A New Audit Risk Model and Why It is Needed

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11:25 am to 12:15 pm

Safe Harbor Statement

This presentation is inspired by Sergio Marchionne's "*Confessions of a Capital Junkie*" and translates his case for the automotive industry into one for the audit profession.

Our insider's perspective is based on Douglas Carmichael's "*The PCAOB and the Social Responsibility of the Independent Auditor*" (2003), which is directly linked to the original source of Th. Limperg Jr. (1933 in Dutch, 1985 in English),

> "*The function is rooted in the confidence that society places in the effectiveness of the audit and in the opinion of the auditor. This confidence is therefore a condition for the existence of that function; if the confidence is betrayed, the function, too, is destroyed since it becomes useless.*"
>
> "*... the auditor is obliged to carry out his work in such a way that he does not betray the expectations which he evokes in the sensible layman and; conversely, the auditor may not arouse greater expectations than can be justified by the work done*."

and following Hans Blokdijk's seminal modern interpretation for clarification and solidification purposes (1975 in Dutch, 2004 in English), and following classical educational audit literature by Starreveld et al (1959-1988, in Dutch only), Frielink et al (1965-1992, in Dutch only) and Veenstra's practitioners manuals (PwC Holland 1972 and Deloitte Holland 1976, in Dutch only, with national distribution, and in use till at least 2003).

The following quote from Hans Blokdijk's Reflections summarizes how the Dutch audit tradition distinguished itself:

> "*Limperg strongly opposed empirical research, because he thought the profession should adopt a more normative-deductive analytical approach in the development of theories of [and guidelines for] accounting and auditing; otherwise, the theory [and guideline] would only be the reflection of practice and, as a consequence, of 'average' observed behaviour. In his reasoning, empirical observation would infect and spoil, instead of contribute to a better theory [or guideline]*."

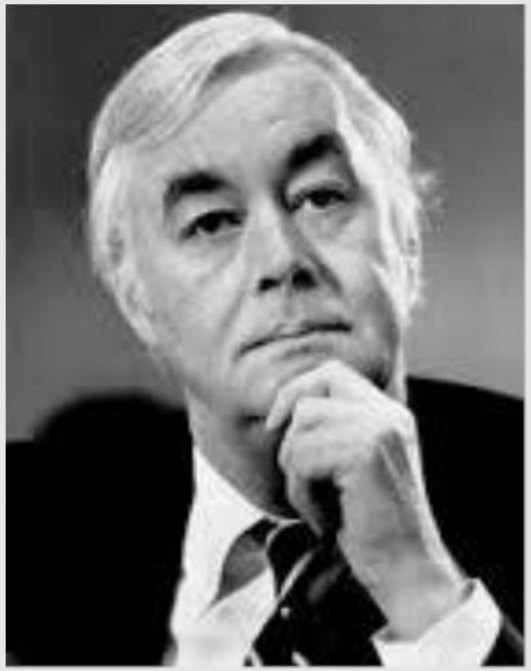
The presented remediation for the Audit Risk Model is developed by international audit practitioners and academics in auditing and computing science (business modelling and information security). The North-American auditor co-developers prefer to stay anonymous till the presented model has gained more traction and acceptance.

Statements on effectiveness and efficiency of the Dutch audit approach on a global scale, without hardly having any translations out of the Dutch language, are based on "proof of application" of this approach over decades in multinationals with Dutch headquarters (e.g. in Fortune 500 companies like Shell oil, Unilever consumer products, Ahold retail, Akzo paints and chemicals, Philips electronics, etc), and its feedback from this practice into the Dutch educational system (1950-1990).

Purpose of the pitch

- Gain insight in how to reduce audit risk by having more precision in the guidance on risk assessment and risk mitigation, and as a result provide stronger assurance with our audits
- Gain insight in how to improve guidance on assessment of missing or weak completeness controls: by checking against an industry-specific baseline of control templates to "*follow the stuff*", not "*follow the money*" (in design, implementation and uninterrupted operation)
- Gain insight in how to set expectations for analytical outcomes in assurance of completeness assertions (PCAOB signalled to improve): how "*follow the stuff*" detects the missing money, and "*no stuff to detect*" means absence of material financial understatement
- Insight that when completeness is failing, all other audit assertions are undermined, since only apply to subset (as determined by fraudsters)

Before we get into this, we should be reminded that …



"Everyone is entitled to his own opinion, but not to his own facts."

