

Deloitte.

Spreadsheet Management

Deloitte & Touche LLP

Audit and Enterprise Risk Services:
Control Assurance

November 2006

Audit • Tax • Consulting • Financial Advisory.



Contents

Introduction

- Background
- Anecdotal Evidence
- Business Case

Spreadsheet Risks

- Errors
- Fraud
- Unauthorized Access
- Versioning

Suggested Solutions

- Policies and Procedures
- Inventory
- Security
- Change Control
- Monitoring
- Archiving

Third-Party Software



Background

Spreadsheets

- Used by virtually all companies for operational, financial, and compliance reasons:
 - Operations
 - Research and development
 - Quality control / evaluations
 - Product performance analytics and benchmarks
 - Procurement strategy
 - Real estate planning
 - Financial Reporting
 - Account reconciliations and journal entry recording
 - Calculations of key reserves and other critical estimates
 - Consolidation
 - Key financial controls for Sarbanes-Oxley
 - Compliance
 - Drug research – FDA
 - Patient records – HIPPA
 - Customer data – GLBA, FFIEC

Background

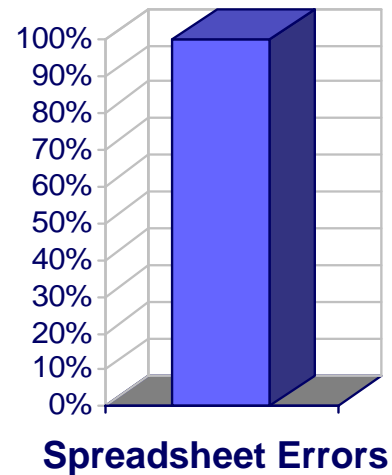
Spreadsheets

- Spreadsheets are inherently difficult to secure, audit, and maintain as opposed to integrated business applications (e.g. ERPs):
 - User driven
 - Stored locally
 - Outside of IT Departmental control
- Spreadsheet data is used to create financial statements regardless of whether data is:
 - Uploaded directly to the system
 - Used as supporting documentation for manually posted journal entries
 - Used in creation of financial disclosures
- Spreadsheets can vary in complexity and material significance, requiring need for standardized approach to security and control

Anecdotal Evidence

Studies performed by academics, consultants and Big 4 accounting firms show majority of spreadsheets possess some type of error

Studies have shown errors in as high as 90% of sampled spreadsheets



Anecdotal Evidence

Case Studies

Company X

Lost \$24M (CAN) through "clerical error" when pasting data into an Excel spreadsheet used to submit bids to New York Independent System Operator

- Company ended up with more contracts than wanted, at higher prices than intended
 - Error not spotted until Company X was notified bids had been successful
- Manual pasting (as opposed to automated macro copying and pasting) and lack of review was cited as problems

Large Mortgage Agency

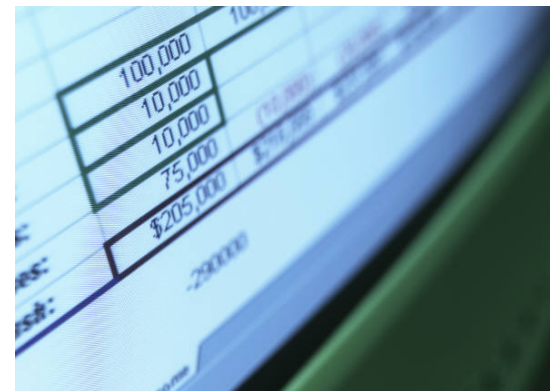
Two weeks after releasing third-quarter earnings figures, Agency had to restate unrealized gains by \$1.2B

- Apparently result of "honest mistakes made in a spreadsheet used in the implementation of a new accounting standard"
- Agency picked up error as part of normal processes of preparing financial statements for filing

Business Case

Large or small, your company needs to have an approach to managing spreadsheets

- Organizations need to have a well thought out, robust approach to managing and controlling spreadsheets in order to:
 - Help insure compliance with Sarbanes Oxley and other laws
 - Minimize risk
 - Increase efficient and effective operations



Business Case

The Challenge

- Address compliance issues while taking usability into consideration
- Have control over:
 - Data input and output process for spreadsheets
 - Who is authorized to view and receive data
 - Who modified data and when it was modified
 - Spreadsheet formulas and their adherence to current accounting standards

Excel's autonomy is what made it popular.
Without adequate controls, it can become a liability.

