



COMPUTER ASSISTED AUDIT TECHNIQUES

The force multiplier in the battle against risk

ISACA Evening Talk (20 August 2013, Tuesday) @ NLB

ISACA Evening Talk - CAATs

20 Aug 2013

AGENDA

- Business case for CAATs and data analytics
- Using CAATs to size up business processes quickly
- Simple CAATs techniques that yield quick return on investment
- Using CAATs for investigative work
- How CAATs was successfully integrated into a Pre-CAATs audit team

BUSINESS CASE FOR CAATS & DATA ANALYTICS

Informal Poll:

How many in the audience are using Computer Assisted Audit Tools/Techniques (CAATS) or Data Analytics regularly?

BUSINESS CASE FOR CAATS & DATA ANALYTICS

- Informal peer group of Heads of IA within institutions of a higher learning (IHL)s – unscientific straw poll:
 - 2012: 11% (1 out of 9 IHLs using CAATs)
 - 2013: 33% (3 out of 9 IHLs using CAATs)

Source: PWC 2013 State of the Internal Audit Profession Study

BUSINESS CASE FOR CAATS & DATA ANALYTICS

Figure 5: CAE thoughts on use of analytics by internal audit

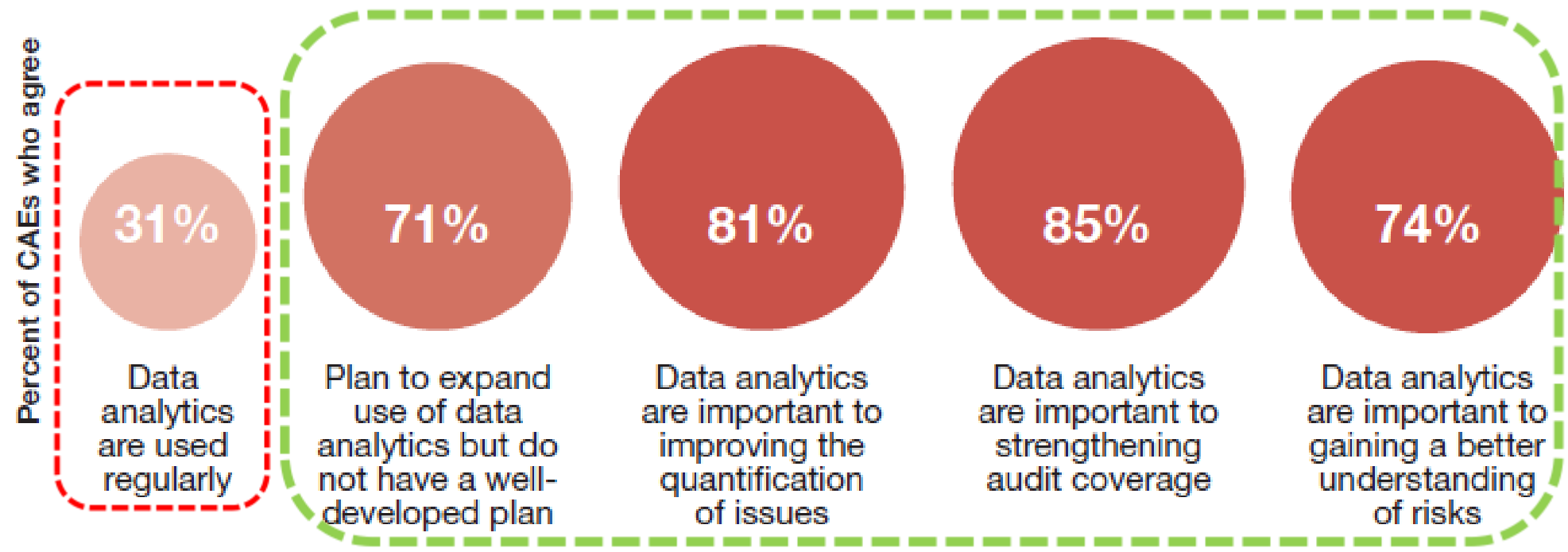


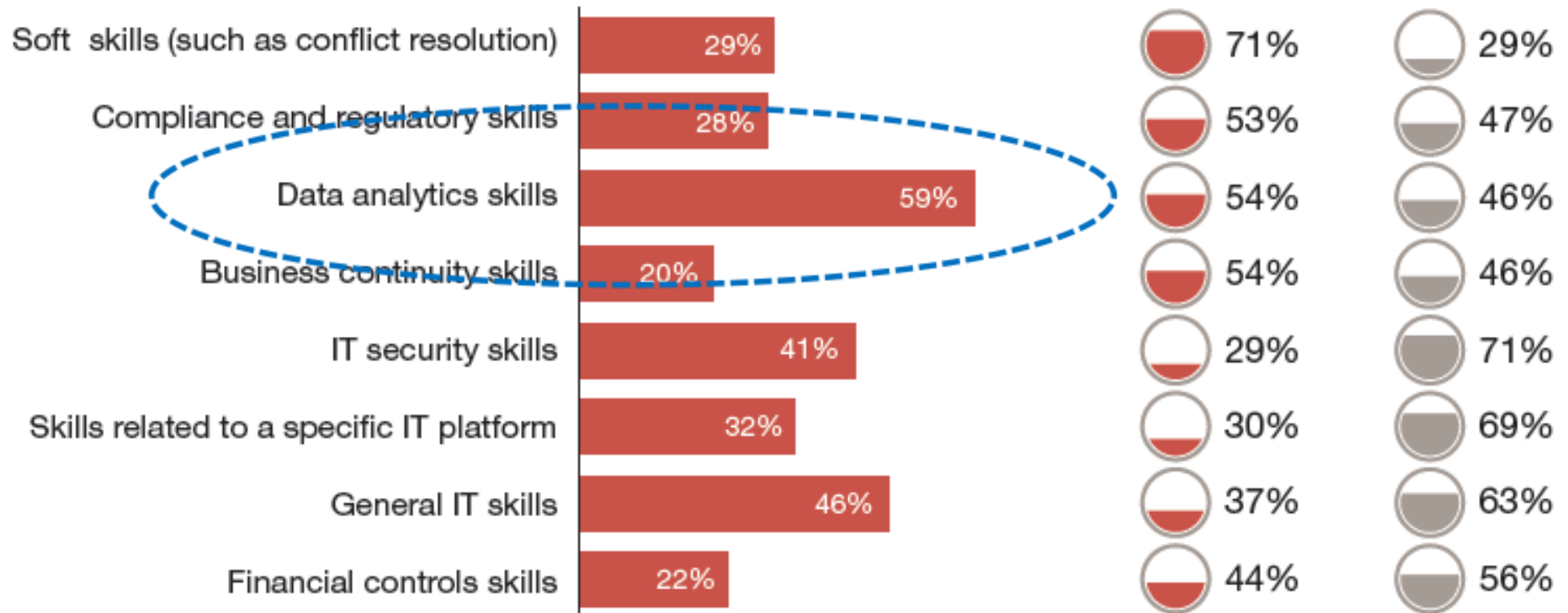
Figure 6: Where internal audit functions will get the talent they need

- Reallocate existing resources
- Hire resources or leverage third parties

For each area, will you add internal audit capability over the next 18 months?



For each area, where will you most likely get the additional talent you need?



Percent of CAEs planning to add internal audit capability

BUSINESS CASE FOR CAATS & DATA ANALYTICS

- Chief Audit Executives agree that CAATs is important
- Adoption rates vary
- Why are we not there yet in terms of CAATs use and implementation?

CAATS CHALLENGES & OPPORTUNITIES

Opportunities

Allows us to leverage on available technology (PCs, Excel, CAATs tools)

Enhances team productivity

100% or more testing (include prior years)

Strategic

- “We are looking at big picture, trends then we drill down to examine details.”

