# *Use of data and technology in the audit*

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The views expressed are my own personal views and do not reflect those of the PCAOB, members of the Board, or the PCAOB staff.

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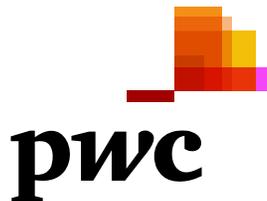
# Transforming the audit through innovation
## -Why is this important?

Technology is transforming and disrupting industries

As a profession, we also look to transform the audit through technology and innovation

Data analytics is changing both the way we conduct our audits and what those audits deliver. It allows us to extract and analyze ever-larger data sets

Further use of data analytics will allow us to deliver effective audits more efficiently

This transformation can improve client and auditor experiences and provide valuable insights

# *Illustration: Dashboard summarizing a profile of journal entries*
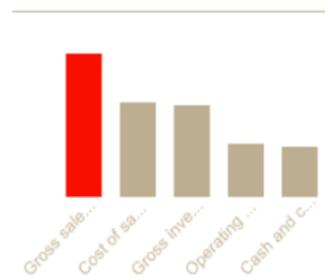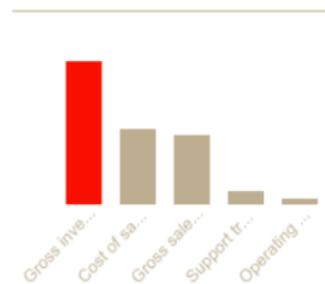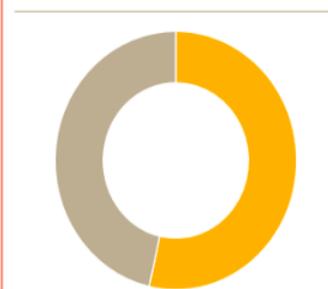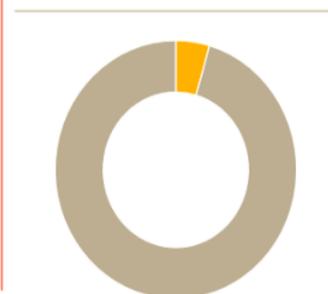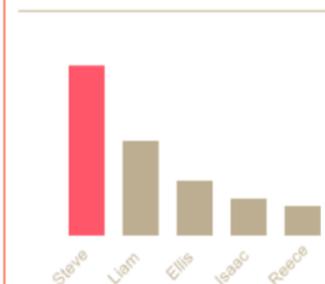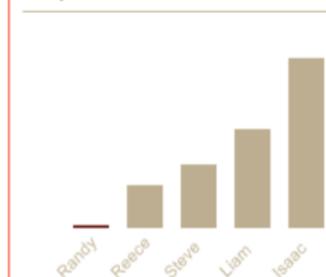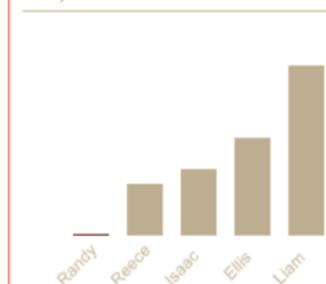
# *Illustration: Journal entries volume visualization*
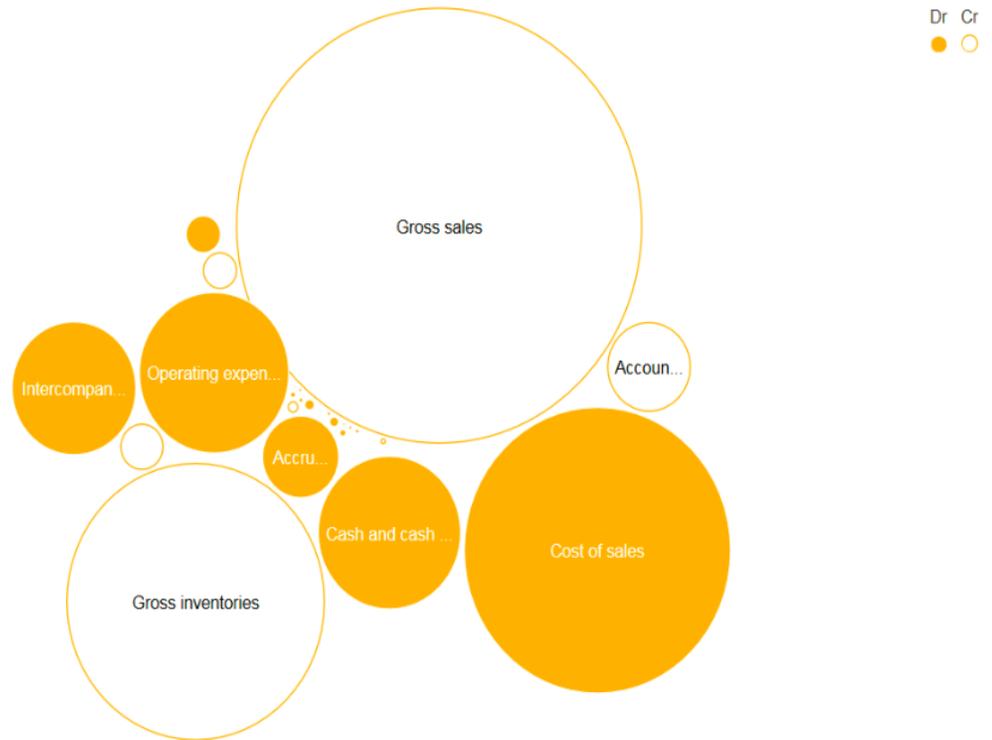
# Illustration: Journal entries example test visualization
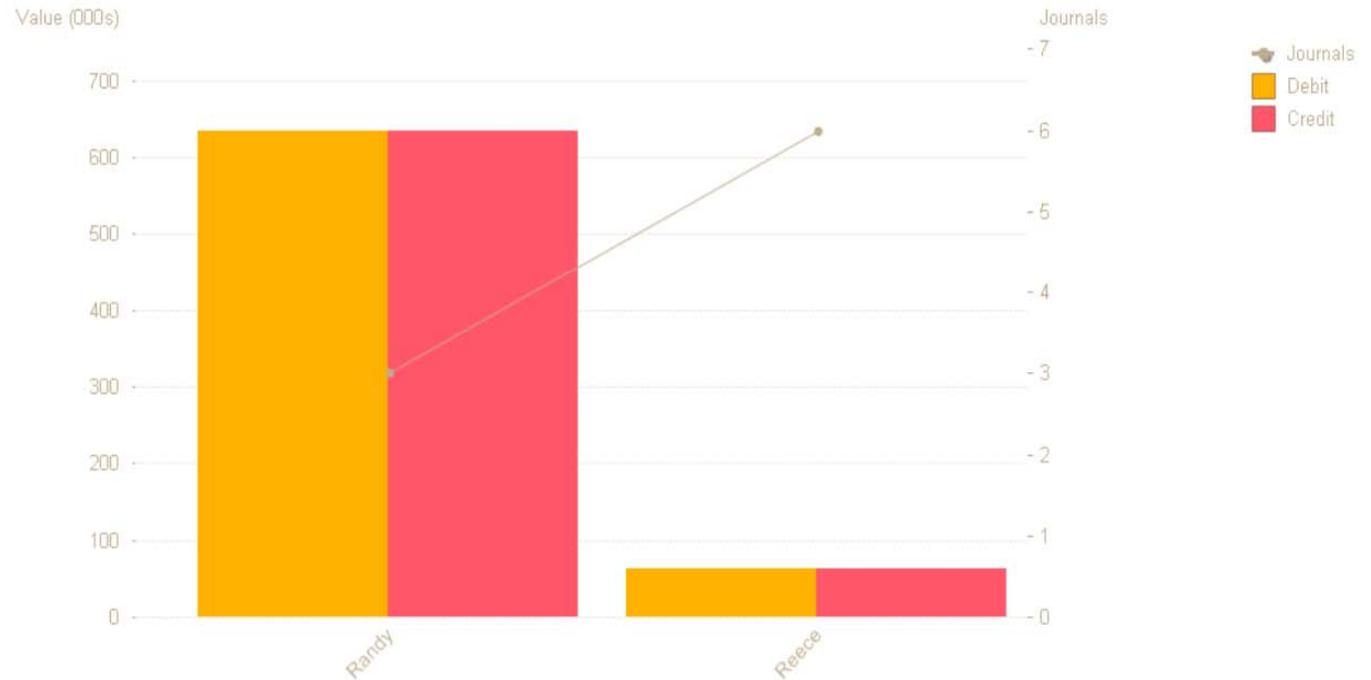
# *Practical challenges – defining the audit evidence*

