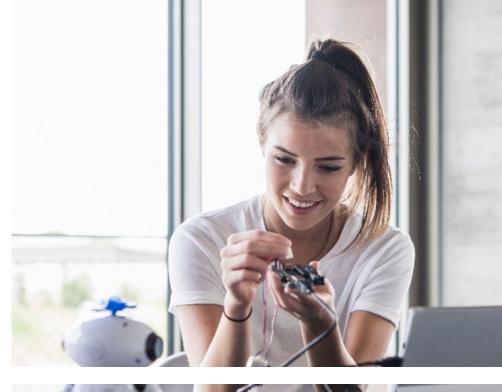
Digital Upskilling Lunch & Learn

September 2021







Agenda

Welcome & introductions

Polling question

Audit workflow automation, e.g. Digital Actions Manager

Continuous Controls Monitoring, e.g. Continuous Monitoring Platform

Structured form data capture, e.g. Connected Risk Engine

Natural language processing & Machine Learning

Data analytics and visualisation

Polling question

Questions



Why does digital and data acumen matter?

How should Internal Audit respond?

Building the 'Next Generation' Internal Audit Professional

The concepts explored earlier will require internal auditors to re-think the way they approach delivering services across the Internal Audit lifecycle and lead their teams, day in day out.

Effective collaboration with stakeholders remotely through communication technologies.

Effective use of personal networks across the other lines of defence and subject matter experts to bring maximum value and insight.

Ability to communicate with impact while leveraging virtual communications and data visualisation to effectively communicate to stakeholders remotely.

Able to articulate data, cyber security and technology risks.

Ability to combine leading technology with human insight Internal Audit professionals need this mix to draw out root cause to then develop pragmatic solutions that get to the heart of issues.



communicators

The 'Next Generation' Internal Audit Professional



analysis

Intuitive auditing that challenges the traditional approach through contemporary auditing (e.g. agile, continuous controls monitoring, real-time feedback, remote and virtual delivery, collaborative reporting



To facilitate better conversations with business leaders and to help identify where risks lie. Improved business acumen could be achieved through secondments to high priority business process areas in response to BAU strains.



Adopting a 'digital first' mindset throughout the audit engagement. Upskilling the team to improve understanding of data sources, data quality, insights and analytics capabilities.

WHY

Individual Internal Audit Leaders will be key to the successful transformation of the Internal Audit function in the 'New-format' working environment. In this environment, a digital-first mindset is required in all aspects of work. We all need to challenge ourselves to ensure we have the right mindset to leverage technology in efficiency completing our audits and to effectively communicate and collaborate with stakeholders throughout the audit lifecycle.

Digital Upskilling PwC

The use of digital tools, as shown on a maturity curve, informs the audit approach

Complexity →

Analytics and visualisation

Diagnostic – What happened? Creating visual representations that display trends in data

Audit workflow automation eg Digital Actions

Digitising the way that we work, review and maintain quality



D D



* ETL = Extract, Transform, Load

Data capture from structured forms

Creating new opportunities for detective and preventive controls by "reading" information entered in forms, e.g. invoices, leases, contracts



Natural Language Processing

Algorithms built through ML to recognise content, intent, tone and context of written and spoken language



Machine Learning (ML)

Algorithms build a mathematical model based on sample data, to make predictions or decisions (prescriptive-what should I do) without being explicitly programmed to perform the task



Artificial Intelligence (AI)

Three types:

- Analytical Al Cognitive
 Learning from past experience
- 2. Human-inspired emotional intelligence
- 3. Humanised Al includes1 + 2 and social intelligence

Data Capture and transformation

Structured or unstructured data





a

Continuous

calculations.

analytics and/or

tasks to support

regular detective

control processes

controls monitoring

Automation of ETL,

 $\text{Time} \rightarrow$



Audit workflow automation

Digital actions manager

Product goal

Simplify the process of tracking internal audit recommendations



centralised platform designed to automate the Internal Audit **recommendation tracking** process.

