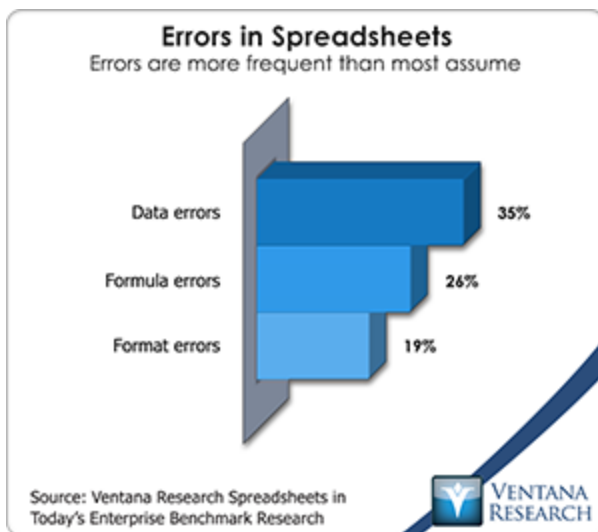


Compensation Spreadsheet Risks Compel Automation

Spreadsheets have inarguably enabled knowledge workers to quickly and easily use data to solve numerous business problems. Every organization uses them in day-to-day situations and many rely on spreadsheets as part of critical business processes including compensation management. While spreadsheets have revolutionized work in many industries, they have also introduced potentially dangerous situations for businesses that rely on the accuracy of the numbers they produce. This white paper will examine some of the dangers of using spreadsheets in lieu of a flexible system that supports streamlined workflows to manage the critical process of compensation management.

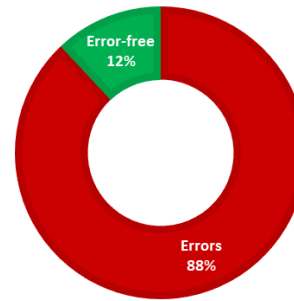
Errors Are Pervasive With Spreadsheets

While most readers have experienced errors in spreadsheets, the proportion of spreadsheets with errors is nothing short of astounding. One large compilation of studies found that 88% of all spreadsheets contained errors.ⁱ Error rates have not decreased over time for reasons including growing complexity, absence of QA tools and processes, lack of auditing tools and proliferation of spreadsheets.

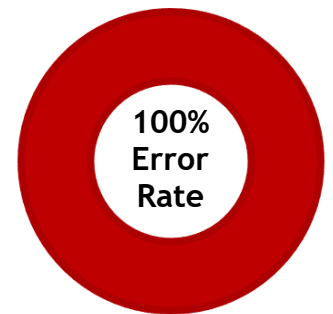


In fact, spreadsheets dealing with sensitive or complex information can be even more susceptible to errors. For example, an audit of financially significant spreadsheets found errors in every single spreadsheet.ⁱⁱ The tremendous power and flexibility of the tool also enables errors to be created and proliferated without detection.

Spreadsheet Error Rate



Financially Significant



Many Sources of Errors

The many studies of spreadsheet errors typically categorized the types of errors. In the accompanying chart, the most common errors were identified. Obviously, there can be more than one type of error and many instances of the same type of error.

Note that these are common types of errors and there are other types such as logic, copy/paste and reference errors. The potential for errors of all types is staggering.

One study by a group at Dartmouth found that 6.9% of all cells in spreadsheets had potential issues when audited and that even after an average of six revisions there were still errors in 1.3% of all cells!ⁱⁱⁱ

Merely thinking about the number of cells in a moderately sized spreadsheet highlights the likelihood of embedded errors.

Spreadsheets Are Costly

Spreadsheets are inarguably easy to create and use for most people. However, when they are used for different purposes, such as workflow, they become very inefficient very quickly. This drives up the cost to use spreadsheets as people try to work with the correct spreadsheet containing accurate information.

There are many causes of inefficiency as identified in a recent study.^{iv}

For larger enterprises, spreadsheets often contain out-of-date information, with 44% of companies reporting that data is frequently out-of-date. 34% reported going back-and-forth occasionally to resolve data freshness issues. This highlights the downside to using spreadsheets with embedded data in lieu of an automated workflow solution. Most readers have experienced the wasted time and effort and it is widespread.