Challenges

Requires a fundamental paradigm shift

Old habits die hard

Sampling mindset

Fear of the unknown

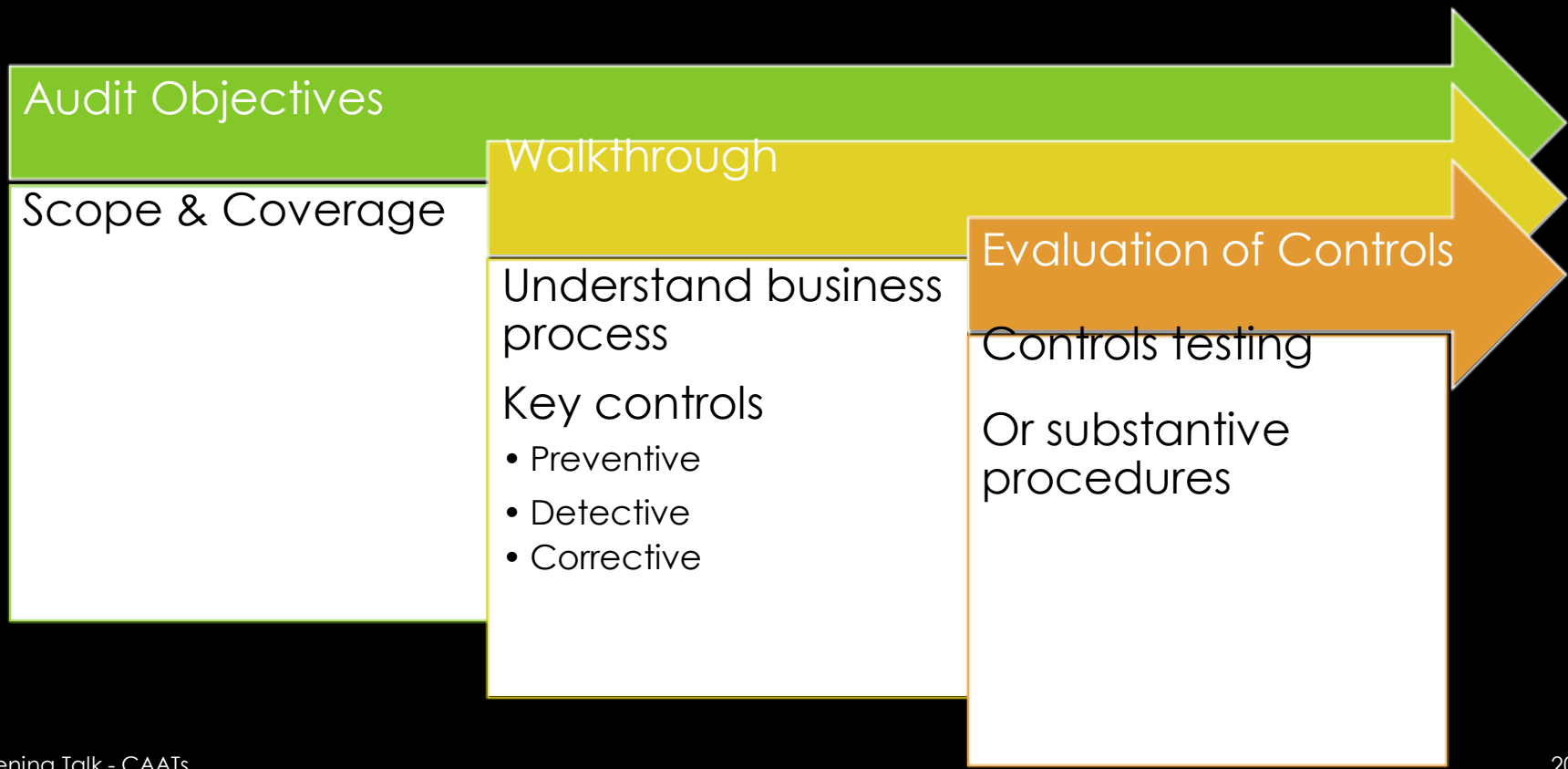
- “The data must be exact and correct before I can trust it to do testing!”

CAN'T SEE THE FOREST FOR THE TREES

Perspective, Perspective and Perspective



USING CAATS TO UNDERSTAND BUSINESS PROCESSES



USING CAATS TO UNDERSTAND BUSINESS PROCESSES

- Enterprises function in a data rich environment
 - Operational systems
 - Enterprise Resource Planning
 - Even stand-alone departmental applications also have own databases
- And auditors have an eye for details which is useful for testing but...
- Are we at risk of missing the forest for the trees?

USING CAATS TO UNDERSTAND BUSINESS PROCESSES

Pre-CAATs

Understand business process

Random or judgmental sampling ("30!")

Test for errors (Y/N?)

- Yes – extend sample
- No – yay!

