

Tax & Data Analytics

Workshop 1

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The data economy – setting the scene

1. Types

- Numerical (discrete vs continuous)
- Categorical

2. Real vs data world

- Digital Twins
- Mirror worlds
- Owned/Traded vs Public

3. Data Selection

- Census vs Sample
- Cleansed vs tagged

4. Sources of Data

- Primary
- Secondary

5. Size of Data

- 2009 0.79 Zettabytes
- 2020 90 Zettabytes
- = 19trn DVDs

The data economy – setting the scene

6. Value of data

- ROI vs ROD
- Multiplier economics

7. Big data

- Cannot be processed
- Variety
- Velocity
- Non – structured
- Accuracy

8. Data definitions

- Precise
- Concise
- Non-secular
- Distinct
- Free of embedded logic
- Ranking

9. Challenges

- Educational system
- Management not fast enough
- People -> Process -> Technology

The data economy – setting the scene

10. Jobs in data

- A. Business analytics
- B. Data analytics
- C. Business intelligence
- D. Data science

11. What are A + B doing?

- Using data
- Build models
- Better decisions
- Add value to incl./comp./inst.

12. What are job attributes of B.

- Coder
- Statistics
- Business Acumen

13. Past vs Future data

- Descriptive (RPA)
- Predictive
- Prescriptive (AI)

The data economy - 4 roles in tax

New Roles

ERP Tax Data Modeler

- Connects Operational Data with the Projects

Tax Data Analyst

- Prepare Data from Tax Data Refinery (correct, cleanse and enrich)
- Use Python, UiPath, etc.

Tax Data Mining

- Use Tableau, Power BI, SAS, Rapidminer, teradata, OracleBI

Taxologist

- Connects and organizes the full procedure by embracing technology
- Being pro-active in the transformation – business process owner

The data economy – setting the scene (video)



The data economy – The process of data analytics



- ➔ Dictated by scope and level of detail required.
- ➔ Reducing pool of data and therefore increasing efficiency.
- ➔ Collect data from a variety of sources.
- ➔ In a systematic fashion that enables analysis.
- ➔ Data Cleansing: detect and adjust inaccurate data.
- ➔ Data Organization: make data more useful.
- ➔ Use AI and machine learning to discover trends.
- ➔ Provide the basis for better business decisions.
- ➔ Graphic representation of information.
- ➔ Enables management to gain understanding near real time.

The data economy – setting the scene

The bottom line

Average cost decrease and revenue increase from AI adoption, % of respondents* reporting

Costs decreasing

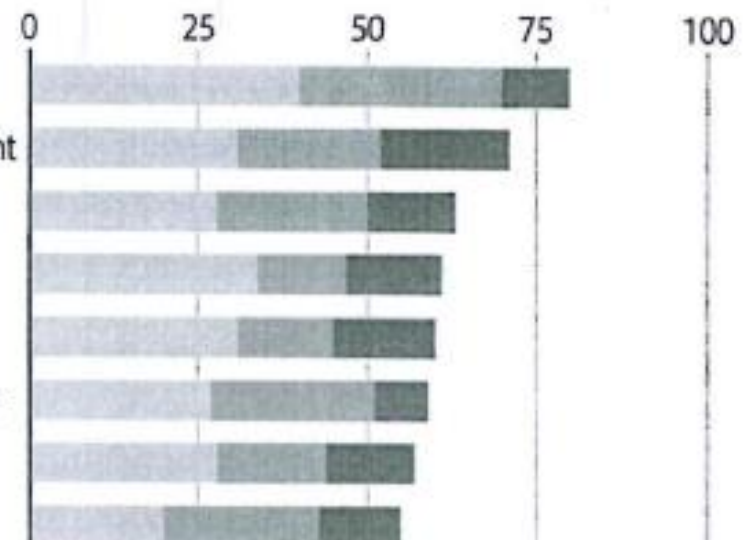
■ More than 20% ■ 10-19% ■ Less than 10%