Enables **periodic follow-up** of Internal Audit actions via **automated reminders** and provides **real-time dashboard** reporting.



Creates increased confidence with a guided workflow, providing actionable insights in a clear manner,



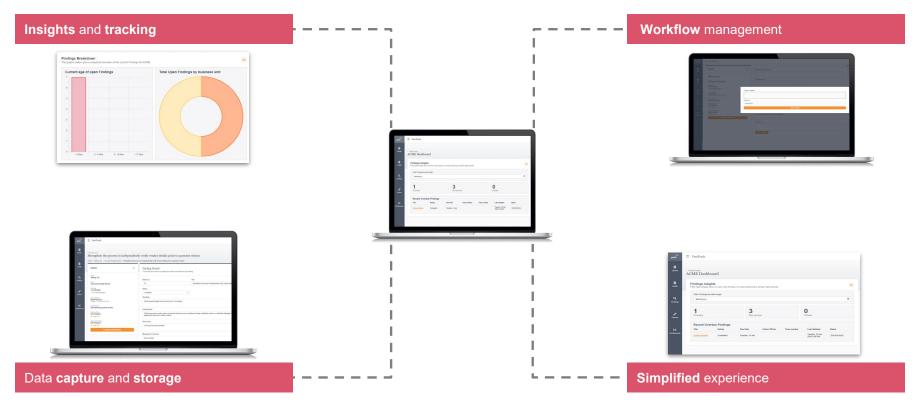
Enhances quality by reducing risk of manual error with automated tracking



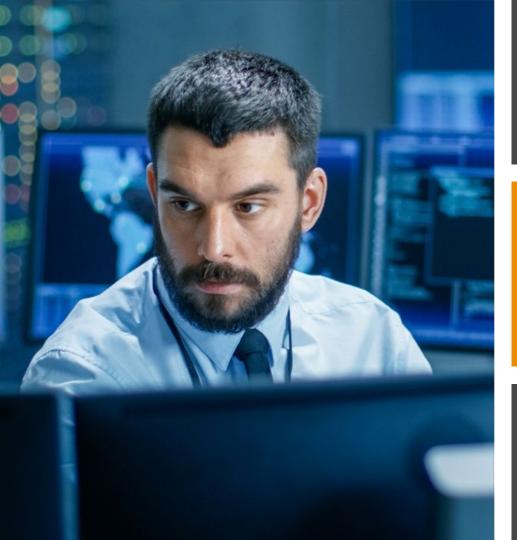
Reduces the time required by the auditor and the auditee



Key features



Digital Upskilling PwC



Continuous Monitoring Platform

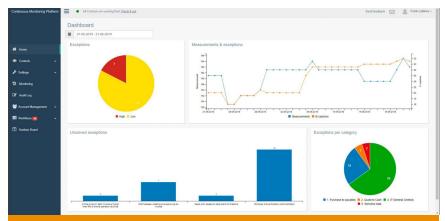
Continuous monitoring platform

Insights and **tracking**

- Real time monitoring tool
- Full population of transactions and data.
- Monitoring across numerous processes
- Setup in 3 to 4 hours
- Application independent

Automatically analyses processes, transactions and master data, allowing for real-time insights on organizational controls

Dashboards highlight exceptions, which are handled by the responsible business through workflows, making compliance part of the day-to-day business



- Intervals (min, hour, etc)
- Full population, no samples
- Focus on exceptions
- Digital sources required

Continuous monitoring platform

Third Party Assurance

Automated real time third party assurance using continuous monitoring

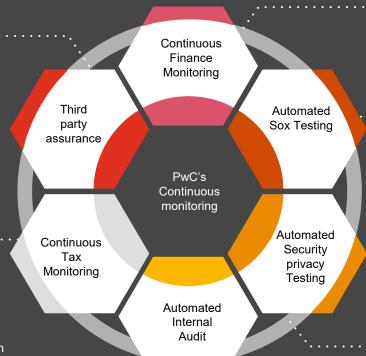
SOC 1 (ISAE 3402) & SOC 2

Continuous Tax Monitoring

Real time tax insights Being in control in an automated and data driven way

Automated Internal Audit

Automated real time internal audit procedures Follow up and remediation of exceptions based on workflows