Post-CAATs

100% of transactions in system

Understand data

- E.g. Fieldstats
- E.g. Summarise
- E.g. Pivot

Note initial insights

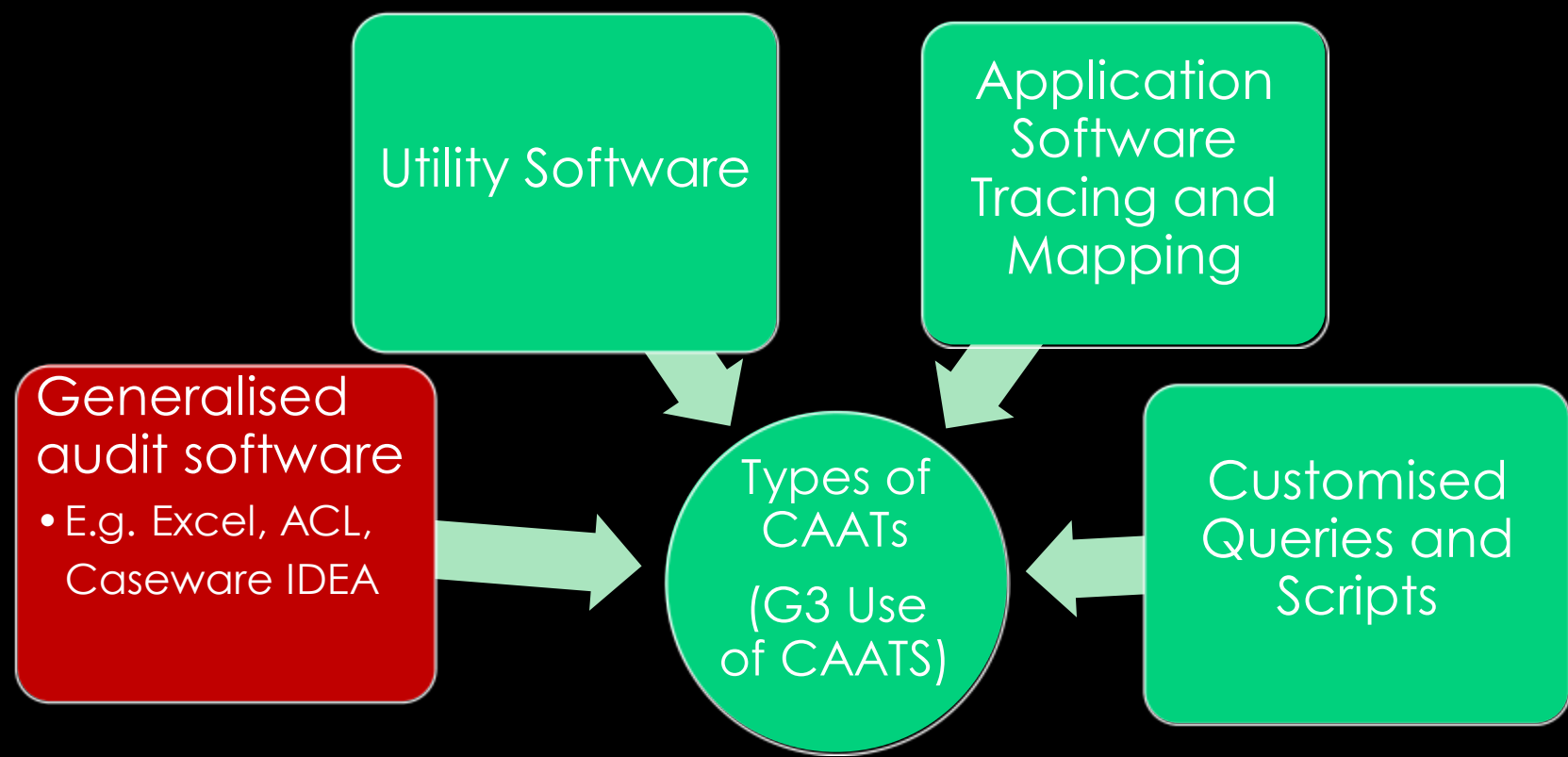
USING CAATS TO UNDERSTAND BUSINESS PROCESSES

