less (more) supportive of write-down manipulated whether the competition's product would be brought to market later (or sooner) at a similar (or lower) price as the company's product, whether the company's product was selling more quickly (or more slowly), whether its alternative markets had better (or worse) sales prospects, whether price changes will (or will not) be necessary, etc.⁴

⁴ We manipulated *information* to achieve systematic variation in how strongly the information supported write-down. The less supportive information is not outright unresponsive in a way that would make the internal auditor's recommendation seem unreasonable or implausible. For example, it is not as though the internal auditor was arguing write-down for a cutting-edge product flying off the shelves; in both cases the inventory faced competition from a new, technologically superior product. We designed the less supportive information to be weaker than the more supportive information but still at least somewhat suggestive of inventory obsolescence so that the internal auditor's preference for recognizing obsolescence would remain plausible. The levels of actual inventory write-down judgments in our results suggest that we achieved substantial variation in information strength without switching to implausibility. Mean judgments indicate at least some risk of write-down in every condition.

Argument structure manipulated whether that information was structured in a thematically flowing, coherent argument or not. In the argument condition, the internal auditor's email was organized so that thematically connected pieces of information were joined together into flowing paragraphs. Specifically, the internal auditor began with an opening paragraph about the inventory and its competition, and then discussed how well the inventory is selling, then other technologically superior products on the market, then the current viability of alternative sales markets, etc., in a thematically structured argument. In contrast, the no argument condition provided exactly the same statements about inventory as in the argument condition, but in an arbitrary order, following the design of Sedor (2002). To control for any potential, but unanticipated, order effects within the no argument condition, participants in this condition received one of four arbitrary orderings of the same information about inventory, as in Sedor (2002) and similar to Lipe and Salterio (2002). Our participants' responses within this condition are not sensitive to which arbitrary ordering they received (all p 's > 0.18).⁵ Thus, our no argument condition presents the same information, but without the thematically structured flow of the argument condition.

Case conclusion and response variables

The internal auditor's email then closed politely (rudely) in the likable (dislikable) conditions. We then asked participants to provide on a scale from 0 to 100 their beliefs about the likelihood that the value of the medical device inventory would need to be written down (*write-down judgments*; Appendix C).

Participants then completed a separate post-experimental questionnaire. This questionnaire asked participants to rate on scales from 1 to 9 the extent to which they believed the internal auditor to be a reliable (*perceived reliability*) and objective (*perceived objectivity*) source of information, as well as respond to manipulation check questions.

Results

Manipulation checks

As a *likability* manipulation check, the post-experimental questionnaire asked participants to rate the likability of the internal auditor's attitude on a scale from 1 to 9. In the dislikable condition, participants' average response is

⁵ We adapt other design features that have been used in prior research investigating the effects of an information structure on users' judgments (e.g., Lipe & Salterio, 2002; Sedor, 2002). Besides the four arbitrary orderings in the no argument condition, the argument condition began with the phrase "Let me start by saying that" immediately before the first statement about inventory, which was not present in the no argument condition, in order to maintain a transitional flow into the introduction of the argument that would be absent in the no argument condition (Graesser, Millis, & Zwaan, 1997; Sedor, 2002). However, each individual statement about inventory was present in both the argument and no argument conditions (as in Sedor, 2002 Experiment 2), to hold the underlying information about inventory constant.

significantly below the midpoint 5 ($t_{118} = -10.72$, $p_{\text{one-tail}} < 0.001$).⁶ In the likable condition, participants' average response is significantly above the midpoint (6.1, $t_{118} = 4.45$, $p_{\text{one-tail}} < 0.001$), and significantly above the dislikable group (6.1 vs. 2.1; $t_{118} = 10.86$, $p_{\text{one-tail}} < 0.001$).⁷ As an *information* manipulation check, the post-experimental questionnaire presented participants with the data from both treatment levels of the *information* manipulation, and asked them to identify which data set is more strongly supportive of inventory write-down. Participants identified the information from the more (less) supportive condition as the more (less) supportive information set 93 percent of the time, significantly better than chance ($\chi^2_1 = 99.4$, $p < 0.001$).⁸

In addition, we conducted a follow-up study that gathered additional manipulation checks and other post-experimental measures as its dependent variables, using a sample of 70 similar professionals from similar management training programs. Participants in this follow-up study averaged 11.0 years of professional business experience and 6.4 years of managerial experience, and had up to 30 and 29.9 years, respectively. Consistent with our main experiment, most of these participants (84 percent, $n = 59$) were middle-level managers, 7 percent ($n = 5$) were upper-level executives, 9 percent ($n = 6$) had no managerial experience, and experience does not affect our findings in this follow-up study. We manipulated *argument structure* and *likability* exactly as in our main experiment, and (because we do not find any statistically significant interactions involving *information* in our main experiment), we held *information* constant at the less supportive level. For our argument manipulation checks, the theoretically

important aspects of arguments are (1) that they provide a thematically flowing structure to the information, and (2) that people naturally respond favorably to this thematic structure. Accordingly, we asked participants in the follow-up study to rate on 9-point Likert-type scales (1) how structured they perceived the internal auditor's information about inventory to be, as well as (2) how persuasive they perceived the information to be. Participants perceived the (otherwise identical) information to be more structured (means (standard deviations) = 5.7 (2.2) vs. 3.6 (2.5), $t_{66} = 3.76$, $p_{\text{one-tail}} < 0.001$) and more persuasive (means (standard deviations) = 5.6 (1.8) vs. 4.0 (2.2), $t_{66} = 3.23$, $p_{\text{one-tail}} = 0.001$) in the argument conditions than in the no argument conditions. In fact, in results not tabulated in this paper, we find that perceived structure fully mediates the effect of arguments on perceived persuasiveness, consistent with our theory that it is the *thematically organized structure* of information in an argument to which individuals respond favorably.⁹ Overall, participants' responses to all of our manipulation checks across both experiments vary as expected.¹⁰

