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RECOVERY

SQUEEZE ON

Companies are recognising the value of stress testing to pinpoint vulnerabilities and evaluate sensitivities. Report: Shaun Drummond

● In the midst of a 50 per cent profit rise this year, the chief executive of United States company Netflix, Reed Hastings, announced his business model was doomed. Within four years, he predicted, the business, which mails DVDs that customers order online, will be superseded by viewers watching videos online. So he is moving his company to do just that.

Hastings' plan is a warning against complacency, the Australian chief executive of global information technology consultancy Infosys, Jackie Korhonen, says.

She points to earlier examples such as Palm Pilot, whose devices accounted for three out of every four hand-held computers sold in early 2001. Within six months, sales crashed and the share price plummeted by 90 per cent.

Some companies see their fate and deal with it, she says, while others freeze in the headlights. "The point is even in the midst of success, smart chief executives are looking at their business models and what the future might bring."

At the big end of town, such stress testing – usually a discrete process – hit the headlines early this year when 10 US banks were ordered to raise a further \$US75 billion after government tests indicated they could be facing further losses on their toxic assets of about \$US600 billion.

Regulators such as the Australian Prudential Regulation Authority stress test financial institutions as part of their normal procedures. It essentially involves assessing the impact of a change in variables critical to a business's health. This may include asking what impact a big drop in property values will have on a bank, for instance. Their vulnerability to such a change will determine the capital buffers they need.

Related techniques include sensitivity analysis and scenario analysis.

Sensitivity analysis for them involves working out the effect on figures such as cash flow, profit and earnings of a movement in important factors in their business that influence these, the chief financial officer at financial services

company Firstfolio, Craig Rollinson, says. Many more companies are doing this now. "It has been a growing trend, but in the past year in particular it has [become more prevalent]."

For instance, with commodity and currency oscillating wildly earlier this year, the fertiliser and explosives manufacturer Incitec Pivot reported precise movements in forecast earnings according to the rise and fall of the US and Australian exchange rates and the key commodity inputs for its business of urea and diammonium phosphate.

So for a \$US10 rise or fall in the urea price, it said earnings before interest and tax would rise or fall by \$US6 million (\$6.6 million). Similarly, a rise or fall in the exchange rate would lead to a \$US2.9 million rise or fall in this figure.

Scenario analysis is related to sensitivity analysis but involves using calculations and economic indicators to help put plans in place to reduce the impact of such extreme movements. A response may include changing hedging strategy if a company is vulnerable to currency swings or, as more now do, taking advantage of natural hedges such as borrowing in the same market in which overseas investments are made.

However, scenario planning can easily be bounded by the limits of past experience, a director of Austock's treasury risk advisory group, Ella Hamilton, warns. "People do some degree of scenario testing, but they believe in their minds that the parameters [they set] create limitations around the degree of risk," she says.

The important thing is to question what will really hurt a business and have a plan for the improbable, the managing director of company turnaround specialist Vantage Performance, Michael Fingland, says. "What happens if our debtors take 10 days longer to pay?" he asks. "What if creditors insist on 40-day terms?"

Stress testing is part and parcel of forecasting, Fingland says, involving a close watch on how three things – income, balance sheet and cash flow – may be affected by inputs to the business.

Each affects the other in complex ways, so modelling has to be used, but the assumptions are the critical part. Especially for smaller companies, he says, the financial crisis has forced them to plan for not only a "base case and a worst case, but an absolute worst-case scenario". **BYRON**

The art and science of risk in space

The risk systems manager at NASA's Johnson Space Center, Dan Mulligan, uses a simple tool to make decisions about potential problems in its space programs.

Engineers, he says, want to "bound" any

problem so they ask two questions: how likely is it to occur and how bad will it be.

To answer these, his team uses a probability/consequence graph, which is applied to every mission phase and component.

The vertical axis

denotes the likelihood of an adverse event, the horizontal axis the impact – so at each corner there are four main likely outcomes: low chance, low impact; low chance, high impact; high chance, low impact; and high

chance, high impact – with variations in between.

However, deciding where any problem sits on this chart is a "mixture of art and science". The science part may include determining risk of mechanical failure using test data, and the history of operational performance.

"Frequently we get into quite spirited debates about [where it should sit] on the scale," he says. "I tend to say it is less important which box we fall in [than] how much understanding we have of the scenario."

"Stacking up frequencies of failures and

deriving a probability of occurrence – that's where it turns into more of an art.

"That's where I have a heavy reliance on the design engineer. That guy can tell a lot more about where on that axis something should lie, than someone like me who just has a qualitative view."