Daniel Patrick Moynihan

(Former US Senator and Ambassador to the UN)

Outline

- The why and how of integrating two audit approaches (agency theory)
  - Audit function: assurance on absence of material misstatement
  - To improve guidance on material under- and overstatement audits
- Auditing in Principal's interest (PoA, Principal-ordered Auditing)
  - Principal: owner, shareholder, board of directors (IC for Principal?)
  - Completeness of Return On Investment
  - Completeness of Revenue: basis for stock value & dividends
  - Assurance on absence of material understatement of Net Profits
- Agent-ordered Auditing (AoA, “Janus”, bonus limited, IT vuln.)
  - Agent: company, management, board of directors (IC & audit duties)
  - Attract investment capital
  - Assurance on absence of mat. overstatement of Shareholders' Equity

Assertion Matrix

Auditing in Principal's interest (PoA)

Agent-ordered Audit (AoA)

	Completeness	Correctness
audit direction	**Understatement**	**Overstatement**
P&L Account Assertions		
Occurrence		aspect
Completeness	coincides	
Accuracy		aspect
Cut-off	pair	
Classification	pair	
Balance Sheet Assertions		
Existence		aspect
Completeness	coincides	
Rights & Obligations	single	
Valuation	single	
Presentation & Disclosures Assertions		
Occurrence		aspect
Completeness	coincides	
Classification & Understandability	pair	
Accuracy & Valuation	single	

key observation:

completeness in AoA is one of many, in PoA it is one of two, and the main one

Proposal for New Audit Risk Model, based on PoA & AoA integration

- ARM as we know it: AR = IR × CR × DR, with RMM = IR × CR
- Proposed new ARM: AR = IuR × (CuR – bCuR) + $\overline{\text{IoR} \times \text{DoR}}$

Proposal for New Audit Risk Model, based on PoA & AoA integration

- ARM as we know it: AR = IR × CR × DR, with RMM = IR × CR
- New ARM proposal: AR = AuR + $\overline{\text{AoR}}$,
  with distinguished guidance for understatement and overstatement risk,
  further emphasized by underlining and overlining, respectively
- where AuR = IuR × (CuR – bCuR),
  with baseline for completeness controls & no DuR because ineffective
- and where $\overline{\text{AoR}}$ = $\overline{\text{IoR} \times \text{DoR}}$,
  where we may omit CoR for efficiency, going directly to complete data
- The new ARM is not to be interpreted statistically, because statistics
  won't work for understatement, instead '+' is a Blokdijk stop operator
- RMM = RMU + $\overline{\text{RMO}}$, with RMU = AuR and $\overline{\text{RMO}}$ = $\overline{\text{IoR} \times \text{CoR}}$

A bit of historical background of PoA and AoA paradigms

PoA – NL & org. UK (Dutch, untransl.)	AoA – USA (English)
■ 1990-2019: Computationalization of business process audit models	■ 2004-2014: Clarity SAS ↔ ISAs
■ ±2000: Termination in education	■ 2007: Center for Audit Quality
■ 1975-2013: Blokdijk (most Dutch only)	■ 2002: PCAOB & AS (public)
■ 1947-1990: Frielink (Dutch only)	■ 1992: COSO; 1996: EDGAR
■ 1972-1976: Veenstra (Dutch only)	■ 1987-1998: Audit firm mergers
■ 1959-1988: Starreveld (Dutch only)	■ 1983 - today: ARM is codified in SAS 107 (SAS 47), ISA 315 & AS 1101
■ 1950s: equations, engin. science	■ 1977: IAASB & ISAs
■ 1933, 1926-1940: Limperg c.s. norm design, top cycle, engin.Sc.	■ 1972: GAAS & SAS (2002 non-public)
■ 1907-1919: expulsion NIvA, NAV	■ 1961: Mautz & Sharaf
■ 1854: ICAS, 1880: ICAEW, 1895: NIvA, 1903: CICA	■ 1933-1934: SEC audit requir.
■ 1844: British Joint Stock Co. Act	■ 1916: AAA
■ 1600-1800: VOC, East India Co.	■ 1887: AICPA
	■ 1830-1880: attract investment capital, in particular for railroads

1985

Not in name

Hotel Challenge

The franchisor of a global hotel chain hires us as their auditor.
Some of the franchisees only report part of their revenue.
Using advanced trickery like sales suppression software.
Or by receiving cash payments without recordings.
Amounting to material understatement.

Can we unmask the fraudulent franchisees? How?

How do we convince our client that no revenue is missed?