Hypothesis tests

Table 1 shows descriptive statistics for our dependent variable, *write-down judgments*, by experimental condition, and Table 2 (Panel A) shows an analysis of variance.¹¹ As Table 2 shows, we find a significant main effect of *information*. Specifically, across experimental conditions, participants' write-down judgments are, on average, 23.2 percentage points higher in the more supportive *information* conditions than in the less supportive *information* conditions (69.3 vs. 46.1, $t_{125} = 6.20$, $p_{\text{one-tail}} < 0.001$). Thus, overall, managers reacted to the underlying information presented by the internal auditor as expected.

The ANOVA table also shows a significant *argument structure* \times *likability* interaction ($F_{1,125} = 11.17$, $p = 0.001$; Table 2). Fig. 1 shows the least-squares means of this interaction from the ANOVA model.¹² This interaction from

⁶ We use one-tailed p -values for t -tests of manipulation checks, the information main effect, and our hypothesis where we make directional predictions, and denote them with a subscript, $p_{\text{one-tail}}$. All other p -values are two-tailed.

⁷ Given the variation in interpersonal likability that likely exists in practice (Pickett, 2007), we wanted to achieve dislikable conditions that were both strong (Kerlinger & Lee, 2000) and realistic. While the 2.1 mean rating in the dislikable group was significantly below the midpoint of the scale, it was also significantly above the lower endpoint of the scale ($F_{1,118} = 16.8$, $p < 0.001$). Cohen's d (a measure of practical significance) also suggests that this rating is well above the lower endpoint of the scale ($d = 0.82$).

⁸ Our objective with the information manipulation check is to provide construct validation that the information we placed into the *more supportive* information condition was in fact more supportive of inventory obsolescence than the information we placed into the *less supportive* information condition. Rather than the within-subjects manipulation check we used, we could have tested this between-subjects by simply asking participants how much the information from the internal auditor's email was supportive of inventory obsolescence. However, we did not use this approach because, as Pedhazur and Schmelkin (1991, p. 263) suggest, simply asking participants to rate how supportive the internal auditor's information was of his position might not accomplish our objective if participants interpreted the question in light of how they responded to our dependent variable measuring whether they agreed with the internal auditor. Unlike our dependent variable *write-down judgments*, participants' responses to our within-subjects manipulation check was not significantly influenced by our other manipulated factors (i.e., argument structure and likability), whereas a between-subjects manipulation check might have been. Reffett (2010) uses a within-subjects manipulation check for similar reasons. The results of our manipulation check accomplishes its purpose of providing empirical evidence that our *more supportive* information was more suggestive of inventory obsolescence than our *less supportive* information.

⁹ Additionally, while our main experiment asked participants to rate how much they liked the individual auditor's *attitude*, we asked participants in this follow-up study to make the same rating of his attitude, plus ratings of his interpersonal skills and of his personal likability. Findings for all three of these variables are similar to those in our main experiment (all $p_{\text{one-tail}} < 0.001$).

¹⁰ Our manipulation checks only vary according to main effects of their matching manipulated variables. For each, we do not find any significant interactions or main effects involving the *other* manipulated variables. We obtain statistically similar results when dropping observations that failed our manipulation checks.

¹¹ Tests of ANOVA model assumptions are well below levels that elevate type I error rates (i.e., below levels that would suggest an increased risk of finding spurious effects; see Neter, Kutner, Nachtsheim, & Wasserman, 1996; Tabachnick & Fidell, 2001).

¹² The least-squares means in Fig. 1 show participants' responses collapsed across *information* (Neter et al., 1996; Searle, Speed, & Milliken, 1980). Because *information* does not interact with *argument structure* or *likability* in any two-way interactions or in a three-way interaction (Table 2, Panel A; see also Table 3 Panel A), results within each level of the *information* conditions are statistically similar to those in Fig. 1, with the only significant exception being that the means within the more supportive *information* conditions are, on average, 23.2 percentage points higher than those in the less supportive information conditions.

Table 1Write-down judgments: Mean, (standard deviation), and *n* by experimental condition.

Information	More supportive		Less supportive	
	No argument	Argument	No argument	Argument
Likability				
Likable	67.1 (26.4) <i>n</i> = 14	82.0 (15.7) <i>n</i> = 20	37.9 (23.3) <i>n</i> = 14	62.5 (25.2) <i>n</i> = 20
Dislikable	64.2 (17.5) <i>n</i> = 18	63.8 (15.8) <i>n</i> = 17	47.1 (24.4) <i>n</i> = 17	36.9 (20.6) <i>n</i> = 13

Table 2

Write-down judgments, analysis of variance, and hypothesis tests.

