Risky Business

Relying on Spreadsheets for Data Analysis

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When the Spreadsheet was first introduced to business it was an immediate success. It was the first “killer app.” The power of spreadsheets is a strong draw, and for some is indispensable.

92% of all public companies use spreadsheets for critical accounting activities.

(AccountingWeb.com survey of financial executives)
Spreadsheets are extremely adept at creating ad hoc applications – they can be applied to any number of areas:

- Budgeting
- Inventory
- Financial modeling
- Data entry of financial information and reporting

Sounds good so far doesn’t it?

That’s because spreadsheets are really useful. Fundamental, even.
Spreadsheet “Don’ts”

What makes spreadsheets so attractive is also at the root of their shortcomings.

Here are the three main areas to watch out for:

1) **Lack of Data Integrity** – Values may be altered. Accidentally or … deliberately!

2) **Error Prone** – Errors in input, logic, data interfaces, and you guessed it – user errors are common.

3) **IT Non-Compliance** – Spreadsheets are not in line with standard IT regimes for critical applications such as documentation, testing and version control.
1 + 2 + 3 = ?

It’s clear that these shortcomings may lead to questioning of the quality of the data they produce.

**Poor quality data = inaccurate reporting**

**Inaccurate reporting = misinformed decision-making**

**What does it all mean?**

*Relying on spreadsheets alone in financially material applications presents significant business and regulatory risk.*
Earthquake!

Spreadsheet errors are as pervasive as spreadsheets themselves.

“Up to 91% of recently audited spreadsheets contained errors.

According to a Computer World Article

“Between 30% and 90% of all spreadsheets suffer from at least one significant user error.

Reported by The Journal of Property Management

- Simple errors in spreadsheet formulas range like proximity to the epicenter; coding of macros the crack in the fault line, and users (yes human) could create a huge magnitude of errors.

- Material errors can result from something as simple as the copy/paste function, inappropriately defined cell ranges, improperly referenced cells, or cross-linking errors.

- Many of these errors are completely invisible to the end user – and the more complex the spreadsheet, the higher the probability of error.
So what’s Audit to do?

- Internal Audit needs to provide assurance that internal controls are in place and are effective in mitigating the risks of material misstatement in financial statements.
- Audit may have drill down to the transactional level to analyze that data using substantive testing methods.
- This is equally applicable in an operational and compliance context.
- Adopt technology to provide better audit coverage and increased levels of assurance in their audit plans.
This can not be achieved using spreadsheets alone. Because as we’ve already shown, spreadsheets – while powerful and flexible – also introduce undue levels of risk.

This can be addressed by applying technology built specifically for audit’s unique needs.
Audit & Data Analysis

When evaluating data analysis technology for audit, there are a number of essential attributes that need to be considered, divided into five key areas:

1) Data Accessibility
2) Audit-Specific Capabilities
3) Logging and Automation
4) Suitability for Enterprise-class Deployment
5) The Solution
1. Data Accessibility

Accessing data is easily one of the most daunting tasks for auditors. Consider this scenario:

CFO needs a report. In order to analyze data for this report, Internal Audit needs a data extract. Request is made to IT. Request is added to the IT schedule. Data is received 2-3 weeks later. Initial analysis identifies missing data (i.e. account numbers, vendor ID) and additional unanticipated data is needed. Additional request sent to IT...

Does this sound familiar?

With the right technology, Internal Audit can “self serve” and save precious time waiting for the data needed to complete their audits.
Think about the 3 V’s when considering the suitability of data analysis technology for your audit.

**VOLUME:** Effective data analysis technology must be able to analyze entire data populations.

*Often Internal Audit needs to process data volumes much greater than spreadsheets are capable of handling effectively.*

**VARIETY:** Whichever tool you choose needs to be able to read and compare a broad variety of data formats including relational data, legacy data, spreadsheets, report files, flat files, XML and XBRL-formatted data.

*Spreadsheets fall short of being able to deal with data from different formats and operating environments risking inadvertent modification of the data during the conversion process.*

**VERACITY:** The truth is in the transactions. Data analysis technology for audit MUST ensure data integrity and quality, perform read-only operations without risking source data alteration.