Spreadsheet Risks

Topics

- *Errors*
- *Fraud*
- *Unauthorized Users*
- *Versioning*

Spreadsheet Risks

Errors

Free world of spreadsheets makes them vulnerable to:

- ***Input errors***

- Due to inaccurate copy and paste, inadvertent changes in cells, incorrect links, import of incorrect data, import with wrong parameters and excessive manual entries (greater potential for key entry error)

- ***Logic errors***

- Due to incorrect formulas, formatting of cells and inadvertent changes in cells

- ***Usage errors***

- Include incorrect use of functions, ranges, and references

Spreadsheet Risks

Fraud

- Spreadsheets easy to manipulate and directly affect financial reporting
 - Characteristics make them easy target for employees wishing to conduct fraudulent activities
- Risk of unauthorized changes being made that are not logged or reviewed by management



Spreadsheet Risks

Unauthorized Access

Without proper access controls, inexperienced employees may inadvertently create data or calculation errors due to their unfamiliarity with spreadsheets or templates.



Spreadsheet Risks

Versioning

Critical data can be overwritten when updating spreadsheet for new month or quarter.

Multiple copies of spreadsheets creates risk of user editing spreadsheet that is not the master.

Lack of naming convention may create confusion when preparing financial reports.

Suggested Solutions

Topics

- *Policies and Procedures*
- *Inventory*
- *Security*
- *Change Control*
- *Monitoring*
- *Archiving*

Suggested Solutions

Policies and Procedures

- Document policies and procedures for securing financial spreadsheets
 - Detailed procedures that include proper approvers, naming conventions, etc.
- Documentation
 - Keep up-to-date documentation that describes business function and objectives of spreadsheets (i.e. inventory)
- Development Lifecycle
 - Development process for new and complex spreadsheets
 - Phases include defining requirement specs, design, building, testing, and maintenance of spreadsheet

Suggested Solutions

Inventory

- Create inventory of financial spreadsheets to ease control implementation and auditability
- Rank spreadsheets according to risk level
- Inventory acts as design-tracking mechanism that gives “dashboard” view of number of spreadsheets, rankings, and status of data collection effort
 - Allows for quick sorting and summarization
- Create procedures to keep inventory up to date

Suggested Solutions

Security — Manual

User Access

- Request Forms
 - Determine which managers may approve access
 - Require that Help Desk receives request form before giving users access
 - Require that forms contain documented approval
- Segregation of Duties
 - Document and assign segregated roles for ownership, review, and usage of spreadsheet

Maintenance

- Notify Help Desk of changes in employee status
 - Terminations, leave of absences, change of job position/department
- Adjust access appropriately

Recertification

- Have management periodically perform review of user access lists to ensure they are appropriate

Suggested Solutions

Security — Automated

Centralized Server

- Store spreadsheets on one centralized server
- Implement proper network and operating system controls on server

Passwords

- **Good:** Password protect individual spreadsheet
 - **NOTE:** Encryption methods used by most spreadsheet applications are simple and can be broken
- **Best:** Operating system directory controls; store spreadsheet in protected directory and use proper read/write controls

Unique Identifiers

- Policies and procedures should prohibit sharing of User IDs or passwords

Control User Activities

- Control which spreadsheets can be accessed
- Control actions within each individual spreadsheet (e.g. lock cells)

Suggested Solutions

Change Control — Manual

Approval

- Accompany changes with documented approval by independent approver
 - High-risk changes include those to spreadsheet formulas or logic

Testing

- Document testing of changes

Logging

- Log changes
- Include name, date, testing method, and description of change
- Have management periodically reconcile operating system “last change date” from the file to the change log to ensure changes are documented

Suggested Solutions

Change Control — Automated

Templates

- Standardize templates with formatting, formulas, and logic in place
 - Allows users to simply enter data
 - Reduces risk of error

Cell Protection

- Cells and worksheets on templates that are *not* to be altered should be set as “Locked”
- Only spreadsheet developers should know passwords that could unlock cells

Auditing Turned On

- Ensures that all changes are traceable
- Reduces risk of accidental copy and paste errors
- Ability to back-out and revert to earlier versions

Suggested Solutions

Monitoring

Internal Audit

- Unbiased periodic review of spreadsheets for errors in formulas, logic, and data
 - Values should be reconciled against system data

Logic Inspection Control

- Maintained independent of user or developer
- May be covered within a key control

Input Control

- Perform reconciliations of downloaded data back to source to ensure accurate and complete transfer of data

Other Analytics

- Detective control to find spreadsheet errors

Suggested Solutions

Archiving

Versioning

- Create naming conventions, such as ending spreadsheets with “Period XX FY200X”
- Enable check-in and check-out functionality
- Use version tracking software

Data Retention Tools

- Create daily backups and store securely
- Retain spreadsheets in accordance with laws, regulations, and company policy to enable retrieval when needed
- Maintain historical files on segregated drive as “read only”

Third-Party Software

Features

- Spreadsheet version control and recoverability
- Consistent updating
- Access controls
- Documented process
- Review and approval
- Audit trail for all changes

Functionality

- Enables management to determine which spreadsheets have been reviewed, rejected, or approved, and which are still pending
- Secures spreadsheets by limiting access to spreadsheet owners and authorized reviewers
- Maintains audit trail of all changes made to all spreadsheet versions
- Facilitates documentation of process and controls for SOX compliance

Questions?

Deloitte.