Panel A: Analysis of variance						
Source	Sum of squares	<i>df</i>	Mean square	<i>F</i>	<i>p</i>	
Information	17466.6	1	17466.6	38.49	<0.001	
Argument structure	1708.4	1	1708.4	3.76	0.055	
Likability	2856.8	1	2856.8	6.30	0.013	
Argument structure × likability	5066.9	1	5066.9	11.17	0.001	
Information × argument structure	<0.1	1	<0.1	<0.01	>0.999	
Information × likability	46.3	1	46.3	0.10	0.750	
Information × argument structure × likability	777.5	1	777.5	1.71	0.193	
Error	56723.3	125	453.8			
Panel B: Hypothesis tests						
Source	Sum of squares	<i>df</i>	Mean square	<i>t</i> ₁₂₅	<i>p</i> _{one-tail}	
Test of our hypothesis						
Contrast weights of +3, −1, −1, −1 ^a	10501.9	1	10501.9	4.81	<0.001	
Supplementary tests of our hypothesis						
Contrast weights of +3, −1, −1, −1 ^a within the more supportive information conditions	4069.5	1	4069.5	2.99	0.002	
Contrast weights of +3, −1, −1, −1 ^a within the less supportive information conditions	6560.4	1	6560.4	3.80	<0.001	

^a These contrast weights assign +3 to the likable/argument group, and −1 to the likable/no argument group, the dislikable/argument group, and the dislikable/no argument group (e.g., Fig. 1). Our results replicate with alternative contrast weights also consistent with our theory.

the ANOVA table indicates that an argument structure had a greater impact on managers' judgments when the internal auditor was likable than when he was dislikable, consistent with our theory.

Our hypothesis predicts an ordinal interaction such that managers will agree more with the internal auditor when he is *both* likable and uses an argument structure, and relatively less under other conditions. To test this prediction, we examine whether the observed means match the pattern predicted by our hypothesis (Buckless & Ravenscroft, 1990). First, as Fig. 1 shows, the means occur in a pattern consistent with our expectations (see Keppel & Wichens, 2004; e.g., Kadous et al., 2013). Second, we use contrast weights of +3 for the likable/argument structure condition, and −1 for the remaining conditions shown in Fig. 1, and find statistically significant results ($t_{125} = 4.81$, $p_{\text{one-tail}} < 0.001$; Table 2, Panel B). Moreover, the three conditions assigned the weight of −1 do not differ significantly from each other ($F_{2,125} = 0.44$, $p = 0.61$; Buckless & Ravenscroft, 1990). These results support our hypothesis. In addition, the means within the more supportive and less supportive information conditions (see Table 1) also occur in the expected pattern. Specifically, tests within each level of information using contrast weights of +3, −1, −1, −1 provide statistically similar results ($p_{\text{one-tail}}$'s ≤ 0.002 ; Table 2,

Panel B). Moreover, the three conditions within each level of information assigned weights of −1 similarly do not differ significantly from one other, as well (p 's ≥ 0.34).¹³

Supplementary analyses: Simple effects tests

Tests of the simple effects indicate the following results. When the internal auditor is likable, the use of an

¹³ While our theory suggests firm ex ante predictions of an effect of an argument given likability and of likability given an argument, our theory does not suggest firm ex ante predictions of an effect of an argument given dislikability nor of likability given no argument. Our primary set of contrast weights of +3, −1, −1, −1 reflect this. Yet, our theory does not exclude the possibility of a relatively smaller effect of an argument given dislikability, and/or a relatively smaller effect of likability given no argument. When we use alternative contrast weights that imply an expectation of these relatively smaller simple effects (e.g., [+3, −½, −1¼, −1¼], [+3, −1¼, −½, −1¼], and [+3, −¾, −¾, −1½] for the likable/argument, likable/no argument, dislikable/argument, and dislikable/no argument groups, respectively), our hypothesis tests replicate (all $p_{\text{one-tail}}$'s < 0.001). Further, regardless of whether we use +3, −1, −1, −1 or these alternative sets of contrast weights, we do not detect any further significant residual between-cells variance beyond the ordinal interaction and the information main effect (all p 's ≥ 0.53 ; Buckless & Ravenscroft, 1990). Hereafter, we focus the presentation of our results on the set of contrast weights +3, −1, −1, −1 for brevity. However, our results and conclusions are not sensitive to this choice. Of all the sets of contrast weights, we find that +3, −1, −1, −1 is most consistent with our simple effects tests (which follow).

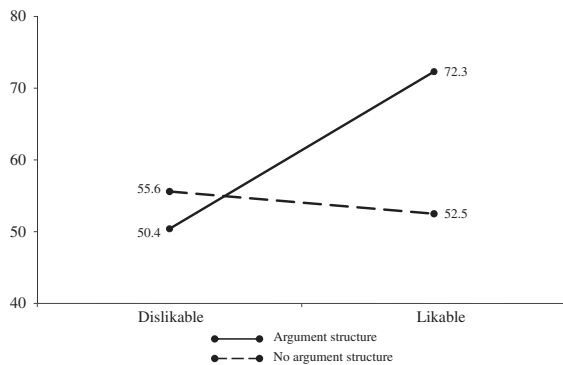


Fig. 1. Write-down judgments from the ANOVA model. This figure shows the interaction that matches the predicted interaction in our hypothesis. Dependent variable (vertical axis): Write-down judgments, managers' assessed likelihood that the company will need to write down the value of the medical device inventory, from 0 to 100. Means are from the ANOVA model in Table 2. Results from the ANCOVA model in Table 3 are statistically similar. Independent variables: Likability (horizontal axis) was manipulated as either a likable or a dislikable interpersonal approach of the internal auditor. Argument structure (separate lines) manipulated whether or not the internal auditor structured the information into a thematically organized argument or not (holding the underlying information constant). Information was also manipulated as either more or less supportive of write-down. Because information does not interact with argument structure or likability (Tables 2 and 3), results within each level of information (Table 2 Panel A) are statistically similar to those collapsed across information, above. They differ significantly only in the sense that means within the more supportive information conditions are, on average, 21.6 percentage points higher than those in the less supportive information conditions.

