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Business

# Spreadsheets plus human error can add up to disaster

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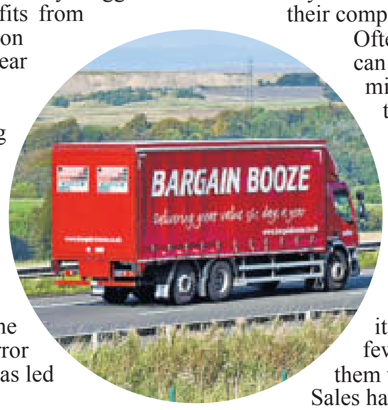
Investors left stunned by the sudden collapse of Conviviality have been asking, what on earth went wrong?

They had lost £500 million in three weeks as the owner of Bargain Booze and Wine Rack announced that its shares were close to worthless.

Much remains unexplained but one of the few admissions that did come out of the company was that an "arithmetic error" led to it inadvertently exaggerating expected profits from its wholesale division by £5 million a year in January.




This was caused by someone entering a line into a spreadsheet program months ago when they shouldn't have, according to one source close to the company. Not for the first time, human error with spreadsheets has led to disaster.

There are few things more banal than the spreadsheets program, the ubiquitous software available on almost every desktop and laptop which enables the user to assemble, crunch and manipulate huge amounts of data at the click of a mouse.

Excel, the program first developed by Microsoft in 1985 and now part of its Office package, dominates this market, but there are others, such as Google Sheets and Apache OpenOffice. All are perfectly efficient at making myriad calculations in a microsecond and spewing out answers. None is capable of coping when flawed, hairless apes get involved, inputting the wrong numbers, or the wrong formulae, getting the decimal point in the wrong place, entering information into the wrong column.

The impact can be devastating — both reputationally and financially. The risk committees of blue chip companies like to debate the big macro themes such as Brexit or leverage or cybercrime when considering doomsday scenarios that could batter their company.

Often the real time bomb can be a seemingly trivial mistake in a spreadsheet that subsequently can snowball into something existential or at least career-threatening.

Marks & Spencer was left embarrassed in July 2016 when it had to retract its quarterly numbers a few hours after releasing them to the stock market. Sales had not increased by 1.3 per cent in the most recent 13 weeks as it had originally said; they had in fact fallen by 0.4 per cent.

The mistake was billed as a "clerical error". Someone, months before, had transcribed a number from a spreadsheet in the retailer's international division incorrectly into a separate spreadsheet for its worldwide results.

The blunder was doubly excruciating because the wrong number appeared on the front page of its results announcement and because even a cursory examination of the other numbers alongside it, from which the total was aggregated, would have made clear it must be wrong.

MARKS & SPENCER

Marks & Spencer, whose Leading Ladies ad campaign proved popular, was left red-faced when a clerical error presented sales as higher when they had fallen

Countless professionals — directors, accountants and compliance officials — must have scanned that page and failed to see the blunder in front of their eyes. There was a big post-mortem involving both internal audit and the external auditors Deloitte and new safeguards were put in place. Helen Weir, the finance director, took full responsibility and 18 months later left "to pursue a portfolio career".

According to Craig Hattabaugh, chief executive of CIMCON Software, which makes software that tries to identify spreadsheet mistakes: "These kinds of events happen every single day. Some-times you do wonder why a human being isn't picking up on this. You'd think M&S would have had a feel for whether sales were up or down, but obviously they didn't."

Sometimes a seemingly trivial inputting error can produce a huge difference by the time the spreadsheet has churned out an answer. In Norway last year one error led to the over-valuation of oilfields by more than £9 billion.

Sometimes the spreadsheets become staggeringly complex. Mr Hattabaugh said that he once came across a spreadsheet devised by an insurance company that had 4 million formulae in it. With that level of complexity, it is virtually impossible to be sure that errors haven't been introduced.

"The number one issue is people inputting data incorrectly," Mr Hattabaugh said, often by copying and pasting figures into the wrong column or by so-called fatfinger mistakes such as transposing digits or turning a plus into a minus.

Occasionally, there is deliberate fraud, for example by a sales manager trying to exaggerate revenues in order to score a bigger bonus or a fund manager manipulating data to flatter their portfolio performance.

One problem is sloppy security arrangements that allow the wrong people in a department to gain access to control functions in a spreadsheet program. "I would say that 99 times out of one hundred those controls are not in place," Mr Hattabaugh said.

CIMCON makes software that can help lock down spreadsheet formulae so that they cannot be tampered with or accidentally changed. It can also identify and highlight changes in recorded data that can help with double-checking a surprise result.

Mr Hattabaugh believes, however, that no amount of technology alone will solve this problem and more spreadsheet blunders are inevitable because senior managers remain oblivious to the risk. "If you asked most business leaders which of their critical business processes were dependent on spreadsheets, most wouldn't even know."

It's the kind of question burnt Conviviality shareholders would dearly like to put to Diana Hunter, the chief executive who quit the drinks group two weeks before its final upending.

## Blunders that had a huge impact on business

**The "London whale" scandal**
Bruno Iksil's positions in derivatives led to up to $5.8 billion of trading losses in 2012. The London-based trader's risk evaluation was done on Excel spreadsheets using an "error-prone" manual process, the bank said. It did not have the necessary oversight. Heads rolled. Fines exceeded $900 million.

**Astrazeneca's forecast restatement**
The British drugmaker had to rush out its profits guidance early after inadvertently sending confidential information to an analyst in 2012. The information was accidentally embedded in a spreadsheet template.

**Goldman valuation blunder**
Goldman Sachs and Vista Equity Partners, its private equity client, undervalued Tibco, a software company, when working on a $4 billion buyout. Vista used a spreadsheet made by Goldman bankers in which some shares were double-counted in error. In 2016, they settled a lawsuit with a $30 million to $35 million payment.

**Olympics embarrassment**
The London 2012 Organising Committee sold 10,000 too many tickets for the synchronised swimming. A member of staff had entered 20,000 into a spreadsheet instead of 10,000.

**The Reinhart/Rogoff controversy**
In a 2010 study, the Harvard economists Carmen Reinhart and Kenneth Rogoff found that excessive government debt was toxic to economic growth. Proponents of austerity including George Osborne, right, who was preparing to become chancellor, seized on the report. The economists later admitted that their findings were exaggerated because of an Excel spreadsheet error.