



# APPLYING DATA ANALYTICS IN PRACTICE

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- Introduction HEINEKEN Global Audit
- Our Data Analytics journey
- Examples of how we apply Data Analytics
- Global Audit Data Universe





## HEINEKEN Global Audit on a page

**Global team** of 50+ professionals with diverse profiles and experience

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**As a Global department**, we are organised in 4 regional hubs

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**Matrix organisation**, regional and functional split

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In our team we have **17 nationalities** and **19 languages spoken**

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40% of our team move into **business positions internally**

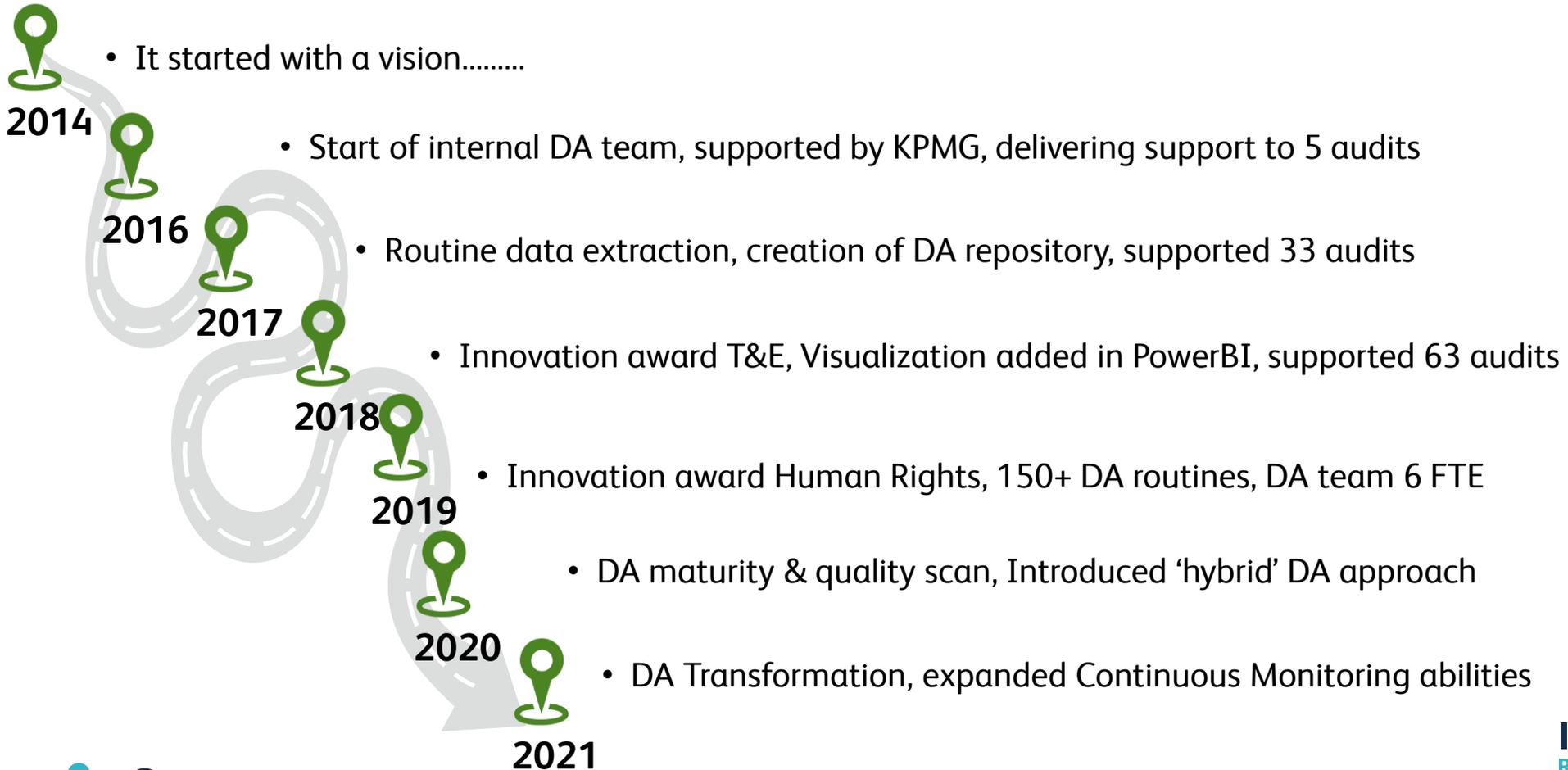
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We have an internal independent **Data Analytics team**