Another major area where effort is wasted is spreadsheet consolidation. Using a spreadsheet instead of an automated workflow solution often involves “bursting” a master spreadsheet into smaller files. These files are distributed, worked on by a number of people. They must then be consolidated, often more than once to support interim and eventually final reporting.

A third factor that plagues spreadsheets is the “dueling spreadsheet” where multiple versions of the same spreadsheet do not agree with one another. This is often the result of people using their own version of a distributed spreadsheet or a master. 43 percent of companies that did not use automated workflow solutions reported that this happens frequently or all of the time.



While costs will vary based on organization and workflow complexity, the cost is clearly not trivial. The cost is amplified because the users of spreadsheets include executives, managers, knowledge workers and domain experts. Survey respondents

said they spent approximately 12 hours each month "consolidating, modifying and correcting the spreadsheets they collaborate on with others and reuse frequently". Multiply this by the number of people involved in manual workflows based on spreadsheets and it is clear that spreadsheets result in dramatic recurring costs while contributing to errors.

Spreadsheets Create Hidden Costs

Given the number of errors and problems associated with manual workflows, users have devised any number of approaches to incrementally improve the manual processes. While these improve the situation, they are not a substitute for automated workflows. In fact, the addition effort adds cost to the already expensive process.

Some examples of workarounds we have seen that drive cost include the following:

- Separate tracking process of spreadsheets using an administrator as governor of the manual process which single threads work through one person
- A tracking spreadsheet on a shared drive which can experience sharing problems itself
- Maintenance controls including locking down spreadsheets, rudimentary source code control and manually enforced permissions to edit
- Check and audit steps to ensure data quality and consistency that are run by users and administrators
- Shadow books and records created solely by end users because they do not trust the spreadsheets and eventual data

While accuracy may improve, the time and cost for the manual process both go rise noticeably.

Case Study: Painful Fix

At one company, the risk of using spreadsheets became reality during their annual merit review process. The company was using the all too common practice of breaking up a master spreadsheet in order to gather input from leaders. A partially sorted spreadsheet made its way back into HR's consolidated spreadsheet unnoticed and the final increases from the misaligned spreadsheet were uploaded into the payroll system.

On payday, hundreds of incorrect payments were distributed. Correcting the situation involved the painful and arduous process of reversing payments. Equally disruptive was the visibility of high compensation to many lesser compensated employees. The pain of this mistake was felt throughout the organization from associates and HR all the way to senior management. The following year, the company adopted a fully automated Cloud Compensation Management system to avoid any spreadsheet related mistakes.

Case Study: PII Data Spill

A company decided to improve their manual annual compensation process by adding a total compensation letter to employees. An eager associate who was well versed in the data and Microsoft office developed a mail merge to print letters and address labels using the compensation data. Letters were printed and placed into envelopes with pre-printed labels and mailed out.

Within days, HR associates, managers and the CEO were bombarded with complaint calls. While many letters were not delivered, those that reached employees were the problem. Instead of the zipcode+4 being printed on the envelope, another 9-digit number appeared: the employee's social security number.

The senior leader responsible for technology operations is no longer with the company.

5 Best Practices for Eliminating Costly and Error-Prone Spreadsheets

While the detrimental aspects of spreadsheets are clear, moving to an automated solution should be an informed decision designed to deliver meaningful and demonstrable benefits. The following best practices can make future compensation management cycles successful across an organization.

1. Consider solutions that automate the end-to-end process to obtain, review and approve merit increases.
2. Ensure that all processes and systems are lean and efficient, enabling managers to focus on compensation instead of the mechanics of entering, validating and submitting data.
3. Seek elastic pricing with annual charges based only on the number of actual employees; new

hardware and installed software should not be required.

4. Ensure that flexible workflows are supported so the solution can scale and evolve with the business.
5. Verify that any technical solution supports appropriate review processes and provides a full audit trail.

ⁱ Panko, Raymond, "What We Know About Spreadsheet Errors", published in the Journal of End User Computing, 2008.

ⁱⁱ Lawrence, L. and Lee, J., "Financial Modeling of Project Financing Transactions", presented to the Institute of Actuaries of Australia, 2004.

ⁱⁱⁱ Stephen Powell, Kenneth Baker and Barry Lawson, "Errors in Operational Spreadsheets", published in the Journal of End User Computing , 2009.

^{iv} Robert Kugel, "Get To Know Alternatives To Spreadsheets", 2013.