Continuous Finance Monitoring

Automated testing of IT-controls Real time monitoring of client environment

Automated SOx testing

Real time insights in SOx control framework
Use reporting for external stakeholders

Automated Security & Privacy

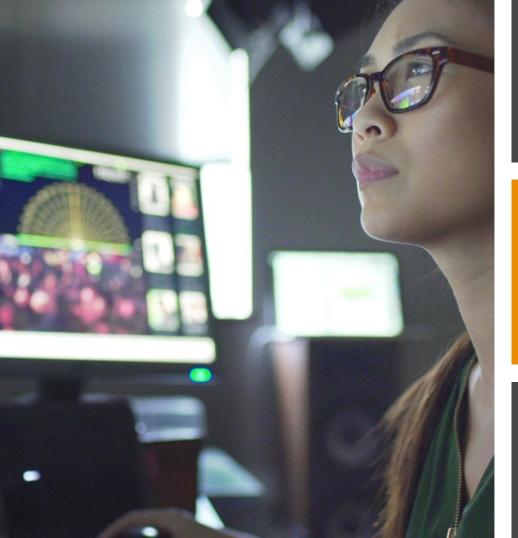
Testing GDPR trust services (certification & assurance)

ISO 270001;2013

DigiD /BIG / BIR / NEN7510

Digital Upskilling

September 2021



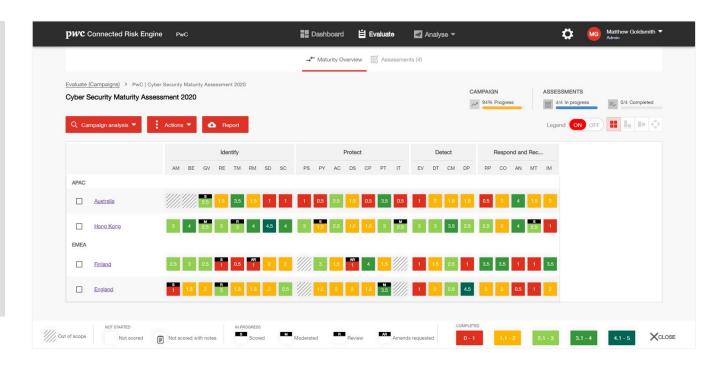
Structured form data capture

Connected risk engine

What is it?

Maturity assessment

platform for frameworks then enables work collaboration, analysis and visualization of the assessment, analyse and visualise results, benchmark by industry and provide dynamic reporting.



Key features



Benchmarking organisations against their peers



Centralised system to keep track of every part of the assessment



Reporting and visualisation



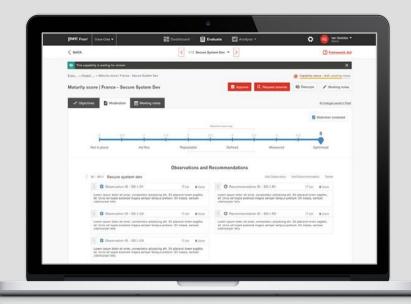
Score and review all of the assessment data



Dashboard summarising the results of an assessment



Year on year trend analysis





Natural language processing and ML

Project perspectives

Project portfolio governance

Establish a portfolio-wide view of **project sentiment**. Compare stakeholder engagement and project confidence across your portfolio, and **identify risk** areas for deep-dive reviews and continuous improvement.



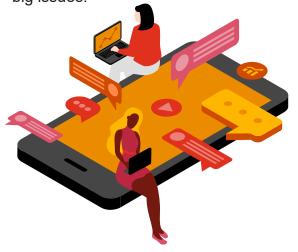


Ongoing project health checks

Empower **project teams** to conduct regular **pulse checks** and to give their **people a voice** throughout the delivery of complex projects.