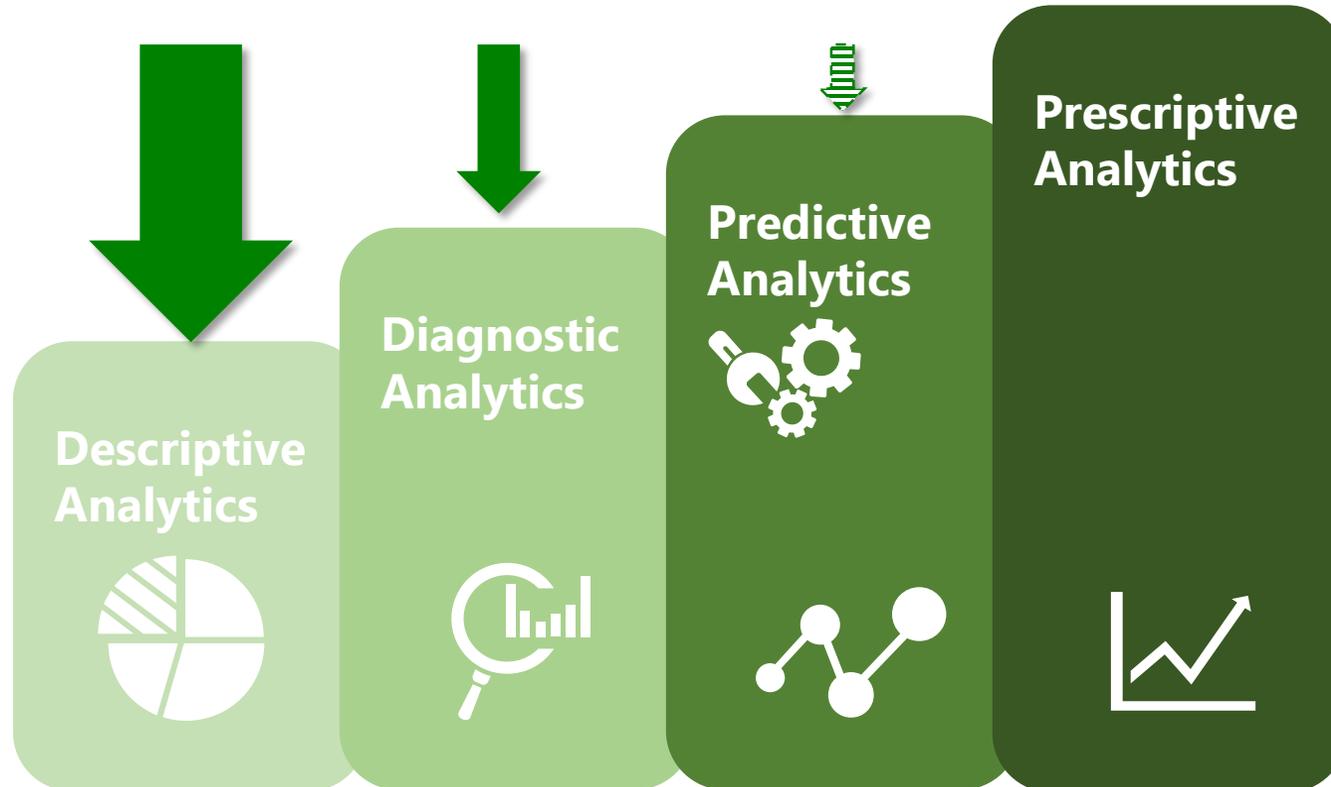


## Our Data Analytics journey





# What do we mean with Data Analytics ?

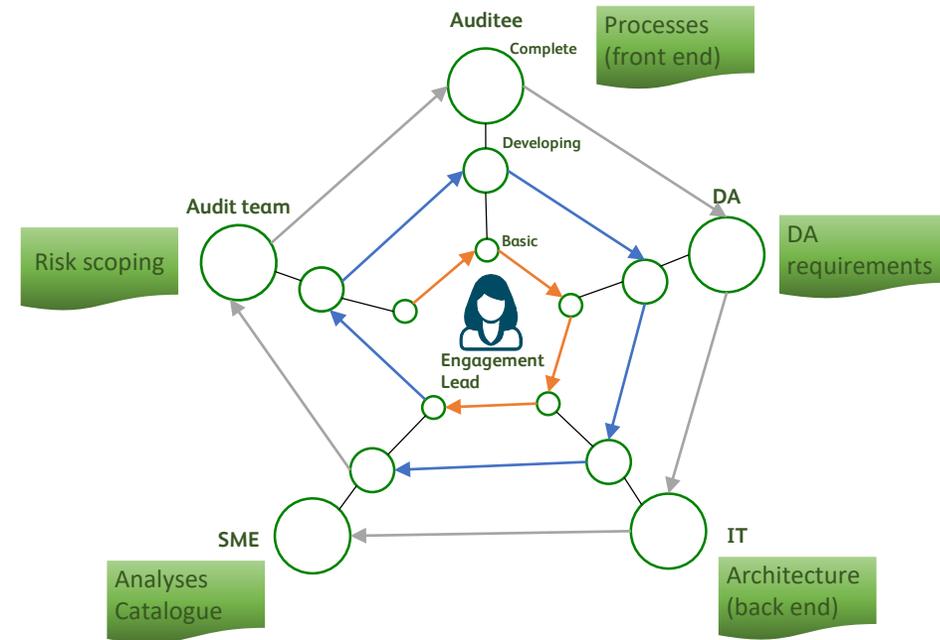




# Embedding Data Analytics in audit engagements



- Iterative approach where DA is embedded in the entire end to end audit engagement.
- At beginning of every engagement we define specific DA outcomes and as part of the overall audit evaluation we review and define lessons learned.





# Industrialised DA routines



DA Analyses  
**69**



DA Analyses  
**19**



DA Analyses  
**38**



**OTHERS**

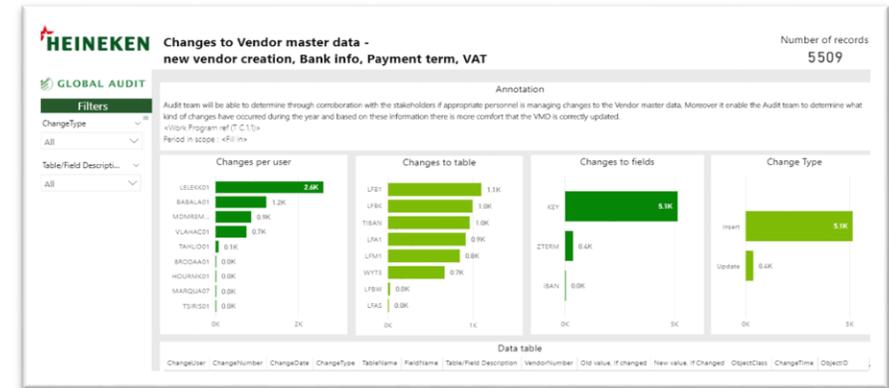
DA Analyses  
