

Practice Note

**Thinking Outside the Box: Engaging Auditors' Innovation Mindset to Improve  
Auditors' Fraud Judgments and Actions in a Data-Analytic Environment**

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## **Thinking Outside the Box: Engaging Auditors' Innovation Mindset to Improve Auditors' Fraud Judgments and Actions in a Data-Analytic Environment**

### **Executive Summary**

Data analytics has become a prominent tool for audit firms, which exalt its capabilities to promote audit quality. However, whether auditors have the appropriate mindset to fully leverage the capabilities of data analytics is yet unclear. Further, as data analytics becomes more prevalent in audit engagements, auditors are encouraged to also use this technology to provide client insights. This use has sparked concern from regulators that this additional goal could negatively impact audit quality by shifting an auditors' focus and/or impacting independence. This could happen as these goals may compete for the same cognitive resources and auditors face time constraints. In addition, the focus on providing insights could be viewed as an auditor operating in more of an advisory (non-audit) role. In this study, we seek to understand whether encouraging auditors to be creative by employing an innovation mindset and instructing them to identify clients' insights, when using data analytics, has a meaningful positive? impact on audit quality. We examine this using an experiment in which audit quality means the ability to address seeded fraud in a hypothetical engagement. Our results indicate that encouraging auditors to be creative increases their cognitive flexibility, which results in better identification of effective audit procedures (i.e., procedures targeting fraud). In addition, when a creative prompt is paired with a new goal to provide client insights, auditor judgments improve even more. Finally, encouraging auditor creativity also appears to improve their identification of value-added client insights. We recommend that firms look at creativity as a tool to improve auditor judgments. We point out for those concerned about adding a goal to provide client insights that this goal may not have a negative impact and in some instances may even improve audit quality.

#### **Main Takeaways**

- Encouraging auditor creativity can improve both audit quality and client insights when using data analytics.
- Giving auditors the additional goal to identify client insights, can amplify the positive effects of creativity and results in even higher quality and insights than a creativity prompt alone.
- Asking auditors to provide client insights does not have a negative impact on audit quality.

**Keywords:** Auditing, Data analytics, Creativity, Innovation mindset, Client Insights

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### **The Issue**

Little is known about how the use of data analytics on an audit engagement impacts auditor judgment. Though data analytics has the potential to tell a powerful story, if the user lacks the necessary skills and mindset to interpret that story, the power of data analytics could be lost. Therefore, it is important to understand the factors that can enhance auditor judgments when utilizing data analytics. Creativity has been suggested as a necessary precursor to effectively use data analytics. Indeed, the Center for Audit Quality (CAQ) and audit firms have recently put more emphasis on auditors' need to engage an "innovation mindset", which includes generating creative or novel solutions to problems, exhibiting cognitive flexibility, and exercising agility in their thinking. Though it is used in practice, the impact of this innovation mindset on auditor judgment in general, and more specifically when using data analytics, has not yet been explored and thus it is important to understand whether this mindset has a significant positive influence on audit judgments.

In relation to the growing use of data analytics on audit engagements, prior research has noted that this technology is not only being used to improve audit processes and judgments, but it is also being used as a client service tool to provide more value-add to clients by providing insights identified using these analytics. This has sparked concern among regulators as to whether these insights may detract from auditors' primary goal to provide a high-quality audit by moving auditors into more of an advisory role. This new goal to provide client insights, in theory, competes with the same limited cognitive resources and time as the goal to perform high quality audit procedures. This potentially results in goal conflict as multiple goals compete for the same resources. It is important to understand whether this is indeed the case. Meanwhile, prior psychology research suggests that conflicting goals can *enhance* creativity and thus coupling this new goal with an innovation mindset could, in fact, lead to better audit judgments, in direct opposition to regulators' concerns. Overall, we seek to answer the following questions:

- Does prompting an innovation mindset lead to higher quality audit procedures?
- Do auditors further increase the quality of their audit procedures when they are encouraged to identify client insights *in addition to* being prompted to engage their innovation mindset?
- When encouraging auditors to identify client insights, does prompting an innovation mindset lead to better identification of these insights?