Source: McKinsey & Company

Revenues increasing

■ Less than 5% ■ 6-10% ■ More than 10%



*Surveyed November 2019

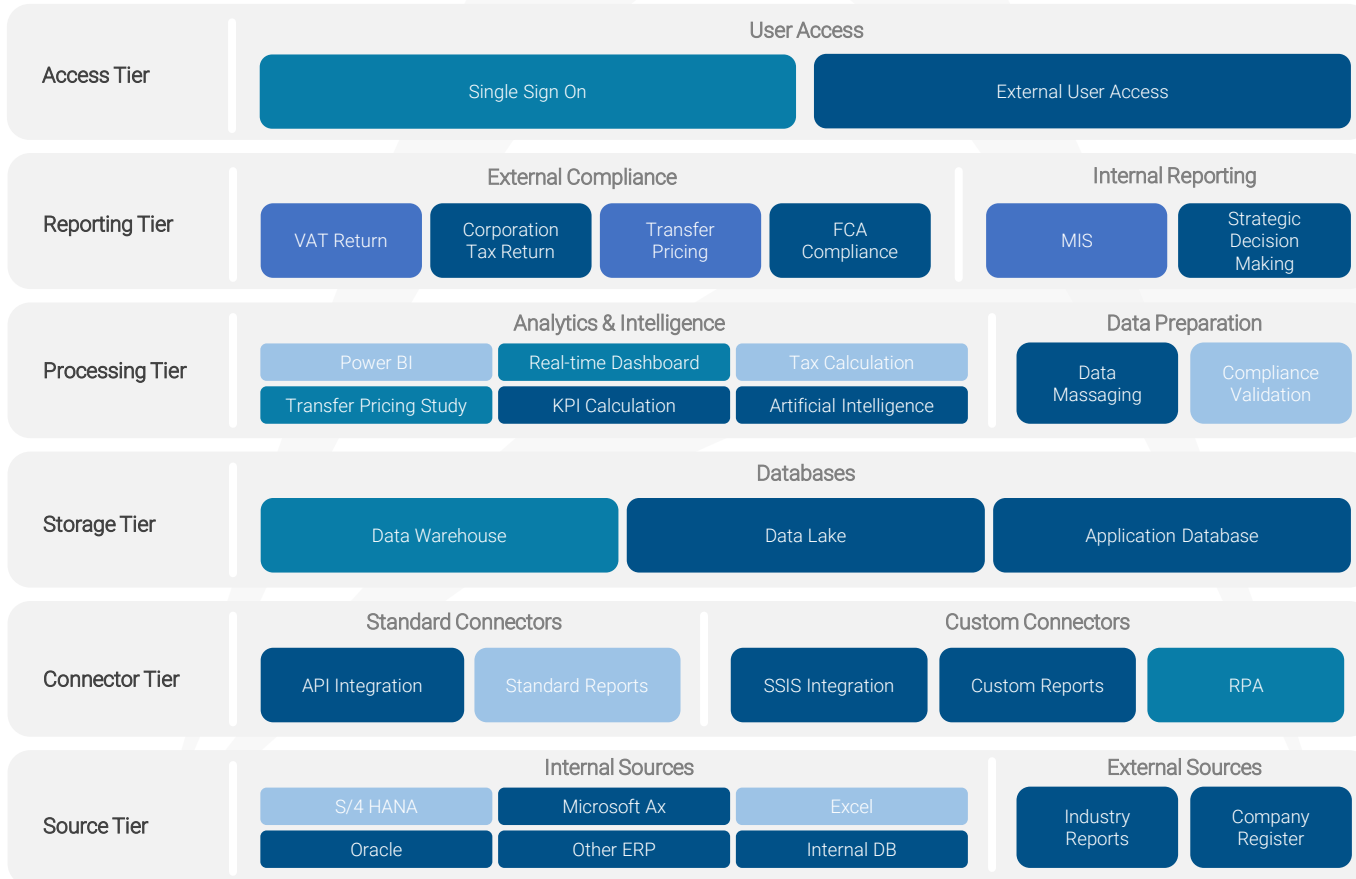
The data economy – setting the tax scene

Q: Give 5 examples on how tax data analytics is used by the tax authorities?