**48**





## Example – Process Source to Pay

- a set of (35+) predefined different routines.
- The standardized analytics check all records from the ERP system instead of selecting a sample and running manual tests while on-site.
- DA can identify where in the PtP Process there are potential issues to do data driven risk assessments.



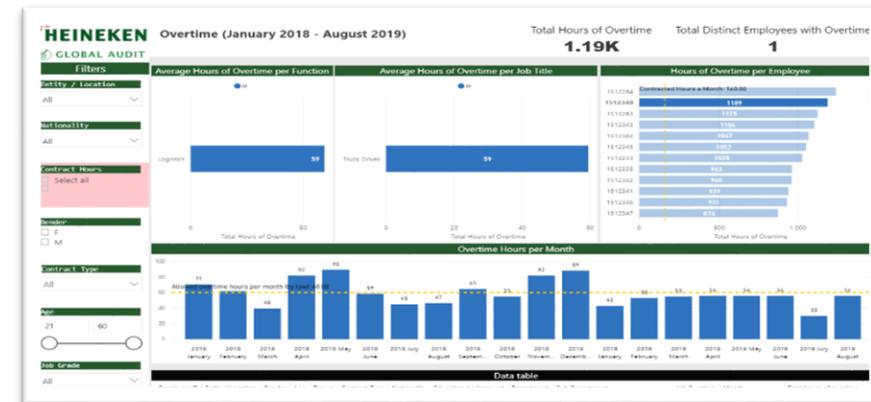


# Example - Human Rights DA insights

- To complement the interview and soft controls based nature of Human Rights audits.
- Given the sensitivity of data for a topic such as Human Rights, we always anonymize all the data.