argument structure increases participants' write-down judgments by 19.8 percentage points (72.3 vs. 52.5, $t_{125} = 3.76$, $p_{\text{one-tail}} < 0.001$; Fig. 1). However, an argument structure has no significant effect when the internal

auditor is dislikable (50.4 vs. 55.6, $F_{1,125} = 0.97$, $p = 0.33$; Fig. 1). Additionally, when the internal auditor uses an argument structure, likability increases participants' write-down judgments by 21.9 percentage points (72.3 vs. 50.4, $t_{125} = 4.23$, $p_{\text{one-tail}} < 0.001$; Fig. 1). However, likability has no significant effect when the thematic structure of an argument is removed (52.5 vs. 55.6, $F_{1,125} = 0.33$, $p = 0.57$; Fig. 1). Furthermore, tests of these same significant and insignificant simple effects (a) within the more supportive information conditions and (b) within less supportive information conditions (see Table 1) replicate with statistical significance (all $p_{\text{one-tail}}$'s ≤ 0.024) and insignificance (all p 's ≥ 0.20), respectively. These supplementary results are also consistent with our theory and our hypothesis.

Supplementary analyses: Less supportive information

Results within the less supportive information conditions (Table 1) illustrate how an internal auditor with otherwise weak information could alter managers' decisions using likability and argument structure jointly. The 50 percent midpoint indicates the point at which participants would be more likely than not to write down the inventory (Budescu & Wallsten, 1995). Within the less supportive information conditions, participants' judgments across all but the likable-argument group (Table 1) are not significantly different from one another, and, as a group, are significantly below the 50 percent midpoint (mean = 40.6, $F_{1,125} = 8.44$, $p = 0.004$). However, when the likable-argument group receives this less supportive information, participants' judgments are significantly above the 50 percent midpoint (mean = 62.5, $F_{1,125} = 6.89$, $p = 0.010$). This illustrates that internal auditors can achieve, on average, agreement from managers for their preferred position by using likability and argument

Table 3

Write-down judgments, analysis of covariance, and hypothesis tests.

Panel A: Analysis of covariance						
Source	Sum of squares	df	Mean square	F	p	
Fixed factors						
Information	14095.6	1	14095.6	35.67	<0.001	
Argument structure	1245.7	1	1245.7	3.15	0.078	
Likability	1117.9	1	1117.9	2.83	0.095	
Argument structure \times likability	5056.5	1	5056.5	12.97	0.001	
Information \times argument structure	55.2	1	55.12	0.14	0.709	
Information \times likability	219.0	1	219.0	0.55	0.458	
Information \times argument structure \times likability	275.9	1	275.9	0.70	0.405	
Covariates						
Perceived reliability	5360.8	1	5360.8	13.56	<0.001	
Perceived objectivity	221.9	1	221.9	0.56	0.455	
Error	46638.1	118	395.2			
Panel B: Hypothesis tests						
Source	Sum of squares	df	Mean square	t_{125}	$p_{\text{one-tail}}$	
Test of our hypothesis						
Contrast weights of +3, -1, -1, -1 ^a	7630.5	1	7630.5	4.39	<0.001	
Supplementary tests of our hypothesis						
Contrast weights of +3, -1, -1, -1 ^a within the more supportive information conditions	3322.0	1	3322.0	2.90	0.002	
Contrast weights of +3, -1, -1, -1 ^a within the less supportive information conditions	4337.2	1	4337.2	3.31	<0.001	

^a These contrast weights assign +3 to the likable/argument group, and -1 to the likable/no argument group, the dislikable/argument group, and the dislikable/no argument group. Our results replicate with alternative contrast weights also consistent with our theory.

structure jointly, even using information that managers otherwise, on average, do not agree with.

Supplementary analyses: Perceptions of an internal auditor as a source of information

Our experimental design allows us to test whether the hypothesized ordinal interaction on managers' *write-down judgments* occurs above and beyond any concurrent effects in perceptions of the reliability or objectivity of the internal auditor as a source of information. To investigate this, we repeat our analyses using the least-squares means from ANCOVAs that include either *perceived reliability* as a covariate, *perceived objectivity* as a covariate, or both (Table 3) as covariates.¹⁴ We find that the ordinal interaction predicted by our hypothesis, as well as the *information* main effect, both replicate after controlling for either *perceived reliability*, *perceived objectivity*, or both as covariates. Specifically, the tests of our hypothesis and of the *information* main effect are significant before controlling for the covariates ($p_{\text{one-tail}} \leq 0.002$, Table 2), and these effects remain significant after including either one or both of the covariates (all $p_{\text{one-tail}} \leq 0.005$; e.g., Table 3 $p_{\text{one-tail}} \leq 0.002$). Thus, the ordinal interaction on *write-down judgments* predicted by our hypothesis remains significant after controlling for *perceived reliability* and *perceived objectivity*. In addition, within this ordinal interaction, the likable/no argument, dislikable/argument, and dislikable/no argument conditions remain not significantly different from one another after controlling for either or both of the covariates (all p 's ≥ 0.26 ; Buckless & Ravenscroft, 1990). This overall replication of our results within ANCOVA suggests that the joint effect of likability and argument structure on managers' judgments occurs above and beyond any concurrent effects impounded in participants' perceptions of the reliability or objectivity of the internal auditor (Morgan-Lopez & MacKinnon, 2006).