Q: give 5 examples on how tax data analytics is used by the in-house tax teams?

The data economy – setting the tax scene

System optimization can be planned using the data platform template. Each level contains possible systems and tools that may be required for various end uses and internal processes.



1. End Uses

What are the end uses of the data? E.g. VAT compliance, transfer pricing.



2. Current Systems

Which systems are in place currently? E.g. S/4 HANA, transfer pricing tool.



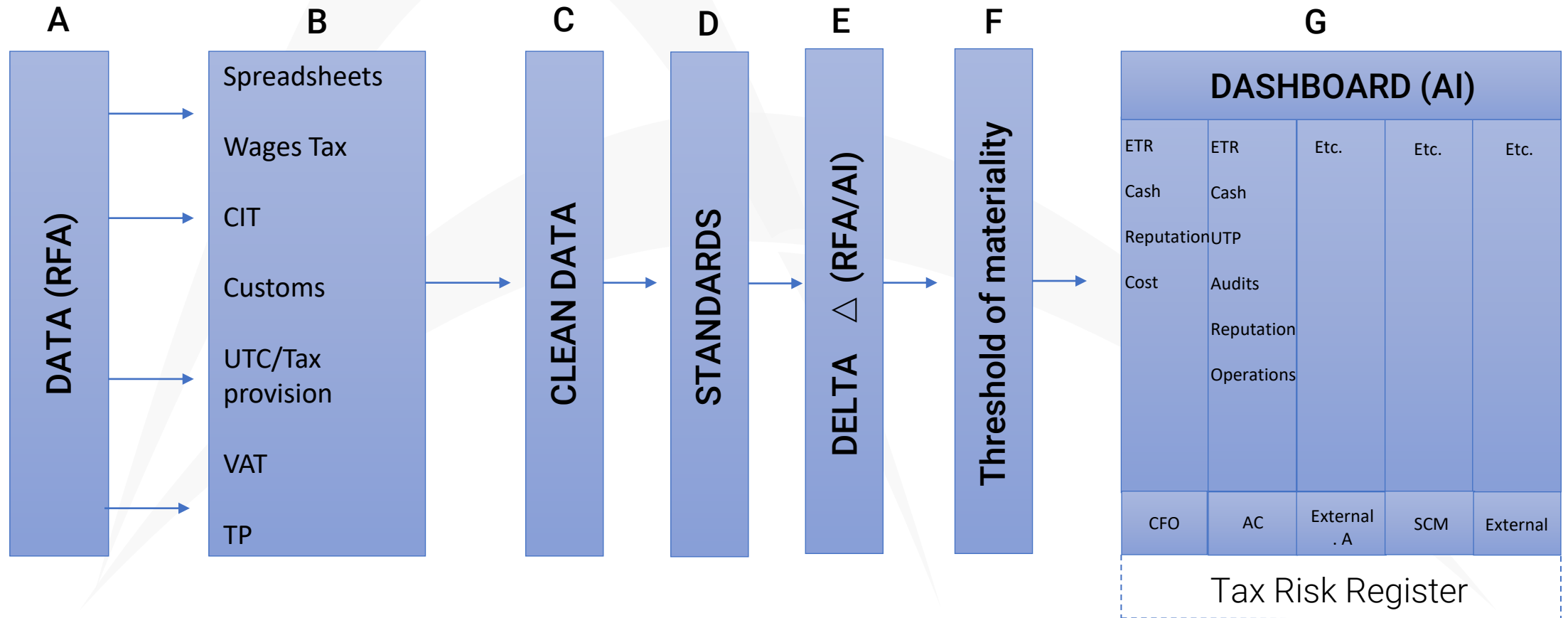
3. Implementation Approach

Which approach should we implement? Individual systems or data warehouse.