### **Methodology**

We conducted an online experiment with 96 auditors at multiple auditing firms in the Netherlands, mainly at the senior and supervisor levels. Participants used data analytic output to perform a simulated audit task. In this task, participants were asked to assume the role of an audit senior responsible for finalizing the audit program for a hypothetical audit engagement. Participants first read an email from the CEO of their audit firm, which describes the philosophy of the firm and included the mindset manipulation, where the philosophy is either focusing exclusively on performing an effective audit (no innovative mindset condition) or additionally focusing on being innovative (innovative mindset condition). Then, participants viewed an email from their audit manager that included the secondary-goal manipulation, where participants either were or were not encouraged to discover client insights while using data analytics. The hypothetical engagement contained seeded fraud indicators in the revenue cycle. Participants were given client financial information as well as data analytic dashboards, then asked a series of questions about identified risks, proposed audit procedures, and any insights they would communicate to the client.

## **Findings**

Our results show that engaging auditors' innovation mindset allowed them to identify significantly more effective audit procedures that aid in detecting the seeded fraud. This supports the argument that creativity is beneficial for improving judgments. It also suggests that creativity could be an important factor contributing to an auditor's effective use of data analytics.

When participants were both prompted with an innovation mindset *and* asked to identify client insights, they further increased the effectiveness of their audit procedures aimed at detecting the seeded fraud. This supports the idea that focusing on multiple goals can in fact enhance creative thinking and audit quality.

Overall, our results show that prompting an innovation mindset leads to higher audit quality and that this is further enhanced by adding an additional goal to provide client insights, such that the highest observed audit quality was for participants that received both an innovation mindset prompt *and* instruction from their manager to identify client insights. This is important as it shows the validity of an innovation mindset as a way to encourage higher cognitive abilities and judgment quality. In addition, it shows that regulators' fear of introducing a goal to provide client insights may be unwarranted. Not only might these goals not impact audit quality negatively, but they could in fact enhance audit quality when auditors are encouraged to think creatively as they think deeper about the client's business.

Though not our main focus, we also measured whether the combination of an innovation mindset and a goal to provide client insights did, in fact, lead to better identified client insights. Our results confirmed that this was indeed the case and that participants provided more quality client insights when asked to provide insights and receiving an innovation mindset prompt, than those that were only asked to provide insights without an innovation mindset prompt. This further validates the merit of creativity as a way to improve auditor judgments.

We also examined whether the number of client insights identified linked to higher quality audit procedures. Our results showed that this is indeed the case and thus we can conclude that an innovation mindset combined with a goal to provide both a high-quality audit and client insights led to increased cognitive flexibility. This means that auditors were better able to shift their attention between the two goals, resulting in further enhancement of their creativity and audit judgment quality.

### **Conclusion and Relevance to Audit Practice and Regulation**

Our research findings have direct implications for audit practice as they relate to the effective use of data analytics on audit engagements, which is an ever-relevant topic. Based on this study, we recommend that firms find ways to emphasize the importance of creativity and an innovation mindset. Auditors should not feel stifled by the standards and regulations that guide their work but should instead be encouraged to “think outside the box”, even when that deviates from standard procedures. As long as the main goal of audit quality is a common thread throughout their work, auditors should be able to leverage the cognitive benefits of creativity to more effectively plan and perform audits. Auditors may better be able to harness the power of data analytics to enhance audit quality if they engage with an innovation mindset, which triggers their creativity.

Further, as discussed, emerging data analytics opportunities have sparked concern among regulators as to whether providing client insights may detract from auditors’ primary goal to provide a high-quality audit, and as such create conflicting goals. By examining the potential for such conflicting goals, we highlight that when combining these goals with an innovation mindset, auditor judgements can actually improve, rather than decline. This should give comfort to both firms that want to leverage data analytics as an audit *and* client service tool, as well as regulators, who have shown concern over encouraging auditors to provide client insights. This study demonstrates that auditors can appropriately accommodate this additional goal and it may even enhance their judgments, when using the right mindset.

Finally, we contribute to the ongoing discussion among regulators and academics about how auditors might improve their professional skepticism and their response to fraud. We find that by engaging an innovation mindset and improving cognitive flexibility, auditors can and do identify significantly more high-quality audit procedures (i.e., effective audit procedures) that are aimed at detecting the seeded fraud.

In sum, our study contributes to academic research, practice, and regulation by providing insights into this new world of data analytics. Specifically, we seek to better understand the multiple goals that auditors may face when using data analytics. We also examine the benefits of engaging auditors’ innovation mindsets for managing these goals and improving cognitive flexibility, professional skepticism, and fraud detection.