Random test dataset



Random test dataset





## Example – Parallel trade audits



- Indicate discrepancies or suspicious trends in the selling patterns to Customers.
- The analysis also works with observational data gathered by Sales Representatives, that are asked to check the origin of HEINEKEN products and log any suspicious products.

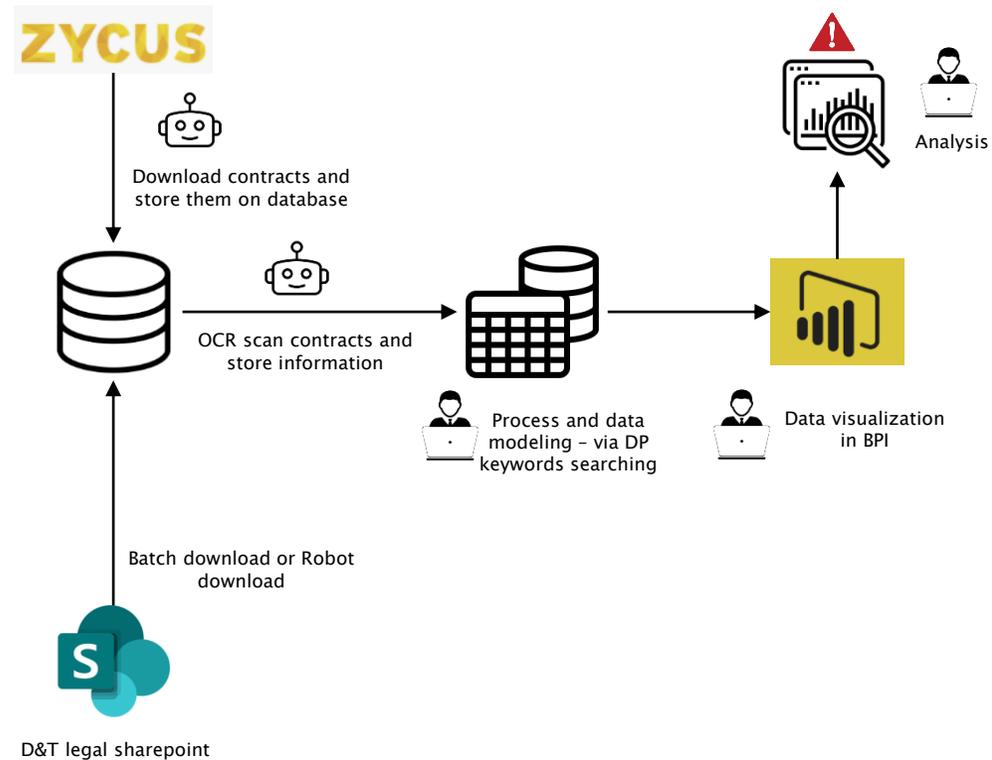




## Example – Data Privacy clauses in contracts



- Do all our legal contracts have Data Privacy arrangements?
- Using different techniques with robots and using learning algorithms to perform smart searches to answer the question for us.
- We used two different technologies to learn and compare outcomes.