Q: Please explain what is happening here?

The data economy – setting the tax scene – an example

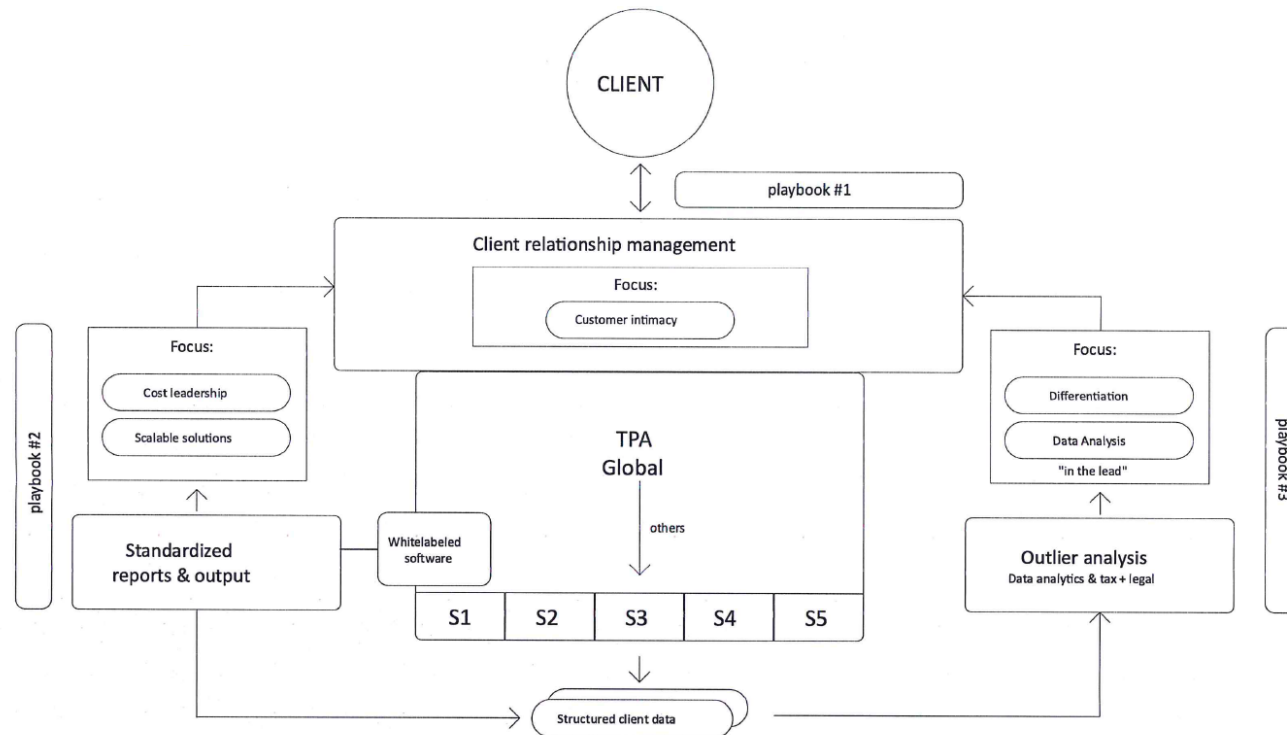
From Data to Dashboard – A tax monitor or tax cube



