

# Current Trends in Internal Controls and Continuous Monitoring

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February 2019



# Agenda

1. Recent trends in internal controls
2. Leveraging technology for business transformation
3. Continuous monitoring through data analytics
4. What to prepare for

# Recent Trends in Internal Controls

## Compliance with the Policy on Financial Management

- The introduction of the PFM requires departments to expand the scope of controls from Internal Controls over Financial Reporting (ICFR) to Internal Controls over Financial Management (ICFM)
- Departments that provide common/shared services to other organizations must conduct an annual assessment of internal control over common services and report on results

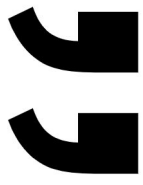
## Business transformation

- External demands and internal expectations require organizations to reconsider how they deliver services
- Technology and process automation impact the internal control environment
- Internal control must play a proactive role in assessing process risks and adequacy of proposed controls

## Data and analytics for ongoing monitoring of controls

- Data and analytics in audit, risk and compliance and controls facilitate new approaches to ongoing monitoring
- Organizations are moving from sample testing to reviewing 100% of the population
- Common challenges exist in deploying analytics

# Leveraging Technology for Business Transformation



**Technology is, of course, a double edged sword. Fire can cook our food but also burn us.**

**Jason Silva**  
Filmmaker and Futurist

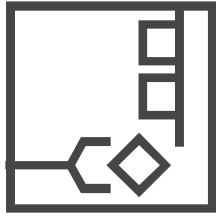
Robotic Process Automation (RPA), AI, Blockchain, and the Internet of Things (IoT) impact what we do and how we do things

Automation can free up time for more sophisticated and complex tasks

Cybersecurity is a key area to consider to appropriately mitigate risks

Organizations as well as individuals must balance the advantages technology can offer and the risks that arise

# Examples of New Approaches



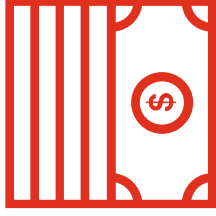
## Automated Controls

Reduce sample sizes  
Focus on additional considerations



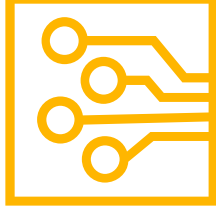
## Automated Testing

Applicable to consistent datasets  
Assess 100% of the population  
Flag and follow-up only on items that do not meet testing attributes



## Complex Analytics

Applicable to complex processes involving multiple systems and calculations  
Validate inputs and reconcile outputs to expectations  
Visualize outliers



## Process Intelligence

Applicable to processes with an electronic trail  
Analyze and visualize processes  
Optimize the use of resources

# Automated Controls: Reducing the Need for Manual Intervention



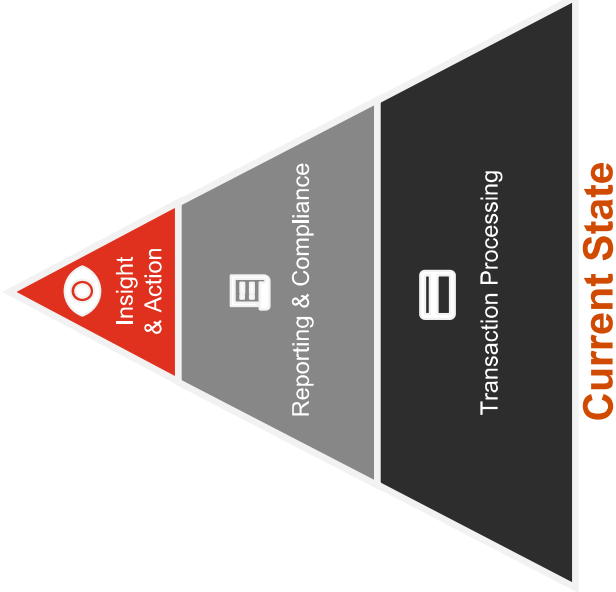
Automating repetitive and time-consuming tasks frees up resources to perform more challenging work. Examples include:

- Creating workflows following predefined rules and enforcing approvals or sign-offs before allowing items to progress.
- Developing bots that combine workflows with direct interaction.
- Robotic Process Automation (RPA) to automate entire processes.