In the follow-up experiment that we used to gather additional manipulation checks (discussed previously), we also measured *perceived competence* and *perceived credibility* as alternative measures of the internal auditor as a source of information.¹⁵ Recall that this was a 2×2

experiment manipulating *likability* and *argument structure*, and measuring supplemental manipulation checks along with *perceived competence* and *credibility*. This supplemental experiment did not also collect participants' *write-down judgments*, and therefore we cannot include *perceived competence* and *credibility* into an ANCOVA as we did *perceived reliability* and *objectivity* in our main experiment. However, we can examine the means of *perceived competence* and *credibility* in this supplemental experiment to determine whether *likability* and *argument structure* appear to influence them in a manner similar to the pattern predicted by our hypothesis for participants' *write-down judgments*.

For *perceived competence*, we do not detect significant effects of *likability* and/or *argument structure* in any way (all p 's ≥ 0.33). This suggests that our primary findings on *write-down judgments* are unlikely to be driven by concurrent effects on *perceived competence*. For *perceived credibility*, we similarly find that this variable does not occur in the ordinal interaction pattern hypothesized for *write-down judgments* (p 's ≥ 0.26 ; Kadous et al., 2013). However, ANOVA analyses suggest an *argument structure* \times *likability* interaction ($F_{1,66} = 3.47$, $p = 0.067$). Simple effects tests indicate that this interaction has both differences and similarities with the pattern predicted for *write-down judgments*. With an argument structure, participants' *perceived credibility* ratings (on scales from 1 to 9) do not differ between the dislikable and likable conditions (5.9 vs. 6.4, respectively; $F_{1,66} = 0.90$, $p = 0.35$). With no argument structure, however, they appear to (6.4 vs. 5.4, respectively; $t_{66} = -1.67$, $p = 0.099$). More consistent with the pattern predicted for *write-down judgments*, an argument structure appears to increase *perceived credibility* in the likable conditions (5.4 vs. 6.4; $t_{66} = 1.77$, $p = 0.082$), but not in the dislikable conditions (6.4 vs. 5.9; $F_{1,66} = 0.82$, $p = 0.37$). While contrast weight tests consistent with the expected ordinal interaction are not significant, given the interaction in the ANOVA model, it is unclear how *perceived credibility* may mediate the results in our main experiment. Future research can examine further the effects of likability and argument structure on the perceived credibility of a source of information.

Conclusion

We develop theory and present empirical evidence that an internal auditor can use likability and arguments jointly to influence managers' judgments above and beyond the effects of the information presented. Our results suggest that this additional agreement with the internal auditor occurs when the internal auditor has either relatively supportive or relatively unsupportive information for his position. Thus, internal auditors can potentially use likability and argument structures to achieve agreement from managers on important corporate governance issues, even when the underlying information is relatively unsupportive and managers otherwise tend not to agree with the internal auditor's position.

This conclusion has implications for both theory and internal audit practice. It can help researchers begin to build a theory of factors that explain variance in an internal

¹⁴ Individually, *perceived reliability* and *perceived objectivity* are both significant covariates, indicating that participants agree more with an internal auditor whom they perceive (for whatever reason) as more reliable or objective. When both are covariates, *perceived objectivity* is no longer significant in the presence of *perceived reliability* (Table 3). In fact, we find that *perceived reliability* fully mediates (i.e., fully explains) the effect of *perceived objectivity* on agreement with the internal auditor.

¹⁵ In the accounting literature (e.g., Allen & Ramanna, 2013; Hirst, 1994), reliability is defined as the ability of an information source to report information without error and therefore to be relied upon, and includes both objectivity and competence. Objectivity refers to the ability of an information source to report without bias, while competence refers to the ability of an information source to report without noise. Credibility is defined either equivalent to reliability, or as a source's reputation for reliability (e.g., DeZoort, Hermanson, & Houston, 2003; King, Davis, & Mintchik, 2012). We measure our participants' perceptions of these variables. Those perceptions may or may not draw the same distinctions that the research literature does, but all four of these variables measure our participants' perceptions of the internal auditor as a source of information, and that is the basic purpose we use them for in these supplemental analyses.

auditor's ability to influence managers, as called for by Prawitt et al. (2009), Archambeault et al. (2008), and Burton, Emmett, Simon, and Wood (2012). Moreover, it focuses on behavioral factors natural to the day-to-day and year-round interpersonal interactions between internal auditors and managers, consistent with the theory underlying the archival findings of Prawitt et al. (2009). Our findings could help form an empirical foundation for the education and training called for by Pickett (2007, 2010), Chambers (2009), Dittenhofer et al. (2010) and the IIA (2013a, 2013b). For example, our findings illustrate how and when internal auditors can achieve agreement from managers using tactics that can be effective even when the underlying information supporting their position is not particularly strong. While these findings have implications for internal auditors, they should also be of interest to managers, external auditors, and others concerned with corporate governance.

We blend theories from accounting, psychology, and writing and discourse literatures to build the theoretical predictions for our setting. We submit that the argument heuristic we propose can contribute to these theories and is (by our search of the relevant literatures) new, as is its moderation by interpersonal likability. Thus, our study contributes to judgment and decision making theory, as well as to the accounting corporate governance theory that we inform.