*Don’t be tripped-up by sorting columns in a spreadsheets – this seemingly benign task can lead to errors resulting in garbled and meaningless data.*
2. Audit-Specific Capabilities

As you know, Audit needs to support assertions inherent in published financial statements such as completeness, uniqueness, accuracy, occurrence, valuation and presentation.

Audit-specific technology includes algorithms designed to perform these tests without having to program macros. Effective data analysis tools will:

- Have commands and functions that look for duplicates
- Detect gaps in numeric sequences
- Group transactions by type, numeric range, and age
- Filter vast amounts of data quickly and efficiently
What about Spreadsheets for Audit?

Spreadsheets provide a view of data in columns and rows with the ability to enter text or images in cells, or groups of cells – which is nice, but rather risky. **Data can be altered, changed, manipulated, causing audit results to be challenged or questioned.**

Linking back to source data, structuring extracts, data views and associated scripts is needed to drive efficiency. **Spreadsheets do not feature the capabilities required to safely organize data and associated data elements to provide critical context to the audit process.**

Spreadsheets macros are rarely under version control, quality assurance or configuration management. **They are seldom protected from unauthorized editing – this doesn’t sound like a suitable environment to provide greater levels of assurance, does it?**
3. Logging and Automation

One of the keys to improving audit performance and driving better results is the ability to automatically record what has been done and reliably repeat it in subsequent areas or subsequent audits. **This drives the quality and consistency of audit work.**

It is for this reason that audit-specific data analysis technologies provide comprehensive audit trails and reliable task automation – from accessing the data at source to verifying its validity to performing the detailed analysis and generating audit reports. **Not something that you’ll find in a spreadsheet product.**
Attributes of an effective Audit Trail

- **Records all of the commands** run by the application, status messages that provide insight into command execution, and results generated by the actions of the user.

- **Provides a timeline** of the audit, including a context for the audit findings: where and when did this result come from?

- **Provides a mechanism for peer or supervisory review.** Review of audit steps is an important activity to ensure the accuracy and completeness of the audit process.

- **Ability to recall previous results.** An audit trail records not only the commands and functions used to identify exceptions and anomalies, but also intermediary and final results.

*This also helps with audit follow-up to see if recommendations were followed and if they had the desired outcome!*
4. Suitability for Enterprise-class Deployment

Audit needs to gain insight into the ongoing financial performance and operations of the organization in order to assess risk, opine on the efficacy, suitability and adherence to controls and regulations, and make valuable and insightful recommendations to the audit committee.

To deliver this tall order, audit needs visibility into all aspects of the organization to evaluate the performance of the organization through independent analysis of huge volumes of transactions recorded in a myriad of databases, data files, spreadsheets and reports.

To be effective, technology must support this and be able to read and interpret vast amounts of data in any number of ways from a single and intuitive user interface.
Compare & Contrast

The data must be:

- Compared and contrasted
- Joined and related
- Stratified and aged into different categories and buckets.

The ability to drag columns around views, apply data filters quickly, and sort data with immunity from altering the source data is essential.

Furthermore, extracting data and distributing it to insecure and unmanaged locations and applications must not compromise the organization’s control and security of the data.
5. The Solution

Data analysis technology provides visibility and insight into the integrity of business transactions and is **not constrained by its ability to be converted into a format that a spreadsheet is able to analyze.**

While spreadsheet providers offer support services of their own, **their services, like their products, are not specific to data analysis in audit.**

When selecting this important tool for audit, consider:

- ✔ Software publisher and history
- ✔ Supporting documentation
- ✔ Help desk services
- ✔ Training offerings
- ✔ Implementation
- ✔ Consulting support
Summary

Spreadsheets will continue to be a valuable tool used by Internal Audit and throughout the organization. To manage the risks that come hand-in-hand with spreadsheet reliance, take greater care in HOW, and WHERE spreadsheets are used within your organization.

Spreadsheets are general purpose tools and lack many of the capabilities offered in purpose-built data analysis software for Audit.

It’s not an either-or question.

Spreadsheets have their role, a big one in fact. But audit’s analysis of data needs to be done using technology built for audit.