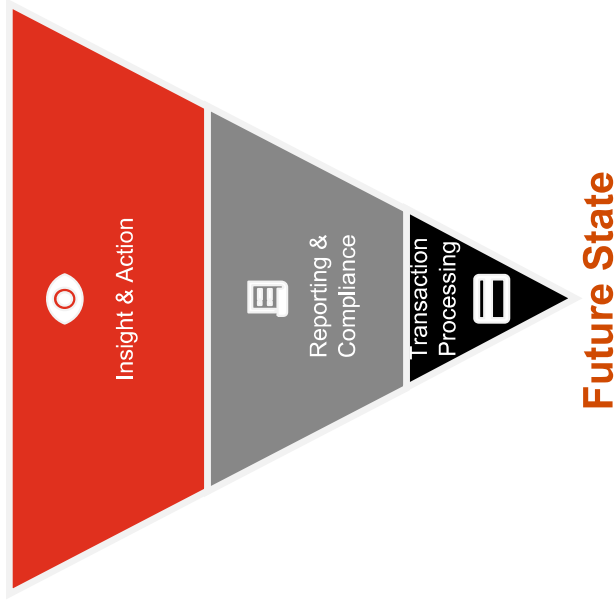
# Automation: Different Considerations

When leveraging automation or analytic tools, new considerations apply to assess whether tools or systems can be relied on.

- Do we fully understand the automation/tool, how it works and what possible options are available?
- What is the underlying configuration or programming of the automation/tool? How do we know it was not changed throughout the audit period?



- If there were changes, how are they managed to ensure appropriateness and who has access to make changes?
- Is there a potential for management override? If so, how would that be identified and monitored?
- Is testing performed in production? If not, how do we know the functionality is the same in production?



# Automated Testing: Moving away from Sampling

Moving beyond traditional sampling provides greater comfort over the entire population. Automated testing allows for:

- Assessing 100% of items in a population
- Applying rulesets to flag items that exceed defined thresholds or do not meet expected criteria
- Increased efficiency as specific and risk-based follow-ups provide greater value than haphazard sampling

## Section 34



Flagged Users

5  
Total Users

Flagged Invoices

6  
# of Invoices

Flagged Invoice Value

628k  
812.3k  
Total Value (\$)

### Section 34: Segregation of Duties between individuals approving invoices and contracting authority

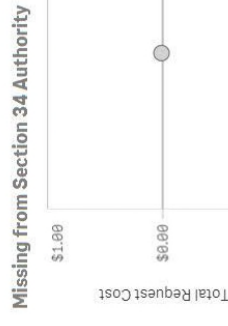
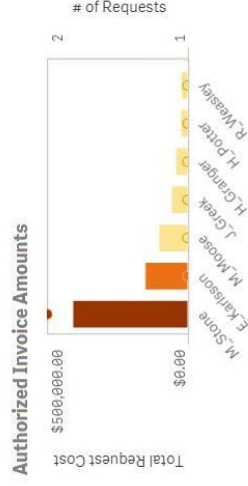
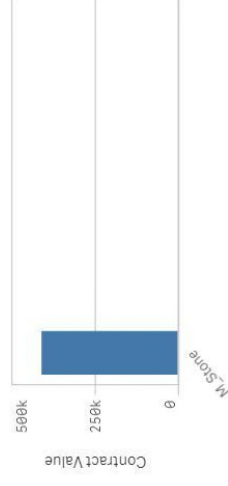


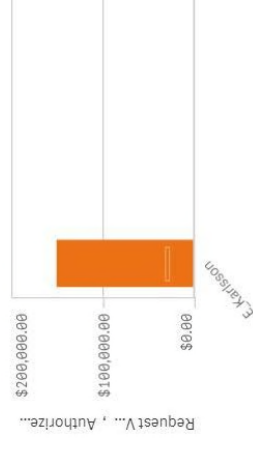
Chart represents value of spend per Authorizer