Like all empirical studies, ours has limitations. We do not consider all factors of the manager–internal auditor relationship that may moderate our results. Future research may investigate other real-world factors related to the internal auditing task, context, or decision makers that may amplify or mitigate our findings. For example, we use an experimentally controlled, hypothetical auditor to test the effects of arguments and likability on actual managers. This approach is consistent with accounting studies on auditor–client negotiation that similarly use an experimentally manipulated auditor to test the effects of various negotiation tactics on managers (e.g., Perreault & Kida, 2011; Tan & Trotman, 2010). However, in practice, managers could also use arguments and likability, in turn, to influence the internal auditors attempting to influence them. The ultimate outcome in such settings may depend on other factors that we do not consider in this study (e.g., which side makes the final judgment, which side has the stronger motivations to persuade, which side is a source of the underlying information for the judgment). Our setting provides only one combination of these factors. Future research could explore these and other factors that affect accounting outcomes in settings where both sides can select their own presentation tactics such as likability and arguments. Despite these limitations, we present new theory and findings with practical and theoretical implications for the importance of the internal auditor–manager relationship and internal auditors' ability to influence managers. We believe that our study can both inform and motivate future work in an early but growing research stream on characteristics of internal audit and the internal auditor–manager relationship. In fact, we both respond to and join the call for more research into this institutionally

important relationship (Archambeault et al., 2008; Burton et al., 2012; Prawitt et al., 2009).

Appendix A. Likability manipulation

Language in the likable [dislikable] conditions is shown in *italics* [brackets].

A.1. Excerpt from discussion with Jennifer Barnes, Controller

One reason I enjoy working at ManuTech is that it's always good to have experience working with great people. In general, ManuTech does a good job hiring people who are team players, *and Ryan Davis is no exception* [but I must warn you that Ryan Davis is certainly an exception]. I know you usually do not work with Ryan, but I interact with him and our other internal auditors quite frequently. Let me tell you, *Ryan's down to earth and really easy to be around* [pretty arrogant and very difficult to be around]. Some of our other internal auditors in the company *are really arrogant* [are really down to earth], but not Ryan. Basically, he's *just a nice guy* [got a huge ego]. I remember one time Kaitlin Greene, one of our external audit firm's brand new staff auditors who was fresh out of training, wanted to meet with Ryan and I to get some information. Ryan knew this was her first audit out of training, and he was *really patient with her and put her at ease* [a real jerk with her and made her feel really stupid]. *He even told her that everyone has something to contribute and he was really sincere about it* [He made her feel like she had nothing to contribute and didn't have a handle on anything]. *When I complimented him for making Kaitlin feel comfortable* [I actually asked him if he had a problem with Kaitlin and], without even blinking an eye, he replied that *Kaitlin was able to teach him a thing or two* ['unless you are at my comparable rank and expertise I assume that I will need to carry the load.' It's a total power issue]. Let me tell you, I meet with Ryan all the time and *he's always very gracious and polite* [he enjoys making you feel like you're not up to his standards] – you'll see.

...Like I said, the guy is *great* [difficult] to work with. Every year when we start preparing our financial statements, we typically have to put in some crazy hours. Ryan is always extremely *understanding of* [condescending to my staff when it comes to] the extra work this requires. Last year, I overheard him saying that *he couldn't believe we did it as fast as we did and that he's fortunate because he gets to work with people who really know their stuff. He was pleased with how we all came together to get the job done.* [his staff would never have to run around getting things done at the last minute like that because they work very efficiently, having been so well-trained by him. He knows very well what it's like to complete the financial statements each year, yet he dropped these rude comments anyway. We could all certainly do without his attitude.]

Even his employees *rave about him* [think he's tough to be around]. I once complimented *what a great job he had done and he refused to take all the credit* [his staff and he said the reason they're so good at what they do is because

he trained them]. *He stressed that success is a team effort and he couldn't achieve it without his excellent staff* [He thinks he carries them and that if he left, it would all fall apart]. *You can see his employees appreciate this because they all speak very highly of him. I wish everyone around here were like this guy.* [You can tell his employees don't like him. Whenever he leaves a room, you can see them roll their eyes and exchange frustrated glances]. Well what can you do? Being able to deal with all different situations and personalities is part of the job.

A.2. Discussion with Ryan Davis, Internal Audit Director

It's a pleasure to meet with you today. We've been working at ManuTech together for years and although we don't meet very often, that is no excuse for me to know so little about you. I'm looking forward to working with you. [I told Jennifer that I didn't have time to meet you today, but here you are anyway. She never listens.] *Our company is full of great workers, and I'm sure you're no exception. I always like to work with new people because they always seem to be able to teach me a thing or two and that's what it's all about. Speaking of that – how's Jennifer? Please give her my regards. I'm always pleased with the work that she does – she's terrific.* [I'm sure I'm going to end up having to help you a lot. But I'm used to doing that around here – it seems like everyone needs my help. I find that unless you have a comparable background to me I'm going to end up doing a lot of the work. I hope things will be different with you.]

Jennifer mentioned that you wanted to talk about the potential obsolescence of that component from your division. . . . I'm sure you're *already* [not even] aware of this – [I would assume that] you and Jennifer *always* [would] do your homework before meeting with me, [but that doesn't appear to be the case] – but I have to run back to a training seminar in about five minutes. *I really hate to* [I am going to] *cut our first meeting so short, and I apologize for not having enough time to discuss the issue in person right now* [which is ok because I'm really too busy for this anyway – I told Jennifer my assistant should be handling this menial stuff]. I know that there has been some discussion regarding the valuation of this inventory and everyone seems to have a different opinion. . . . Yeah, I [just don't] understand why some people here think there's not an inventory issue, *but please* [so] *let me tell you why I respectfully disagree* [they're wrong]. *In my opinion*, [I'm telling you] there is an obsolescence issue and a write down is needed.