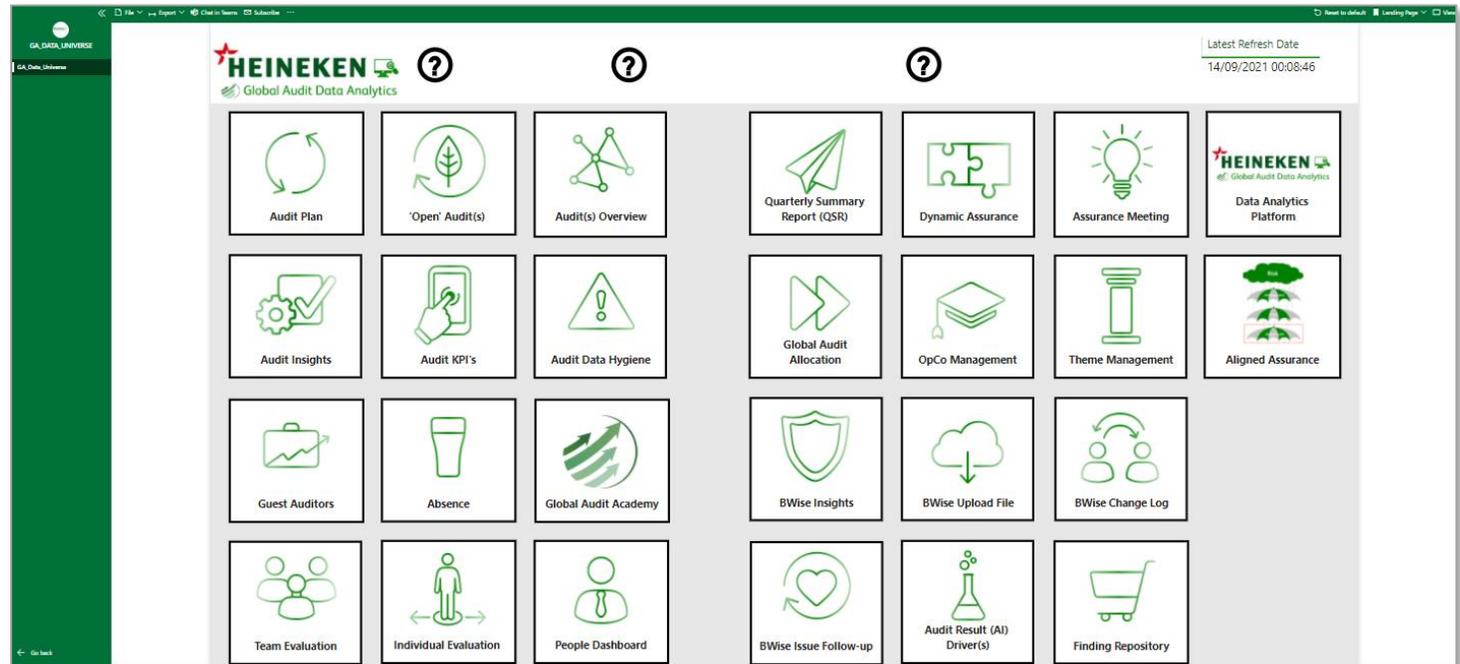




# What about the data we produce as an audit department?



- **Global Audit Data Universe (GADU)** unlocks all audit and issue follow up data in a single unified reporting solution
- Based on source data from our Audit Tools and extended with data through custom apps (PowerApps, Outsystems)





# Example - Hygiene Dashboard and KPI tracking

- Support auditors in file completion.
- Automates parts of our internal QA reviews.
- Tracks insight into cycle times, auditee surveys, mandatory key documents, audit state and team and individual performance assessments.