**Risk Assessment**

**Internal Control Evaluation**

**Substantive Analytical Procedures**

**Substantive Procedures (tests of detail)**

**Audit Data Analytics**

- Can data analytics support a conclusion that a population does not present a risk of material misstatement, and therefore substantive evidence is not needed?
- Will the standards need to change?

- What can data analytics tell us about the operating effectiveness of internal controls?
- Can data analytics eliminate the need for assessing the design of controls in a non-integrated audit?

- Can data analytics be used as a new type of substantive analytical procedure?
- Should data analytics be incorporated into the analytical procedures standards?

- Can data analytics eliminate the need for audit detail testing if "outliers" are not identified?
- How much testing is needed for unanticipated "outliers"?

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# Practical challenges – Other considerations

**1**

### Access to and usage of data
- Obtaining access to client's data
- Technology to extract data
- Use of new sources of data outside of the client's environment

**2**

### Resource constraints
- 69% of businesses say in five years they will prefer candidates with data analytic skills but only 23% of educators expect their students to graduate with these skills in the same time period*

**3**

### Benchmarking of data
- Use of data analytics across a number of industries in providing audit evidence
- Confidentiality challenges

*Source: Gallup and BHEF, Data Science and Analytics Higher Education Survey (Dec 2016)

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# *Questions...*