Accelerated insights

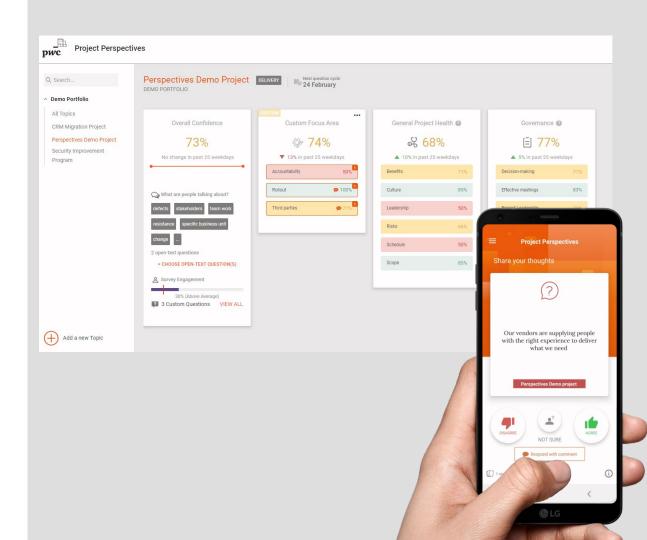
Use the Perspectives Platform to augment your next project assurance activity and uncover the big issues.

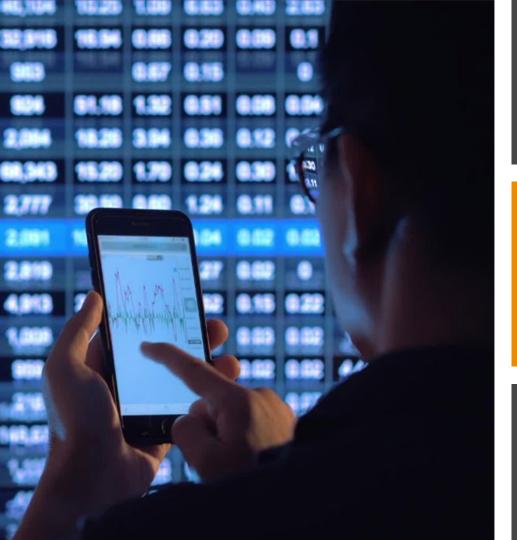


Key features

Our core Project Delivery Confidence Model contains 14 key Focus Areas, each with a library of questions that are expertly designed to get to the core challenges facing your Clients project.

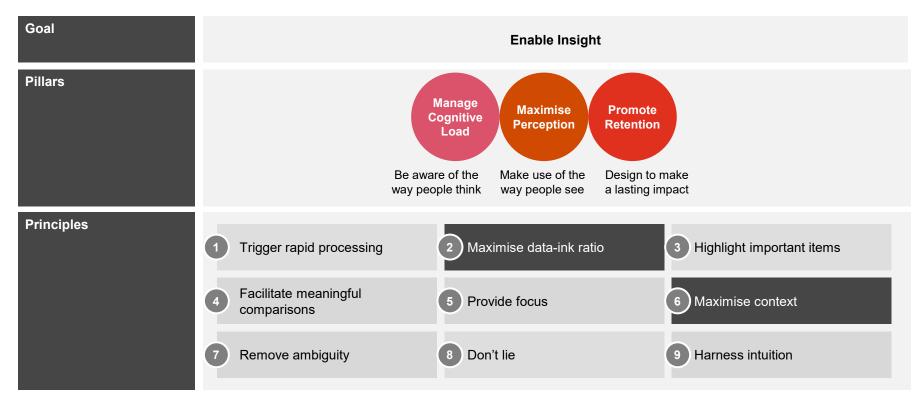
- Overall project health (series of focus areas, one of which is project health
- Ability to select from series of focus areas depending on where you are in lifecycle or your key areas of concern/risk
- Framework of domain of questions, different sets however it comes back to a common set of domaines so you can still drive insights/analysis etc.





