

NEITHER FISH NOR FOWL

With spreadsheets split between IT and 'the business', nobody really owns them. But Alasdair Gill shows how taking a strategic approach to spreadsheet management could slash costs.

Most organisations spend more on developing, using and maintaining spreadsheets than they need to. One reason why costs get out of control is that spreadsheets are taken for granted and hence forgotten – nobody is paying attention to how they are used or to their total cost of ownership.

In part, this is because spreadsheets are neither fish nor fowl. IT departments tend to provide only limited support for them because they are seen as a business tool. Business users on the other hand tend to assume that the IT department is responsible for them because they are software.

Spreadsheets are, however, ubiquitous. Even in companies that run Oracle, SAP or Sage as their primary accounting and financial reporting software, there is often some residual spreadsheet use: at the board meeting of one former client, just before sending the annual report to the printers the chairman wanted to have one last look at the summary spreadsheet – 'just as a check'.

Strategic importance

What this means is that most organisations have so many spreadsheets that even a small improvement in the way they are used can yield substantial cost reductions. So while it clearly doesn't make sense for senior management to get involved in the technicalities of individual spreadsheets, it makes a lot of sense for them to pay attention to how their employees are using them.

Most of the costs of using spreadsheets are attributable to the following factors:

1. Compliance.

In certain circumstances, legislation forces you to pay attention to the way you use your spreadsheets. For example, in the financial services industry the Markets in Financial Investments Directive (MiFID) constrains how spreadsheets are used, through its risk assessment and internal audit requirements. Similarly, for companies subject to the Sarbanes-Oxley Act, senior management are personally liable for the use of spreadsheets in their financial reporting process.

As the legislation is descriptive rather than prescriptive – telling you qualitatively what your financial systems should do rather than how to do it – again spreadsheets tend to be forgotten. If, however, you have to do something about spreadsheets for compliance reasons, then it makes sense to do something with other business benefits rather than just ticking the compliance boxes.

2. Spreadsheet errors.

The most often-cited reason for paying attention to spreadsheets is the risk of errors. With KPMG and PwC reporting that they find material errors in the majority of spreadsheets they audit, and HMRC having spent significant amounts of money developing tools and methodologies for finding spreadsheet errors, there is no doubt that such problems are common.

As a rule of thumb you should expect to find keying errors in about 0.5% of figures typed into spreadsheets and cell error rates of at least a few percent for formulae and cells containing business logic.

Some spreadsheet mistakes have led to significant losses and attracted a lot of press attention. Notable examples include:

- SFI Group plc, which used to own the Slug and Lettuce pub chain, was the first company to be publicly censured by the FSA for breaking the listing rules for public companies.
- Fraud was perpetrated at AIB US subsidiary Allfirst by falsifying spreadsheets used to monitor value at risk. An independent report criticised management practices and controls.
- Australian bank WestPac was forced to halt trading in its shares following the inadvertent early release of its results in a spreadsheet.

Of course the majority of spreadsheet errors never become public knowledge. That said, there is a natural tendency for the media and product vendors to sensationalise the problems of spreadsheet error. Some even claim that all spreadsheets should be replaced with specially written software. In certain special cases this does make sense but it's almost always a major undertaking and likely to be costly.

In the real world, mass spreadsheet replacement is rarely an option. Whether we like it or not, spreadsheets are such a useful tool that they are here to stay.

3. Hidden costs.

More prosaic than headline-grabbing spreadsheet errors are the hidden costs of spreadsheet use. The real cost of using a spreadsheet is far greater than the two hours it takes somebody to sit down and key in the initial formulae that constituted the first version of the spreadsheet. Major costs include:

- **Testing.** It is often said that spreadsheets are quicker and therefore cheaper to build than so-called 'proper software'. But while it's true that most business users can knock up a spreadsheet in a couple of hours, this spreadsheet almost always needs further testing.

In developing 'proper software', you typically expect to spend 50% of your time testing and fixing. Even though Excel has an easy-to-use front end, business users are still effectively writing software and testing still takes time. As a rule of thumb, in spreadsheeting you might spend a third of the time on design, a third on build and a third on testing.

Note, however, that in situations such as corporate finance where the requirements naturally keep changing, testing and fixing can account for as much as 80-90% of the time spent.

- **Maintenance.** The useful life of a spreadsheet is often much longer than people think. In one mid-tier banking client, for example, the life of its live spreadsheets was three years, with some spreadsheets going back to 1993.

This means that a great deal of time can be spent maintaining existing spreadsheets.

It used to be argued that any spreadsheet likely to remain in use for a long time should be replaced by a 'proper' system. The modern view, however, is that there is nothing wrong with spreadsheet systems – as long as there are adequate controls.

