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AN EXPLORATORY STUDY INTO THE USE OF AUDIT DATA ANALYTICS ON AUDIT ENGAGEMENTS

DIGAUDIT SEMINAR JUNE 3

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Outline



- Why did we do this study?
- How did we go about?
- What did we find?
- How can the findings be interpreted in a wider context?

Why did we do this study?



Background

The *objective* of this study is to explore the use of audit data analytics (ADA) in current audit practice.

Why Norway?



- Provides insight into how firms' leadership and engagement partners and managers perceive the prospects and impediments to ADA use.
- Document the prevalence and nature of ADA use on current audit engagements.
- Thus, our research develops an understanding of why ADA use has not yet fulfilled its promised potential and provides a starting point for practitioners and researchers in validating the efficiency and effectiveness of the use (or non-use) of ADA.

How did we go about?



We applied a two-stage research approach.

First, we interviewed the heads of *professional practice of five international public accounting firms* in Norway to get an understanding of the status of ADA in each firm and develop the questionnaire.

Second, we obtained responses to a detailed *questionnaire* from the engagement partner and/or manager on the implementation of ADA on *109 audits* for 2017 financial statements.

How did we go about?



Table 1
Engagements per Audit Firm

Audit Firm	Category of engagements ¹				Total
	ADA	Listed	Large_NL	Small_NL	
1	6	6	6	6	24
2	6	5	5	4	20
3	6	6	5	6	23
4	5	5	5	4	19
5	5	6	6	6	23
Totals	28	28	27	26	109

Notes:

¹ ADA: Engagement entity where the audit firm expected high ADA use.

Listed: Largest engagement entity (a parent company or a subsidiary) based on revenues of a listed company (group).

Large_NL: Largest engagement entity (a parent company or a subsidiary) based on revenues of a non-listed (NL) group with group revenues above \$100 million.

Small_NL: Engagement entity of a non-listed (NL) group with group revenues below \$10 million, or a non-listed (NL) entity not part of a group with revenues below \$10 million.

What did we find?



- The firms' heads of professional practice express significant uncertainty about how the *supervisory inspection authorities* will evaluate and accept ADA generated audit evidence. As a result, *none* of the firms have introduced *mandatory use* of advanced ADA tools.
- The *firms differ* in their strategies of how they implement the use of ADA in their organizations from 'wait and see' approach to centralized ADA functions and extensive firm involvement to facilitate ADA use.
- While ADA use is high on the firms' agenda and there is a global push for ADA to be used on audit engagements, *expected and actual use is limited*.

What did we find?



- The partners and managers indicated that their *knowledge and training* with firm available ADA tools *did not impede* their use of ADA.
- Participants' attitudes towards ADA usefulness is *more positive* for firm audits in general than for the sampled audit engagements.
- More ADA are used for clients with integrated ERP/IT-systems.
- There is a higher frequency of ADA use on *new audit engagements*.

What did we find?



- In the *audit planning phase*, ADA are used for overall assessment of the client's operations and performance, identifying and assessing key risks, and mapping of different processes.
- In the *substantive testing phase*, ADA are used for journal entry testing, calculating sample-size for testing, selection of random samples from populations, and summarizing ledgers.
- In the *completion phase* of the audit, ADA are most used for reconciliation and control between final accounts and underlying ledgers, analytical procedures, and final review of financial statements.

What did we find?



- Overall, the use of ADA in our sample is limited.
- We find little use of what would be considered “*advanced ADA*” (e.g., statistical regressions, clustering techniques, statistical predictive analysis, computerized process-mapping, etc.).
- The use of *Big Data* and text-mining is almost non-existent and ADA are mostly used as *supplementary evidence*.

Where are we and why?



- The *contrast* between (1) the firms' desire to create an ADA driven audit product (and practitioners' generally positive attitude towards the use of ADA), and (2) practitioners' slow pace of implementing the use of ADA in their audit can have different explanations.
 - Given the pressure on time and audit fees, it may reflect that *practitioners do not consider it profitable* to apply ADA beyond a modest level.
 - *Low incentives* to use ADA may also stem from that the firms have not yet only to limited degree incorporated ADA into their *methodologies* and that the use of ADA is non-mandatory, *auditing standards* do not specifically address and stimulate the use of ADA, and *supervisory bodies* are reluctant to reveal their position on ADA use.

Where are we and why?



Constituencies/ pressure	Required/ expected	Supported/ approved	Accepted	Neutral/ position unknown	Disapproved
Clients Continuing New					
Competitors					
Standard-setters					
Supervisors					
Public interest/society					
Audit Firm	Strategies, resources, commercial				
Other considerations	Availability of data and ADA. Skills. Audit efficiency and effectiveness				
Practitioners responses	Observed use of ADA				

How can the findings be interpreted in a wider context?



The underlying causes of the difficulties and impediments to a change to more ADA intensive audits can be considered *from a number of theoretical perspectives*.

Institutional theory has focused on the conception of *legitimacy* and legitimation processes of audit practices (Suchman 1995; Power 1997, 2003).

The legitimacy-oriented perspective views the *interrelationship between audit practices and attempts to secure its legitimacy* as central to development and widespread *acceptance* of emerging practices.



How can the findings be interpreted in a wider context?

Definition: *Legitimacy is a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions (Suchman 1995).*

“One says that a certain pattern of behavior possesses legitimacy, one asserts that some group of observers, as a whole, *accepts or supports* what those observers perceive to be the behavioral pattern, as a whole.”

Pragmatic legitimacy boils down to a sort of exchange legitimacy-support for an organizational policy based on that policy's expected value to a particular set of constituents.

How can the findings be interpreted in a wider context?



Prior research has empirically investigated how audit practices seek to gain the legitimacy by key constituencies necessary for them to prosper (e.g., Curtis and Turley 2007; Robson, Humphrey, Khalifa, and Jones 2007; O'Dwyer, Owen, and Unerman 2011; Griffith Hammersley, and Kadous 2015).

Salijeni et al. (2019) argue that the rise of ADA should be understood as auditors' attempts to promote technological solutions for the problem of *maintaining (or restoring) the legitimacy of the audit function.*

Walker and Brown-Liburd (2019) present a *conceptual model* that comprehensively describes the emergence of the use of data analytics by audit professionals through the *lens of institutional theory.*