

Rutgers – AICPA Audit Analytics Research Initiative
Advisory Board Meeting
February 3, 2016

Attendees:

Mike Leonardson
Sue Coffey
Sheri Fedokovitz
Greg Shields
Dorothy McQuilken
Won Gyun No
Eric Cohen
Miklos Vasarhelyi
Alexander Kogan
Erica Nelson
Brian Miller
Brian Wolohan
Evan DeFord
Brian Foster
Juli-ann Gorgi
Nicole Deschamps
Kristine Hasenstab

Kari Lee
Al Anderson
Dan Balla
Ami Beers
Jason Guthrie

Via Teleconference:

Kelly Hnatt
Margot Cella
Kevin Lavin
Thomas Payne
Nicole Oberst
Phillip Austin
Dan Sunderland
Qi Liu
Elisabeth Scherr

Meeting Notes:

- The meeting opened with introductions. The purpose of this meeting was to present and discuss examples of where firms are currently using audit analytics in their audit process. These presentations are meant to help the researchers develop and finalize each of the proposed projects (i.e. exceptional exceptions, visualization, and the analytics sandbox).
- The following examples were presented by each of the firms.
 - *Deloitte – presented how analytics could be used when testing inventory*
 - *EY – presented how analytics could be used when testing revenue*
 - *PwC – presented how analytics could be used for journal entry testing*
 - *KPMG – presented how analytics could be used when testing purchase to pay*
 - *BDO – presented the current analytics used on audits (using their platform built in QLIK)*
 - *Grant Thornton – presented how analytics can be applied to unstructured external data*
- The group walked through each of the proposed projects. An overall comment is the need for data. In order to conduct most of the research the researchers will need appropriate data sets to use. As a next step (also noted below), Board Members were asked to look into whether or not they could provide sample data sets. Another comment brought up was the potential for adding a new project around “data as evidence.” These topic will be discussed on the next Board conference call.
 - ***Multidimensional Exceptional Exceptions (formerly “Exceptional Exceptions”)***. This project proposes an exception prioritization framework to identify multidimensional exceptional exceptions (i.e. the outliers that are more likely exceptions). Below are some

of the overall comments discussed by the group:

- This project should also include a process for how to handle exceptions and non-exceptions (i.e. how do you categorize outliers and determine the amount of work that should be done). The project should also seek to validate assumptions regarding general risk reduction to a population that occurs in connection with identifying and auditing exceptions or outliers (i.e. how much more work, if any, do we need to perform on the non-exceptions?).
- The group discussed Figure 1 “Multidimensional Exceptional Exception Audit Analytic Framework” on page 1 of the proposal document. Below are some of the overall comments and suggestions:
 - The overall goal of this framework should be that it can be used and applied across the board. It needs to be applicable to the audit. Framework should provide flexibility for application to large and small companies, public and private companies and substantive and integrated audits.
 - Suggested “General Techniques”: Classification, regression, clustering, profiling, similarity matching, etc.
 - “Outliers”: This needs to be defined and examples should be included.
 - “Step 2: Data Specific Techniques”: How many outliers do you need to move on to step 2?
 - “Exception Candidates”: Which attributes are indicators of high risk areas? These outliers need to be prioritized.
- **Sandbox Project:** The sandbox project proposes to look at a range of audit analytics including: (1) process mining, (2) text mining, (3) continuous control monitoring, and (4) risk-based prioritization of controls to be tested. It will also look into developing a suggestion model that selects and arranges apps to help verify controls. Below are some of the overall comments and feedback received:
 - Regarding topic 3 “Text Mining”: One item to consider: How can you develop something that can be broadly applied to all systems?
 - Regarding topic 5 “Risk-Based Prioritization of Controls to be Tested”: A possible topic to consider including is, “how can analytics be used for dual purpose test work?”
- **Visualization:** This project will address the understanding of the basic axioms of visualization in the audit process as well as its integration with audit analytic methods. A high level overview was given about this project, and the group will continue the discussion of this proposal on the next monthly board conference call.

Next Steps / Action Items:

- 1. Board members to discuss with clients the possibility of providing data sets to be used for the research projects**
- 2. Researchers to update project proposals based off of meeting discussions**
- 3. Researchers will reach out to board members for participation on projects**
- 4. Board to review 1/25 conference call meeting notes and to send edits to AICPA staff by 2/15**
- 5. Board to review 2/3 meeting notes and to send edits to AICPA staff by 2/25**
- 6. Next conference call is scheduled for Wednesday, March 2nd from 3:00pm – 5:00pm ET. AICPA staff to send out meeting agenda and materials prior to call.**