Since I knew time would unfortunately be short, and I know you need more information about the obsolescence issue, I emailed you the information you are probably looking for. [I knew I wasn't going to have time to mess around with this stuff today, but I know you and Jennifer won't get off my back until you get more information about the obsolescence issue, so I emailed you the information you are probably looking for.] It contains all of the information I have about the situation and you'll see why *I think* [I'm telling you] there is an issue here. Take a look and *of course, let me know if you need anything else.* [if you need anything else, you'll have to contact my assistant or someone from

my staff to help you and they will get you the information you need.]

. . . Anyway, I hope that you'll be very comfortable working with me and asking additional questions of me if necessary. If anyone on my staff does not respond in a reasonable amount of time, let me know and I'll make sure you get what you need. [. . . Anyway, like I said, I won't be surprised if you have additional questions to ask after you read the email. It seems like nobody ever gets things the first time around here. My assistant and staff are available for your questions – they'll make sure you get what you need.] *. . . Well, I should get back to that seminar. . . And of course, don't worry about asking questions. You're just doing your job and I appreciate your thoroughness.* [everyone always worries about asking so many questions, yet I'm sure you're going to ask them anyway, although you shouldn't need to if you just pay a little attention while you read my email.] Some of the questions I get from my colleagues are really thought-provoking and keep me interested in my job. [around here from people are so unbelievably ridiculous!] *It was so nice meeting with you today. Don't be a stranger and take care!* [Oh, and by the way, just so we're on the same page, quite frankly I really don't care to have any more meetings, so make sure you deal with my assistant from now on.]

A.3. Closing of Ryan Davis' Email

I hope you [know you'll] *find this information useful. I'm looking forward to working with you. Please let me know if you want to discuss any of this further. I'd be happy to be of assistance.* [Contact my assistant or my staff if you want to discuss any of this further. You really shouldn't expect someone at my level to be of much assistance on such a menial issue going forward.]

Best regards,
Ryan

Appendix B. Information and argument structure manipulations

B.1. Information Manipulation, Argument Structure Conditions

The information about inventory is presented in an argument structure, below. Language from the more supportive [less supportive] conditions is shown in *italics* [brackets].

B.2. Excerpt from Email from Ryan Davis, Internal Audit Director

Let me start by saying that one of our VPs discovered at a trade show that the competition has designed a technologically superior product that makes one of our components technologically obsolete. Of course you know that our company *has already started work on developing a replacement product, and while it's currently unavailable, it should be available by the end of the current year.* [hasn't started work on developing a replacement product yet.]

My estimates of the current year inventory for this component compared to last year's and two years' ago audited figures suggest that the account has *not fluctuated very much*. [increased each year, with a very significant increase from last year to this year.] In addition, the Inventory Turnover ratio for this year is *similar to* [significantly lower than] what it was last year and two years ago, and it's also *similar to* [much lower than] the industry average. In addition, the Days Inventory ratio for this year is *similar to* [significantly greater than] what it was last year and two years ago, and it's also *similar to* [greater than] the industry average.

As I'm sure you know, our company's production of the old component is *still continuing* [scheduled to stop by the end of next year]. *However*, [Therefore,] I believe we need to calculate significant loss projections on the electronic component inventory due to the technological superiority of the competition's new product. I don't believe there's still time to sell our old product *before the competition is ready to sell their new product*. [because the competition is already selling their new product.] *It's true that the competition won't have their product ready for the market for some time*, so [Since the competition already has their product on the market,] production of our old design may *continue* [is not likely] to serve our existing customer needs *until* [even though] the commercial success and cost competitiveness of the competitor's new technology is [not yet] established. As I mentioned, the competition is already accepting pre-orders, *but it will take 8–20 months for them to gear up to* [and they are currently operating at] full production. In fact, some customers have already *pre-ordered* the device from our competitor, *but* [and] market research suggests customers can't or aren't willing to wait for *the competitor's new product not proven under production conditions*. [our company to introduce a new product to compete with the competition's new component, even though their component is not yet proven under market conditions.] My information sources reveal that the competition has *not* done adequate testing of their new product, [but they were] in a rush to bring it to market as soon as possible.

The competition's new component will sell at *approximately the same* [a lower] price point *that* [than what] our component is currently selling. Basically, I believe *no* significant pricing changes are needed right now, *but if they become necessary* [and] our profitability will be questionable. *However*, [Furthermore,] the competitor has started taking *pre-orders* at a significant price discount in their attempt to gain market share. *So, it is an open question as to whether or not the competition will be successful at taking away our market share as our products have an established reputation in the market*. [It seems to be a consensus opinion that the competition is likely to be very successful at taking away our market share even though our old device has an established reputation in the market.]

As you probably already know, ManuTech has an international marketing team that *aggressively* markets older technology products in developing nations around the world through existing marketing and distribution channels. Initial market research suggests there is a [slight

possibility that a] viable third-world international market [exists for] our old device. [Even if there does prove to be a viable third-world market, the] *The price point at which our old component could be sold in international markets would probably allow us to break-even on the component*. [not be enough to completely cover our product costs for the components.] *However*, [Furthermore,] the size of the this international market is debatable, so it may take up to *two* [four] years to sell off the entire inventory of this component in those markets, and whether market conditions will remain stable in those markets for the duration of the *two* [four] years is questionable.

