

Spreadsheets: the danger zone

In the first of two articles, **David Macey** explains why pride in your spreadsheets could come before a nasty fall and how a few simple precautions could help

Spreadsheets have existed in one form or another since the concept was first outlined in a 1961 paper called *Budgeting Models and System Simulation* by Richard Mattessich, who pioneered the development of computerised spreadsheets in business accounting.

Typical spreadsheet uses include investment appraisal, capital planning, budgeting, financial reporting, forecasting and bid preparation. Their attraction for the manipulation and presentation of financial information rests on their ability to recalculate an entire sheet automatically following a change to a single cell.

While this is useful, it can also lead to confusion and ultimately the wrong conclusion. For instance, have you ever looked at financial information in a spreadsheet and experienced the following scenarios? You:

- * tried to follow some of the formulae to unearth where the figures were derived from before giving up;
- * thought, 'I wasn't expecting this' but trusted the outputs without further review, or;
- * encountered error values such as #VALUE!, #REF!, #NAME?, #DIV/O!, #NUM! or #N/A on a file from a colleague or, worse, there were links to another spreadsheet you hadn't yet seen.

If the answer to any of these questions is yes, then read on – you are not alone.

Uncertain times

The current economic climate is certainly focusing minds. From interest rate cuts, to job cuts and bailouts, the search is on for a better understanding of what went

wrong and what can be done to speed up recovery.

We would do well to remember that this is the first economic recession since the major onset of information technology in the workplace and, more importantly, the first since spreadsheets became a universal financial decision-making tool.

Those of us who know their fallibility can see the dangers facing many organisations. The downturn has magnified the potential risk that organisations may be exposed to without proper review and controls in place. Decision-makers have placed an enormous amount of trust in the validity of spreadsheets, yet many contain simple, yet fundamental, design and usage errors. Realistically, it may be impossible to eliminate all design errors from spreadsheets but their number can be reduced significantly. Similarly, while errors in usage may occur, it is vitally important to be aware of this possibility and install systems to minimise risk.

Research in the field of spreadsheet errors is limited, probably because no organisation wants to be associated with a horror story affecting their reputation. However, the European Spreadsheet Risks Interest Group at www.eusprig.org has further information.

With going concern at the top of the list for auditors, as *Accounting and Business* covered last month, internal systems risk assessment should now be a priority for organisations. In 2008, Deloitte produced a paper called, *Spreadsheet Management – Not What You Figured*, using results from a poll of almost 3,000 respondents.

When asked whether their company factored spreadsheet



risk into the overall risk reporting and decision-making process, less than half (42%) said that spreadsheet risks were considered. Even more alarming is that just over a quarter of respondents (29%) did not consider spreadsheets as part of their company's periodic risk assessment.

To compound these statistics, it was noted that 70% of respondents relied heavily on spreadsheets to support business processes or financial reporting. Only a third of respondents (33%) employed specialised techniques to control and manage spreadsheets,

organisation. The integrity of the original designer and programmer of the spreadsheet may come under question, too, without due cause. Of particular significance is the organisation's exposure to fraud risk, where inputs and calculations are amended in a spreadsheet to create improved performance.

So, what should be done? Following good practice guidelines on spreadsheet production can minimise risks. Regular review of models and spreadsheets is a sensible precaution when the risk from errors can be so

formulae they are using, and have the necessary skillset. However, reviewing is not enough to identify all errors. If more businesses were aware of the dangers of over-reliance on spreadsheets, testing would be obligatory. As it is, far too many managers have a misplaced confidence in their spreadsheets.

Safety precautions

A safety-first approach to spreadsheet reliance requires commitment and resources. Despite increased pressure on expenditure during an economic downturn, applying a few simple controls should be regarded as money well spent.

To view *Spreadsheet Management – Not What You Figured* in full, go to www.deloitte.com/dtt/cda/doc/content/us_risk_spreadsheet_mgt_020908.pdf.

Next time: How to reduce your organisation's exposure to spreadsheet risk through the implementation of reviews and controls.

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leaving the vast majority with little or no specific processes to confirm they were functioning in accordance with management's intentions.

Checks and balances

Too often, a model is changed by a business user without a full appreciation of the nature of the task, resulting in a potential compromise of the model's integrity. In addition, very little quality assurance or peer review takes place in this area of operation, so problems usually only appear when it is too late – when reality appears starkly different from the model's predictions.

The risk of this happening is far greater than is generally appreciated. Without rigorous procedures in place, an organisation leaves itself open. Spreadsheet-generated misinformation presented to decision-makers can lead to operational and financial risk, and reputational damage to the

great. Reviews should include checks on whether the spreadsheet is being used for its intended purpose, and on the number and nature of modifications that have been made.

It is also important to ensure that users understand the complex

* MISPLACED CONFIDENCE

10 QUESTIONS TO ASK YOURSELF

- 1 Do you know who developed your models and spreadsheets?
- 2 Were the models tested and approved prior to operational use?
- 3 Do you understand how your spreadsheet models are performing?
- 4 Who has access, and could apply changes, to the spreadsheets?
- 5 Are your spreadsheets tested periodically?
- 6 Is there a log of modifications that have been introduced?
- 7 Have you doubted any of your spreadsheet outputs?
- 8 Are all staff who use the spreadsheets adequately trained to do so?
- 9 Are you confident that all appropriate 'what-if' scenarios have been built into your models?
- 10 In summary, can you really trust your spreadsheets, particularly in the current economic situation?