ISACA IT Audit and Assurance Guideline G3 Use of Computer Assisted Audit Tools

1.4.3 CAATs can be used in performing various audit procedures including:

- Tests of details of transactions and balances
- Analytical review procedures
- Compliance tests of Information Systems general controls
- Compliance tests of IS application controls
- Penetration testing

USING CAATS TO UNDERSTAND BUSINESS PROCESSES



SIMPLE CAATS THAT YIELD A QUICK RETURN ON INVESTMENT

CAATS require investments in:

Tools

- Software licences
- Hardware

Techniques

- Plan audits with CAATs in mind
- Re-engineer audit procedures to use data and CAATs

Time

- Training of staff
- Change management of mindsets and methods

USING CAATS TO UNDERSTAND BUSINESS PROCESSES

- Contoso (fictitious company)
 - Analysis of international electronic sales
- Size up data quickly
 - How many records? => addresses completeness issue
 - What are the fields? => suggests what can be tested
- Examples using IDEA and Excel
 - Fieldstats
 - Summarisation
 - Excel Pivot

EXAMPLE



Stores

14/05/2010 10:40 PM

Microsoft Excel Worksheet

71 KB

Disclaimer:

- Not an “expert” in Excel or IDEA
- There could be other better ways to do the analysis/tests shown
 - In fact, that is one of the challenges in CAATS – too many ways to perform the same function/test!
 - Paradox of choice – analysis paralysis

SIMPLE CAATS THAT YIELD A QUICK RETURN ON INVESTMENT

Sorting / Filtering

- Top 10/20 high/low
- Filter or Criteria transactions that go against business rules/logic
- Common sense testing

Duplicates, Gaps Test

- Duplicates – testing data accuracy and integrity, especially payments of claims, invoices and receipts
- Gaps – missing sequences as a test of completeness

EXAMPLE



SIMPLE CAATS THAT YIELD A QUICK RETURN ON INVESTMENT

Aging (for date and time related data)

- Account balances
 - Payables/creditors
 - Receivables/debtors
- Inventory
- Fixed assets
- Time-sheets

EXAMPLE



SIMPLE CAATS THAT YIELD A QUICK RETURN ON INVESTMENT

Ratios

- Big picture
- Pareto analysis (80-20)
- Relativity between departments, business units, business lines

Trends (across space and time)

- Time
 - stratification
- Place
 - geographical
 - department
 - business units

EXAMPLE



USING CAATS FOR INVESTIGATIVE WORK

Finding the proverbial
needle in the haystack

Not knowing what you
don't know

Zooming in on very specific
type of transactions

CAATs

- filtering / criteria
- key word detection
- joining data from separate databases

USING CAATS FOR INVESTIGATIVE WORK

Define the specific transactions or info needed

Obtain data required
--Typically requires multiple sources e.g.
Finance, HR,
Operational Depts

Collate sufficient, appropriate evidence to substantiate wrongdoing

USING CAATS FOR INVESTIGATIVE WORK

Search

- Functions / Formulas
- IDEA - @ISINI
- Excel - <Ctrl>+F

Join/Match

- Putting together disparate but related pieces together
- IDEA - FIND, JOIN, APPEND, @MATCH

Patterns

- Summarisation by staff/dept/type of transaction
- Stratification by dates
- Ratios

IMPLEMENTING CAATS: SOME THOUGHTS²⁷

Pre-CAATs:
education, sharing,
change
management

CAATs
implementation –
Audit of Claims

- Look for easy data-rich
business processes

CAATs training – in-
house sharing and
formal hands-on
courses

Audit Plan – consider
CAATs, data
available, useful
analysis for raising
observations

IMPLEMENTING CAATS: SOME²⁸ THOUGHTS

Start Now

- It is okay to start small but one should start with what you already have or with a small pilot
- Learning from doing (and making small mistakes) is part of the journey

Mindset vs. Technology/Skills

- It is about changing mindsets to be open to technology/new approaches that is key in success
- Convincing people to adopt a data-driven vs. intuition approach is important

Lead by Example

- Helpful to walk the talk



IMPLEMENTING CAATS: SOME²⁹ THOUGHTS

- Resources to get started – consider the following authors
 - ISACA IT Auditing Standards, Guidelines
 - David Coderre
 - Mark Nigrini

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