B.3. Information manipulation, no argument structure conditions

Below we show an excerpt from the no argument structure conditions, which listed the same information about inventory as the argument conditions, but in arbitrary order. Four arbitrary orders were used within the no argument conditions. Again, language from the more supportive [less supportive] conditions is shown in *italics* [brackets].

B.4. Excerpt from Email from Ryan Davis, Internal Audit Director

- My estimates of the current year inventory for this component compared to last year's and two years' ago audited figures suggest that the account has *not fluctuated very much*. [increased each year, with a very significant increase from last year to this year.]
- One of our VPs discovered at a trade show that the competition has designed a technologically superior product that makes this component technologically obsolete.
- As I'm sure you know, our company's production of the component is *still continuing* [scheduled to stop by the end of next year].
- *It is an open question as to whether or not the competition will be successful at taking away our market share as our products have an established reputation in the market*. [It seems to be a consensus opinion that the competition is likely to be very successful at taking away our market share even though our old device has an established reputation in the market.]

Appendix C. Participants' write-down judgments

Please respond to the following question. Consider all of the information that you have been provided on the prior pages. Write your response (0 to 100) in the space provided below the scale. Choose a number that best corresponds to your opinion about the question.

Please indicate what you believe the likelihood is that ManuTech may have to write down their medical component inventory. The closer you choose a number to the right end of the scale, the more you believe that ManuTech may have to write down their medical component inventory.

- Pickett, K. H. S. (2010). *The internal auditing handbook* (3rd ed.). West Sussex, England: John Wiley & Sons Ltd.
- Prawitt, D. F., Smith, J. L., & Wood, D. A. (2009). Internal audit quality and earnings management. *The Accounting Review*, 84(4), 1255–1280.
- Ratliff, R. L., & Brackner, J. W. (1998). Relationships. *The Internal Auditor*, 55(1), 37–41.
- Reffett, A. B. (2010). Can identifying and investigating fraud risk increase auditors' liability? *The Accounting Review*, 85(6), 2145–2167.
- Ricchiute, D. N. (1992). Working-paper order effects and auditors' going-concern decisions. *The Accounting Review*, 67(1), 46–58.
- Rich, J. S., Solomon, I., & Trotman, K. T. (1997). The audit review process: A characterization from the persuasion perspective. *Accounting, Organizations and Society*, 481–505.
- Schwarz, N. (2002). Feelings as information: Moods influence judgments and processing strategies. In T. Gilovich, D. Griffin, & D. Kahneman (Eds.), *Heuristics and biases: The psychology of intuitive judgment*. Cambridge, UK: Cambridge University Press.
- Schwarz, N., Strack, F., Kommer, D., & Wagner, D. (1987). Soccer, rooms, and the quality of your life: Mood effects on judgments of satisfaction with life in general and with specific domains. *European Journal of Social Psychology*, 17(1), 69–79.
- Searle, S., Speed, F., & Milliken, G. (1980). Population marginal means in the linear model: An alternative to least squares means. *The American Statistician*, 34, 216–221.
- Sedor, L. M. (2002). An explanation for unintentional optimism in analysts' earnings forecasts. *The Accounting Review*, 77(4), 731–753.
- Shiv, B., & Fedorikhin, A. (1999). Heart and mind in conflict: The interplay of affect and cognition in consumer decision making. *Journal of Consumer Research*, 26(3), 278–292.
- Siemer, M., & Reisenzein, R. (1998). Effects of mood on evaluative judgments: Influence of reduced processing capacity and mood salience. *Cognition and Emotion*, 12(6), 783–805.
- Sinclair, R. C. (1988). Mood, categorization, and performance appraisal: The effects of order of information acquisition and affective state on halo, accuracy, information retrieval, and evaluations. *Organizational Behavior and Human Decision Processes*, 42(1), 22–46.
- Sinclair, R. C., & Mark, M. M. (1992). The influence of mood state on judgment and action: Effects on persuasion, categorization, social justice, person perception, and judgmental accuracy. In L. L. Martin & A. Tesser (Eds.), *The construction of social judgment*. Hillsdale, NJ: Erlbaum Associates.
- Slovic, P., Finucane, M., Peters, E., & MacGregor, D. G. (2002). The affect heuristic. In T. Gilovich, D. Griffin, & D. Kahneman (Eds.), *Heuristics and biases: The psychology of intuitive judgment*. Cambridge, UK: Cambridge University Press.
- Smith, C. S. (2003). *Modes of discourse: The local structure of texts*. Cambridge, UK: Cambridge University Press.
- Suedfeld, P., Tetlock, P., & Streufert, S. (1992). Conceptual/integrative complexity. In C. P. Smith (Ed.), *Motivation and personality: Handbook of thematic content analysis*. Cambridge, England: Cambridge University Press.
- Tabachnick, B. G., & Fidell, L. S. (2001). *Using multivariate statistics* (4th ed.). Needham Heights, MA: Allyn and Bacon.
- Tan, H.-T., & Trotman, K. T. (2010). Effects of the timing of auditor's income-reducing adjustment concessions on financial officer's negotiation judgments. *Contemporary Accounting Research*, 27(4), 1207–1239.
- Wegener, D. T., & Petty, R. E. (1995). Flexible correction processes in social judgment: The role of naïve theories in corrections for perceived bias. *Journal of Personality and Social Psychology*, 68, 36–51.
- Wegener, D., Petty, R., Smoak, N., & Fabrigar, L. (2004). Multiple routes to resisting attitude change. In *Resistance and persuasion*. 13–38, Mahwah, New Jersey: Lawrence Erlbaum Associates.