Data analytics and visualisation

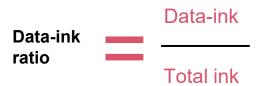
How to approach data visualisation



Digital Upskilling PwC

Maximise data-ink ratio

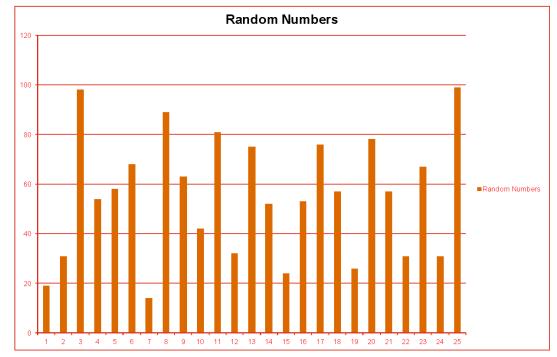
The data-ink ratio is a concept created by Edward Tufte that helps us to design in a way that does not cause information overload for viewers



The red items represent nondata ink

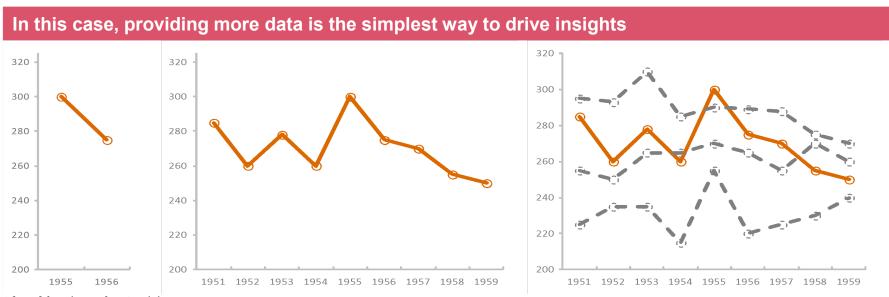
If these items were deleted, or at the very least pushed into the background, you would not lose much information

For information that must remain, using grey is a helpful way to maximise the data-ink ratio without completely removing non-data ink items.



Maximise context

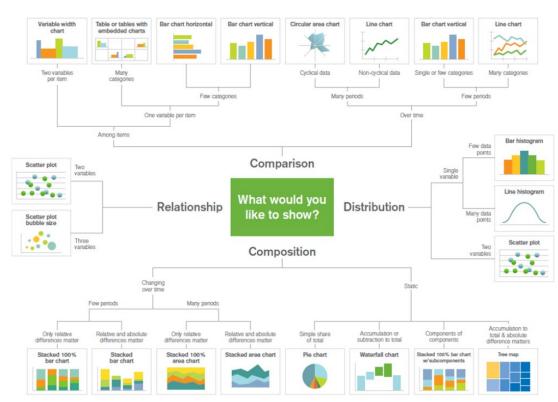
The more context provided within a visualisation, the more ability a viewer will have to draw insights



Adapted from internal PwC training

Think before you chart

The key to developing an effective visualisation is to know what message you want to convey before you begin.



Summary

DO

- 1. Maximise the data-ink ratio
- 2. Maximise content
- 3. Think before you graph
- 4. Provide commentary or pop out boxes to support the visualisation



Don't

- 1. Create a graph with no context
- 2. Make ambiguous graphs with unnecessary effects
- 3. Provide misleading visualisations (don't lie!)

Thank You

www.pwc.com.au

© 2021 PricewaterhouseCoopers. All rights reserved refers to the Australia member firm, and may sometimes refer to the PwC network. Each member firm is a separate legal entity. Please see www.pwc.com/structure for further details. This content is for general information purposes only, and should not be used as a substitute for consultation with professional advisors.

Liability limited by a scheme approved under Professional Standards Legislation. At PwC Australia our purpose is to build trust in society and solve important problems. We're a network of firms in 158 countries with more than 250,000 people who are committed to delivering quality in assurance, advisory and tax services. Find out more and tell us what matters to you by visiting us at www.pwc.com.au PWC200319885