In 2007, Dean Buckner, the head of application risk at the FSA, said that: "Four years ago, auditors didn't want to know about spreadsheets. They tended to look at mainframe systems, password controls and so on. But now every audit report I read says something about end-user computing. Auditors say now that the right way to solve the problem isn't to put in a big system, but to put in some controls."

Spreadsheet maintenance costs are higher than they need to be for two key reasons. Firstly, there is almost never any documentation – which means that once the original author has moved on, it takes longer than necessary for whoever takes over the spreadsheet to get up to speed.

Secondly, because spreadsheets are normally written by users without formal IT training, they are rarely structured so as to make maintenance easier.

- **Poor use.** Most end users of spreadsheets have no formal IT training and have typically learnt spreadsheeting by being sat in front of Excel as graduate trainees and told to get on with it. For this reason, they often waste a great deal of time.

For example, one of our clients built a lot of fairly similar spreadsheet models and this gave rise to a number of problems. To save time, the company constructed a 'template'. Unfortunately, rather than having one centrally held master spreadsheet, it tended to re-use the spreadsheet from the previous project.

This meant that the number of spurious links to irrelevant spreadsheets gradually increased and the number of *ad hoc* modifications to the spreadsheet made for one project tended to proliferate without management being aware.

Finally, with no control over where users stored their spreadsheets there was often confusion as to the correct version of a spreadsheet. The master version often turned out to be stored in somebody's email inbox.

- Right tool for the job. Because they are readily available and familiar, spreadsheets tend to be used for everything from the annual report to the office Christmas party. Unfortunately – like a carpenter's screwdriver – they tend to be used even when they are inappropriate for the task.

The most common example is the use of Excel to store data. Data belongs in a database! Even though many business users have a perfectly adequate database on their desktops – Access – they are more familiar with Excel. We see this often and have even seen major investment banks storing mortgage data in spreadsheets.

The main problem is that complex reporting is more difficult in a spreadsheet. It is also difficult to reproduce the same report on different data sets without rewriting the report. Furthermore, lack of control over data entry means that data quality often deteriorates.

- Do you really need a spreadsheet? Companies often produce large complicated spreadsheets unnecessarily. For example, the debt finance group of a major investment bank used to produce a bespoke spreadsheet model for every transaction it looked at, but would execute less than one in ten.

A new director improved the efficiency of this group by using a simple one-page spreadsheet to sift prospective deals before deciding whether to build a spreadsheet model. Another director achieved the same using pen and paper. Between them they reduced the number of models built and cut the time taken to give potential clients an initial decision.

The art of managing spreadsheet costs, compliance and the risk of spreadsheet errors is commonly called spreadsheet risk management (SRM).

Horses for courses

Managing spreadsheet costs and spreadsheet risk is very much a case of horses for courses. In terms of reducing spreadsheet risk, the best choice of strategy and tools is often dictated by the details of each company's business processes. Since these are unique to each firm, choosing between solutions from different vendors can be difficult.

Most solutions comprise a mixture of tools, testing and training:

- Tools. The most common sort of tool is designed to help individual users test and audit spreadsheets. Invented in the mid 1990s, several vendors now produce similar tools, all of which have similar feature sets and can improve testing efficiency with a minimum of training. These have a low cost per capita but it still makes sense to deploy them only to selected users.

The second main type of tool, particularly useful in the context of accounting and financial reporting, is the spreadsheet repository and control tool. These are deployed across an organisation, controlling who is allowed to change spreadsheets, archiving previous versions and maintaining an audit trail. Initial costs are high but they can help enforce best practice.

- Testing. The only way to reduce the risk of spreadsheet error is to institute some form of testing. This can be done internally or outsourced to the major accounting firms, all of whom offer this service with similar methodologies and similar liability caps.

The key things to bear in mind when selecting an accounting firm are experience with similar spreadsheet models and the experience of the individuals who will actually be doing the work.

Any 'reasonableness testing' of spreadsheets – eyeballing the results to see if they look right – is largely ineffective, although it is comforting. The only way to find spreadsheet errors is to go through it cell by cell.

Methodologies for spreadsheet testing, as used by the accounting firms, are now relatively well-developed and it might make sense for selected business users to be trained in these.

As it's neither feasible nor desirable to test every spreadsheet in an organisation, it is also important to be able to select which spreadsheets need more thorough testing.

● Training. Perhaps the greatest challenge in spreadsheet risk management is ignorance.