Hotel Challenge – Gap in Responses with exchange of arguments

New ARM integrating PoA	Current ARM/int. audit approach (AoA)
▪ "Follow the stuff" ▪ Reservations ▪ Door card & motion sensors ▪ KPo1R outside scope of control ▪ (quasi)stuff as reliable proxy for missed revenue: heartbeat mech. ▪ Classic PoA edu, evidence evolu. ▪ Used in Dutch tax agency cf. other tax agencies	▪ "Follow the money" ▪ Audit Risk Model (ARM): AR = IR × CR × DR ▪ When CR high, do more on DR? ▪ Assess CR without baseline for completeness controls?
GAP	
▪ Detects material understatement, cost-effective, non-futuristic	▪ Is material understatement detected?

Key Point of 1st Recording

Pharma Challenge

A pharmaceutical developer hires us as their auditor.
Part of client's global network of production units and resellers is involved in running clandestine overproductions and counterfeiting.
Amounting to material understatement of revenue.

Can we unmask the fraudulent parties? How?

How do we convince our client that no revenue is missed?

Pharma Challenge – Gap in Responses with exchange of arguments

New ARM integrating PoA	Current ARM/int. audit approach (AoA)
■ "Follow the stuff" ■ Sealed serialized QR code ■ App by brand owner to let client scan and verify unsealed code ■ Client verification is reliable proxy for missed revenue ■ Works for in- & outsider frauds ■ Now for product auth, not for financial assurance	■ "Follow the money" ■ Audit Risk Model (ARM): AR = IR × CR × DR ■ When CR high, do more on DR? ■ Assess CR without baseline for completeness controls?
GAP	
■ Detects material understatement, cost-effective, non-futuristic	■ Is material understatement detected?

What do the representative challenge responses show?

- Bottom line of challenges show a gap, representative for ARM-based profession. Guidance to substantiate completeness assertions can be improved by new ARM integrating the PoA paradigm.
- The original market force as served by PoA never disappeared (ROI).
- PoA methodology is feasible today. Using well-positioned technology for completeness controls in Design, Implementation & (uninterrupted) Operation. Audit tests: De existence, De vs. baseline, Im vs. De, uOp. Arguments “too expensive” and “jeopardizing independence” don't hold. Because baseline models per type of industry boost efficiency and lift natural advice function from individual professional to the profession.
- Today PoA is more cost-effective than when it proved itself globally. Now, first royalty receivers & private equity (strong, direct ownership), then shareholders, revenue agencies (weaker ownership).

Why are challenges representative? Snapshot from the proven baseline

Positioning in proven typology of principal's revenue completeness controls (Starreveld et al. 1959-2019)

Type criterion

Type of business activity relevant for securing completeness of (stated) revenue (industry-specific, stuff-based controls)

Order criterion

The decending possibility to base the audit of the completeness of stated revenue on the rational relationship between inflow and outflow of money and goods/services (classical ordering)

100. Organizations producing for the market

110. Organizations with a dominant flow of own goods

112. Industrial organizations

112.2 Industrial organizations with heterogeneous mass production

112.21 Singular heterogeneous mass production

Glass works and potteries, pharmaceutical factories, screws, nails and wall paper factories, cookies and food preservation factories

120. Organizations and professions without a dominant flow of own goods

121. Service organizations

121.2 Service organizations offering space-time capacity

121.21 With specific reservation of space-time capacity

Housing landlords, hospitals, hotels, motels, airbnb, storehouses, transporters of passengers over relatively long distance

200. Organizations producing or offering services directly for their members, without market mediation

The proven baseline in a modern setting

- Alignment with cyber security CVE (Common Vulnerabilities and Exposures), CWE (Common Weakness Enumeration), etc
- Indicator set/template for completeness controls per type of industry
- Update and reclassify templates in baseline typology/classification
- Configurable control templates, using parameterized recording device supplier listings with associated attributes
- Support for testing client's completeness control design specification against the industry template

Reactions on Proposed New ARM to further discuss

- Proposed new ARM: $AR = \underline{IuR \times (CuR - bCuR)} + \overline{IoR \times DoR}$
- Reactions by leading external / internal auditing authorities to further discuss with the audience
- Reactions by leading cyber security experts, also to further discuss
- Reactions by franchisors, royalty receivers and revenue agencies, to also further discuss with the audience

Did we achieve the purpose of the presentation?

- Gain insight in how to reduce audit risk by having more precision in the guidance on risk assessment and risk mitigation, and as a result provide stronger assurance with our audits
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Your reactions

- Your questions, remarks, advice or comments
- Are you in the corporate office of a franchise, at a royalty receiver, private equity firm, pension fund or revenue agency, or otherwise have an interest in completeness of revenue, then let us plan to have a look at your case
- Thank you for your attention,
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