The data economy – strategy

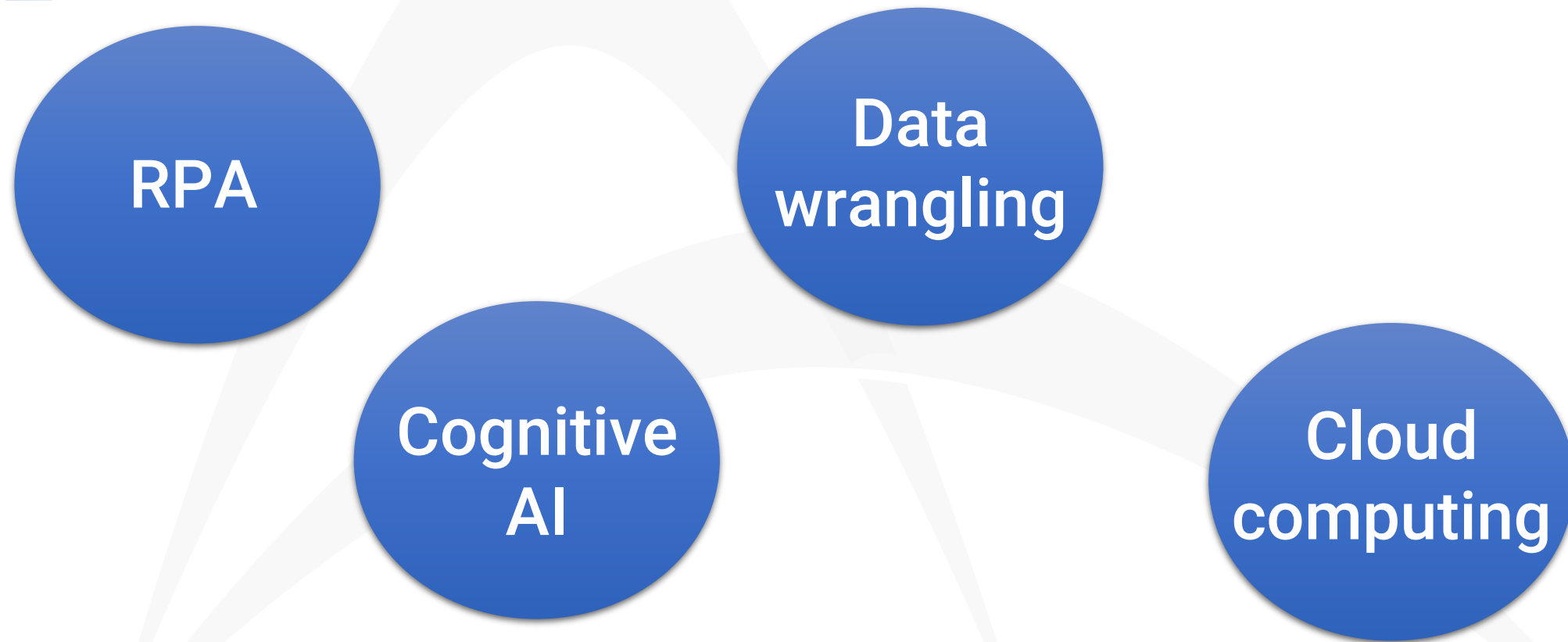
Example – sales force acquired Mule soft & Tableau to allows firms to consolidate & link their data → a “single view of their customers”

Example – TPA



Q: Who in the world determines “data sovereignty”?

Tax data management – next week



→ Before going into the management of data next week different ‘Data Architecture’ will be addressed.

Reading materials for next week

- 3 playbooks
- Economist special report “The data economy” (2020)
- Data analytics applied in the Dutch tax practice – Turning data into tax value KPMG (2020)
- Predictive analytics – a genie of the digital era (2017 – 2019) – A 9-series of short articles by Cygnet
- Tax Technology Insights Series – Part #2 Smart Automation (2020) by Geoff Peck
- Forensic Approaches to Transfer Pricing Enforcement Could Restore Billions in lost U.S Federal and State Tax Losses: A Case Study Approach - Stephen Curtis (2020)
- Anwendungen möglichenheiten van Data & Analytics im Verrechnungs preis-kartett by A Schundler & Dr Alexander Totzek PwC (2020)

Thank You

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