SoD



Same employee signed both the acknowledgment of invoice and the Contract

Section 34 Authorized by employees missing from DOA  
Over Authorization Limit



Approved Invoices exceeding authorized limit



# Complex Analytics: Working across Multiple Datasets

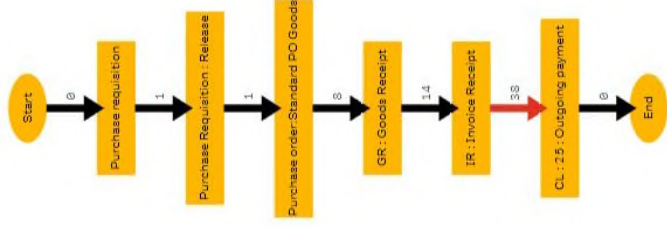
Complexity of multiple systems, manual intervention and unreliable calculations create new challenges. Analytics help to:

- Assess accuracy and completeness between departments' HR records and actual pay in Phoenix
- Visualize weekly results to identify outliers by employee and paygroup
- Support the development of the required plan to monitor payroll for FY 2019-20

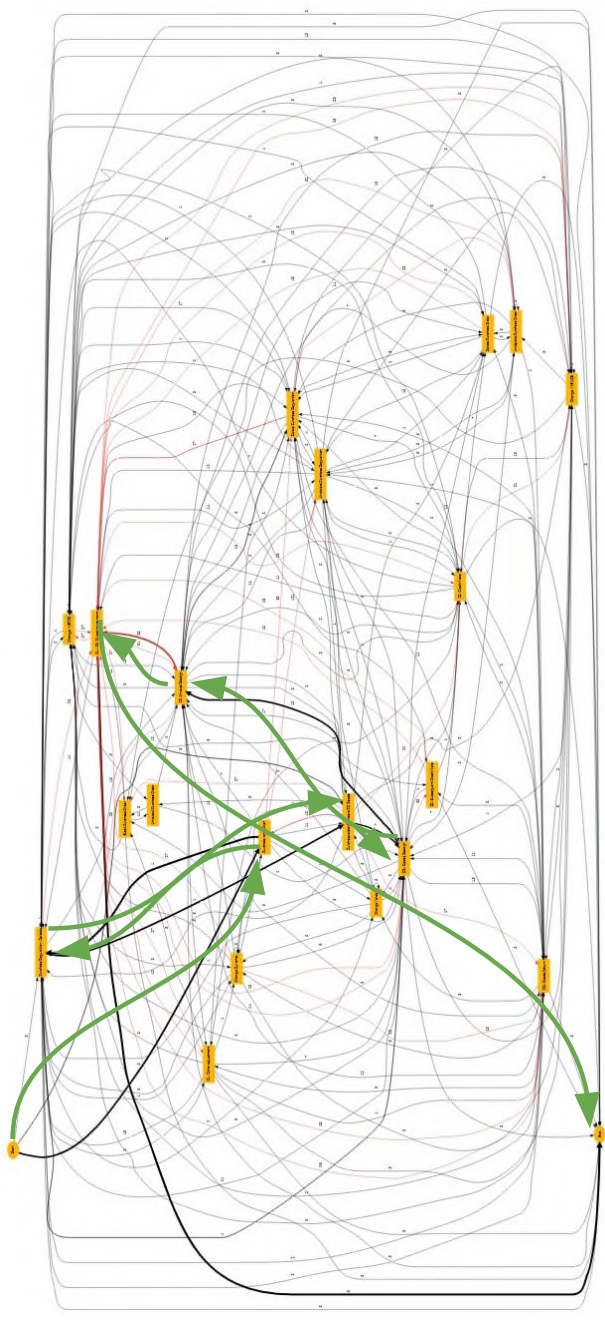


# Process Intelligence: Promise and Reality

The expected process is followed by less than 50% of transactions.



Visualizing all of the transactions can highlight potential control weaknesses, potential fraud, or inefficiencies.



# Data and Analytics Technology we are seeing



# What to prepare for



- Adapting to the changes in environments and demands
- Meeting expectations around data analytics
- Staying current on new technology and applications

# Thank you

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