Excel in Managing Spreadsheet Risk

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Agenda

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• Spreadsheet Attention - Gaining Momentum
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• Questions to Consider
• A Practical Approach
• Enterprise EUC Governance – Success Factors
• Closing Thoughts
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Learning Objectives

After this presentation you should be able to:

• Articulate the risks associated with end user computing applications / spreadsheets
• Understand why this is currently a hot topic
• Identify the regulatory and compliance implications
• Utilize a practical approach to managing the risk
What are End User Computing Applications?

- Applications developed by users, rather than sourced / maintained by IT
- Applications that do not go through formal software development lifecycle and / or change control
- Most commonly developed in **spreadsheets** or end-user databases, but also reporting tools and user maintained code
- Rarely developed with any controls in mind

**Spreadsheets are the most common type of End User Application.**
Did You Know?

Microsoft Business Division (where Office is over 90% of revenue) posted operating income of nearly $4 billion for the quarter ended 31 December 2010.


The number of available cells in Excel has increased from 16.7 million cells (256 columns * 65,536 rows) in Excel 2003 to a staggering 17.1 billion cells (16,384 columns * 1,048,576 rows) in Excel 2007/2010.

Why Are They So Prevalent?

✓ They work!
✓ Everyone has MS Office
✓ They are flexible and powerful
✓ Users need “real-time” answers
✓ No need to involve other departments, justify budgets, etc.
✓ Ability to quickly develop and customize outputs and reports

Spreadsheets are not going away. In many cases a spreadsheet is the right solution.
What Are the Risks?

× Over-reliance on the results they produce
× Over-confidence in one’s own abilities!
× Little consideration for control
× Limited (if any) documentation - issues with handover
× Errors are found in majority of applications (especially spreadsheets)

Spreadsheets risks need to be identified and addressed.
Spreadsheet Attention - Gaining Momentum

**Internal Drivers**
- A significant or material **error has already occurred**
- Spreadsheets have been identified as an **enterprise and/or fraud risk**
- Acknowledgement of reliance on spreadsheets and need to address proactively
- Internal **Audit focus**

**External Drivers**
- Increased requests from **external auditors** regarding processes to identify and assess integrity of key spreadsheets
- Comments from the **PCAOB** to audit firms related to spreadsheets
- Inclusion in **regulatory** examinations (e.g., 2010 Financial Industry Regulatory Authority examination priorities)
- “Auditing User Developed Applications” Practice Guide published in by the **Institute of Internal Auditors** (June 2010)
- Coverage in **Gartner** (May 2009) and other research publications
Why Worry? “Simple” ... Substantial Problems

**Fidelity**
A missing minus sign caused Magellan Fund to **overstate earnings by $2.6 billion** and miss a promised dividend.

— CIO World

**Fannie Mae**
After releasing Q3 2003 earnings figures, Fannie Mae had to **restate its unrealized gains by $1.2 billion**. This was the result of "honest mistakes made in a spreadsheet used in the implementation of a new accounting standard."

— PC World

**Trans Alta**
A cut-and-paste error **cost TransAlta $24 million** when it underbid an electricity-supply contract.

— The Register

**Kodak**
An **$11 million severance error** was traced to a faulty spreadsheet which added too many zeros to an employee’s accrued severance. Kodak's CFO, called it "an internal control deficiency that constitutes a material weakness that impacted the accounting for restructurings."

— MarketWatch
Examples of Fraud

**Allfirst - US Sub. of Allied Irish Banks**

- A currency trader began losing money in his trades ~ 1997.
- He used a series of *spreadsheet* subterfuges *to hide his losses*, which continued to increase.
- When the fraud was finally discovered, his *losses amounted to $691.2 M*.
- Although neither Allfirst nor AIB went into receivership, the losses amounted to *60% of AIB’s 2001 revenues*, and losses produced major drops in stock prices.
- After the scandal, AIB sold off its Allfirst subsidiary.

**ProQuest - CFO “Spreadcheater”**

- Former CFO, with the help of *spreadsheets*, made *fraudulent* accounting *entries for* more than five years.
- Created false documentation to manipulate account balances.
  - Created *hidden rows* so that false account entries didn’t show up on printed hard copies.
  - Covered up false information by *rendering it invisible* through the use of white-colored text in the spreadsheets.
- Ultimately *cost* the company *more than $437 million in market cap.*, caused its stock price to drop by 58% and NYSE subsequently suspended trading in ProQuest shares.

*Source: (Sarbanes–Oxley: What About All the Spreadsheets? Raymond R. Panko and Nicholas Ordway, University of Hawaii, presented at EuSpRIG 2005.)*

*Source: CFO Magazine*
Questions to Consider

- Are you aware of spreadsheet driven errors that have occurred in your organization?
- What is your level of confidence that your spreadsheets are correct?
- Do you know where spreadsheets are used to support business critical processes?
- Do you know how these spreadsheets are being controlled and is the risk being managed?
- How is the integrity of critical spreadsheets assessed?
- Are spreadsheets documented sufficiently to mitigate “single-person dependency” risks?
- Have you received requests from auditors or regulators regarding spreadsheet controls?
Ownership – Roles

Management is accountable for the effective management of risk including understanding: What is the risk? Where does it exist and how significant is it? How is it being managed and when will it be managed to an acceptable level?