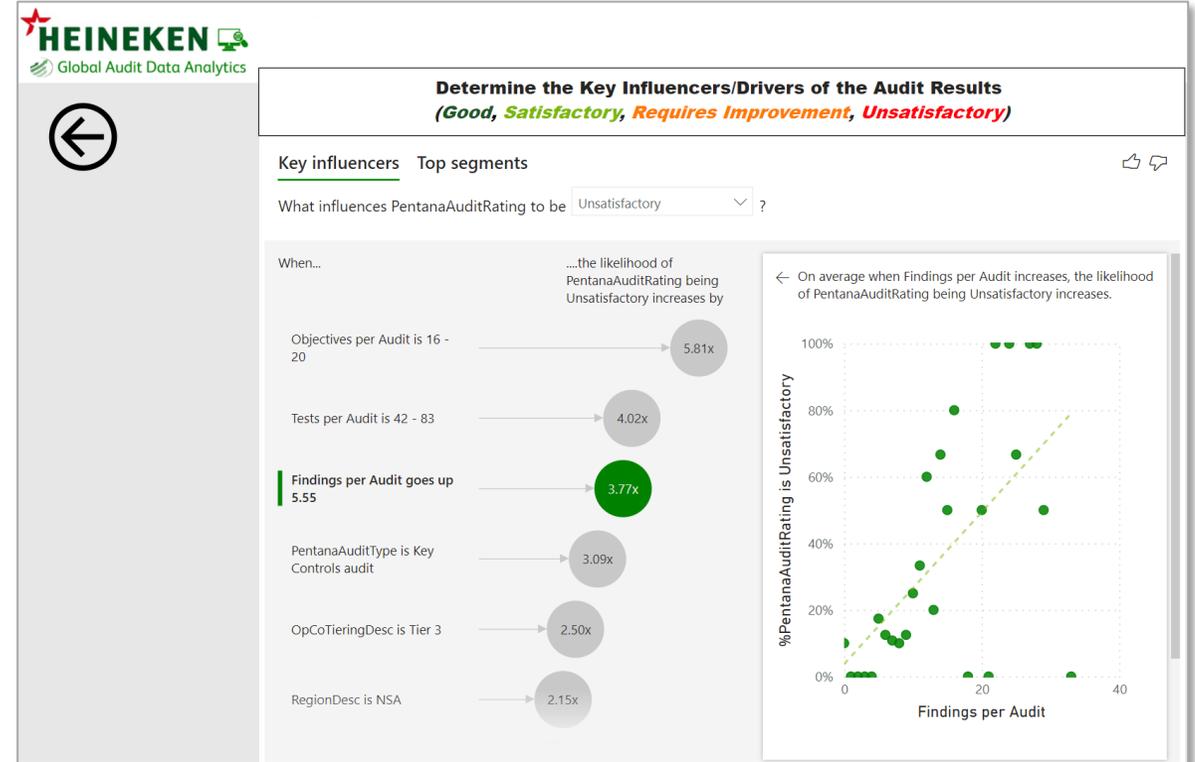
Data Hygiene Issues, listed by Pentana Audit File			
Audit Reference   Audit Title	Data Hygiene Rationale	Object	
2021-CORP-3.04   Corporate-Follow up Cloud Security Audit 2017	Missing Key Documents (In Pentana File and/or App)	Survey - Auditee Survey Response.   Doc - Planning Document.   Doc - Fraud Risk Assessment.   Doc - Audit Data Analytics Planning Document (ADAP).   Doc - E-mail issuance of the APM.   Doc - Request for Information (PBC).   Doc - Opening Meeting Presentation.   Doc - Closing Meeting Presentation.   Doc - E-Mail issuance of the Draft Report.   Doc - E-Mail issuance of the Final Report.   App - Team Evaluation Completed.	
2021-CORP-3.04   Corporate-Follow up Cloud Security Audit 2017	Test not linked to Control	T.1   Shadow IT	
2021-CORP-3.04   Corporate-Follow up Cloud Security Audit 2017	Test not linked to Control	T.2   Framework, Governance, Roles & Responsibilities	
2021-CORP-3.04   Corporate-Follow up Cloud Security Audit 2017	Test not linked to Control	T.3   Cloud Usage & Security Awareness	
2021-CORP-3.04   Corporate-Follow up Cloud Security Audit 2017	Test not linked to Control	T.4   Legal Considerations for Cloud Solutions	
2021-CORP-3.04   Corporate-Follow up Cloud Security Audit 2017	Test not linked to Control	T.5   Risk Assessment	





## Example - Applying AI to look for audit bias

- With all data unified in GADU we can look for result drivers, e.g. what is an indicator for a specific audit rating.
- This is correlation, not causality!





## Some of our lessons learned

- 1 Just **get started**, don't be afraid to fail. **Think Big, start small, test, fail, test again and then deploy.**
- 2 **Accessibility of data** is most of the time the biggest hurdle in performing data analytics and being data driven.
- 3 **Leverage the power of the crowd** within and outside of your company. There are many successes and failures to learn from.
- 4 **Data processing** always takes more time than expected.
- 5 **Data savviness and being “data” literate** is a must for the entire audit team. Data Analytics is not a consumable product, it needs to be shaped, refined and validated by the audit team.