There are several common misconceptions. Despite evidence to the contrary, many people believe their own spreadsheets are error-free. Many people believe accountants produce better spreadsheets than other business users. Neither of these assumptions holds up in the real world.

Training can help reduce ignorance but you need to carefully select both the training and those to be trained. While it can be dangerous to let graduate trainees loose on spreadsheets with no training, sending them on courses which simply teach them more complicated formulae can be even worse.

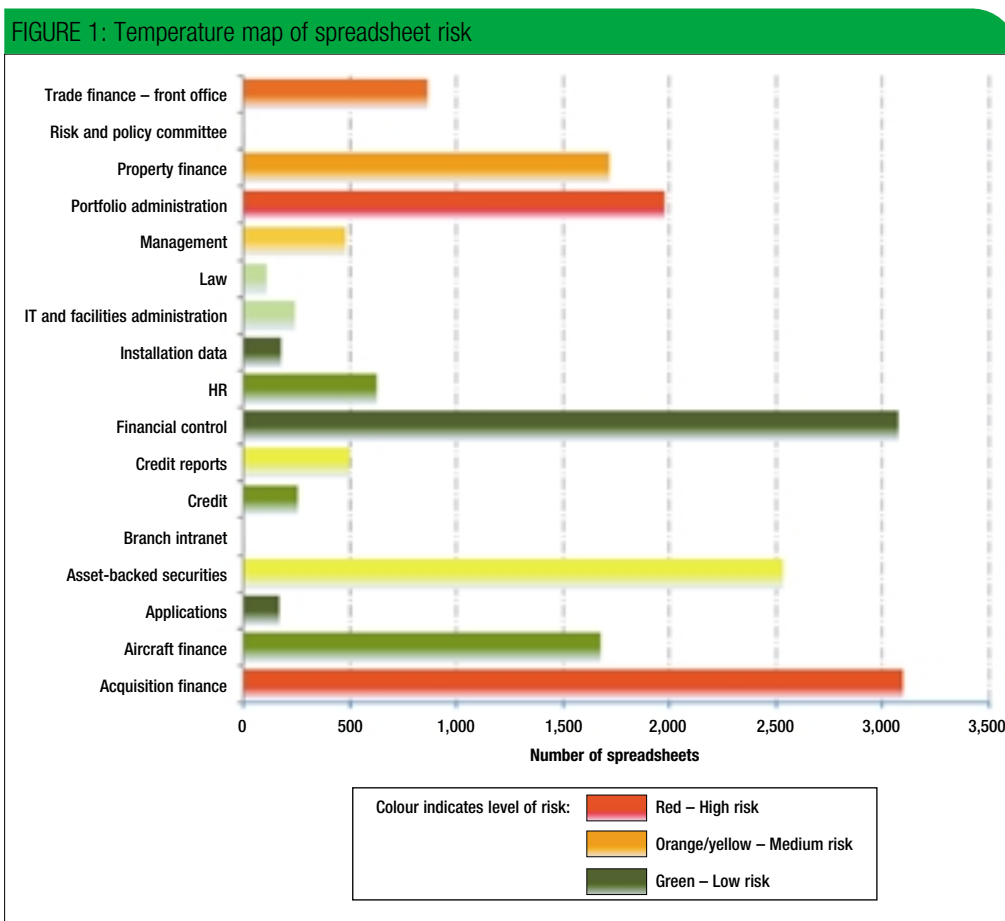
If a graduate with a spreadsheet is something of a loose canon, the last thing you want to do is make the canon bigger!

In selecting courses, therefore, getting trained in best practice and spreadsheet design is just as important as the complexity of the features. You will get much more value out of well-trained employees producing simple spreadsheets with basic formulae that are easy to maintain and check, than from self-taught gurus who produce so-called 'Frankensheets'.

It is often the case, however, that the most effective measures involve simple changes in business processes. These can be extremely cost-effective as they often involve a simple change to the way things are done or sometimes even stopping doing something (as seen in the examples above).

Spreadsheet management strategy

For many management teams, the first step in designing and implementing a spreadsheet management strategy is to compile an inventory of all spreadsheets. In our experience, managers underestimate the number of spreadsheets in their organisation by a factor of ten or more.



We use a proprietary tool to do this which also provides a measure of the riskiness of individual spreadsheets and produces a temperature map of spreadsheet risk across an organisation's servers and file structure (see Figure 1).

In most organisations, the location of spreadsheets within a directory structure and server or domain hierarchy provides a good indication as to their business function. This can help prioritise which areas are high-risk and require most attention. It can also highlight areas where the greatest cost savings can be achieved.

Once this has been done, management can select and implement some combination of the above measures. As ever, the devil is in the detail.

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