Business

IT

Internal Audit
Ownership – Roles

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Business
- Define Policy
- Determine appropriate controls

IT

Internal Audit
Ownership – Roles

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**Business**

**IT**

- Provide supporting infrastructure
- Assist with operating controls

**Internal Audit**
Ownership – Roles

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- **Business**
- **IT**
- **Internal Audit**
  - Consider as part of audit planning
  - Provide independent assurance
A Practical Approach

The diagram below depicts a practical approach to developing and maintaining a Spreadsheet Management Program.
Approach Phase 1

Identify EUCs and perform risk assessment

• Be clear on objectives – impacts scoping and priorities
  • Financial reporting, Operational e.g. decision making, Regulatory / Compliance
  • Establish controls, improve efficiency, reduce reliance

• Surveys, interviews and discovery tools can all be helpful

• Consider both impact / significance and likelihood of error
Approach Phase 2

Assess EUC integrity & controls and agree actions

• Assess logical integrity of key spreadsheets – perform remediation

• Define the control requirements for each risk category

• Focus on the process, considering mitigating controls
Phase 2 – Common Observations

- Inconsistent and overwritten formulae
- Poorly coded and / or commented code
- Input data truncation
- Lack of protection of formulae / logic
- Redundant or duplicated data
- Outdated external links
- Poor presentation / design -> single person dependency
- Limited or poor documentation
- Unusual formatting e.g. white text on white background
Approach Phase 3

Implement Sustainable Process

EUC Governance

- Policy
- Roles, responsibilities (RACI) and training
- Control Framework / Standards
- BAU Processes & Guidance
- Supporting Systems
Approach Phase 3

Policy

- Executive sponsor!
- Keep it short and to the point
- Should reflect organization’s existing policies and risk appetite
- Reference other documents like minimum standards
- Don’t forget communication and awareness
Approach Phase 3

Process / Control Considerations – any approach should be risk based

- Inventory
- Fit for Purpose / Integrity
- Version Control

- Input Validation
- Output Validation
- Change Control (for Significant Changes)

- Access Control
- Backup
- Documentation
Approach Phase 4

Phase-out / Rebuild Selected spreadsheets

• Removal of spreadsheets may not be the primary objective but...
  • Consider redevelopment of most critical or complex spreadsheets
  • Identify existing systems that can provide the functionality (or be enhanced)
  • Understand the cost to maintain spreadsheets in business areas
  • Weigh up cost versus risk mitigation and efficiency benefits
  • Consult with IT
Key Success Factors – Enterprise EUC Governance

- Be clear about your scope and objectives
- Ensure you have an Executive mandate
- Obtain and retain senior management buy in
- Baseline the controls through remediation
- Make efforts to add value
- Training, training and more training
- Implement a user support framework
- Plan for and ensure sustainability
- Consider enabling technologies
Enabling Technologies

Technology should enable, not drive the process

Search / Discovery
- Perform automated scans of servers/networks
- Return meta-data and/or limited analysis

Auditing / Baselining
- Greatly increase efficiency of reviewing applications
- Identify errors and potential errors

Management / Control
- Typically provide access, change and version control
- Vary between preventative and detective controls

Functionality, cost, approach and end-user impact vary across the vendors / solutions
Design Practices – Example of a Remediated Spreadsheet

The following slides are meant to illustrate spreadsheet design attributes that can be used to increase the level of control applied to a spreadsheet, such as:

- Spreadsheet Overview
- Worksheet Headers
- Cell Shading
- Worksheet Protection / Cell Locking
Spreadsheet Overview

- Allows a user to quickly understand the owner, location, and purpose of the file, as well as controls that are relevant to the file and how to use the file.
- Provides a mechanism for identifying the Inputs, Outputs, and Calculations within the file.
Worksheet Header

- Provides a means for capturing critical information, such as Currency, Units of Measure, Sources of information, and an explanation of the purpose of the sheet.
- This is also a place to easily capture cell and font color legends and named ranges.
Cell Shading

- Allows a user to quickly identify key elements of a worksheet, including Assumptions, Inputs, Calculations, and Outputs.

- Making these elements obvious to the user can help a user more easily understand the file and eliminate potential mistakes.
Worksheet Protection / Cell Locking

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- Making these elements obvious to the user can help a user more easily understand the file and eliminate potential mistakes.
Closing Thoughts

• Spreadsheets are here to stay and will continue to serve a vital role in the enterprise application portfolio

• In many cases they are critical business applications and therefore need to have effective controls

• Risk is increased during times of high staff turnover

• Not just about compliance – also productivity

• Enabling technology will continue to mature
Thought Leadership

Available at www.protiviti.com

• Managing Spreadsheet Risk – Point of View

• Spreadsheet Risk Management Frequently Asked Questions

Available at www.theiia.org

• GTAG 14: Auditing User-developed Applications
Thank You!

Q & A
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