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Title:
THE POWER OF RESILIENCE

Date:
2017-06

Citation:
Coleman, L. (2017). THE POWER OF RESILIENCE. JOURNAL OF CONTINGENCIES AND CRISIS MANAGEMENT, 25 (2), pp.114-115. https://doi.org/10.1111/1468-5973.12167.

Persistent Link:
https://hdl.handle.net/11343/292472

Article Type: Book Review

Yossi Sheffi (2015) *The Power of* ***Resilience***

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This challenging book opens with a lengthy description of the effects of the earthquake and tsunami that hit Japan in 2011, and begins to develop assumptions that underpin its analysis. One is that "the leading driver of growing [supply chain] vulnerability is the explosion of global trade" with a 140 percent increase in exports value during 2003-2012. A second point is that ships, planes and trucks are becoming ever larger to reduce costs, but this gives a greater concentration of risk.

This sets the tone of the book by pointing to three areas that – for me – need strengthening. One is its loose structure that seems to ramble through tenuously connected anecdotes. A concise summary of assumptions, drivers of unexpected events, and core responses would help. Second, the book provides a steady stream of supporting data that often lacks context or explanation. Much of the doubling in trade, for instance, was due to higher commodity prices: the WTO document used as the reference reports global exports grew annually during 1980-2011 by an average of 7.3 percent in current dollar terms, but by only 4.6 percent in volume. Even so, is seven percent annual growth an 'explosion'? Third the book uncritically advances key assumptions. For instance, the trade increase is said to have been enabled by "rapidly declining costs of communications and growing efficiency of logistics"; whereas the WTO report attributes it to "reduction in trade barriers". Similarly, the concentration of risk in larger plant and infrastructure may lead to greater exposures, but it also makes it easier to ensure appropriate oversight and thus is generally safer than fragmented equipment. There are, too, many observations of how bad things are along the lines that "systems are inherently more fragile … because of modern computers and communications" (page 25). If this were true, why do people in virtually every country live longer, richer and safer lives with a steadily growing standard of living?

Chapter 2 provides a classification of catastrophes and is better written and structured. The next couple of chapters, though, are little more than unconnected anecdotes, many of them bringing blindingly obvious conclusions. As examples, bourbon producer Maker's Mark faced a demand spike, and handled it by diluting its product; and Malaysia Airlines mishandled communications following the still unexplained loss of flight MH370. It is hardly surprising that both companies lost sales.

The book struggles with complex settings in chapter five that discusses disruption of the "money supply chain" during the 2008 financial crisis. This is explained as caused by a debt-fuelled housing bubble that began in the 1990s, and brought "financial innovations such as securitization" (page 106). Without explanation, the book says these "enabled global investors to share in the profits of the housing boom". But how could this occur? Surely profits from house price rises go to owners of properties, not those who provide the finance?

This chapter provides many numbers without context. "Between 2002 and 2006, some $14 trillion (!) in mortgage-backed securities (MBS) were issued in the United States alone" (page 106). The exclamation mark suggests this is somehow shocking, but is it? The Congressional Budget Office document which provided these numbers reports that US mortgage debt reached almost $12 trillion in 2007. Given that MBS typically have a life of no more than a few years and the value of US housing stock then was around $30 trillion, the data look reasonable.

Other numbers are stretched, too. "US retailers were responsible for 19 percent of the mass layoffs in 2009, although the retail industry represented only 6 percent of US gross domestic product" (page 111). Table 2 of the Bureau of Labor Statistics report cited shows total private non farm separations in 2009 were 2.11 million, of which 176,134 – or about 8.3 percent – came from retail trade. The 19 percent seems to relate to retail trade's share of layoff events associated with permanent worksite closures (page 5 of the report) that involved only around a tenth of all mass lay offs. Even if the 19 percent is correct, it is much less shocking when viewed in light of retail's 12 percent share of non-government jobs. Another example is that: "A 1 percent rise in the price of gasoline induces only a 0.034 to 0.090 percent change in gas consumption" (page 240). The reference is a bit hard to track down because the wrong journal is cited, but the elasticity relates to short term response, and over 6-12 months the value is about 0.3 or close to previous estimates.

Further unexplained assumptions emerge as the financial mess is unravelled. As one example, the author reports that the US economy was in recession by January 2008, but traces the country's economic woes to the September 2008 collapse of Lehman Brothers, and – without any explanation of the mechanism involved – states it "sent a shock throughout the financial system and the broader economy affecting the demand for almost every good" (p. 108).

The discussion of finance ushers in a chapter on real options, which the book defines as "tangible assets that give the owner of the option the right, but not the obligation to do something" (page 130). Options do convey renounceable rights, but these are to acquire or dispose of tangible assets: real options are typically seen as encapsulating strategic opportunities not making investments. The distinction is not trivial because the whole idea of an option is to avoid the expenditure involved in acquiring tangible assets, and only take up the right to do so when the time is appropriate. In fact the book is referring to slack, or surplus assets, staff and other resources that are available to deploy if a need arises. These represent sunk costs not an option, and the confusion undermines much of the chapter's discussion.

Some passages are confusing. The statement by a senior VP that: "Companies shouldn't overlook the risk of losing a vendor that makes basic yet essential parts. The loss of either could result in a significant supply chain disruption" (page 170) looks like nonsense until you check the reference and find that the VP had also just talked about suppliers of highly specialised or high-volume components. Other passages add little: "To get the product to market (the "downstream" part of the process), the supply chain encompasses the distribution function" (page 19). "Companies rely on a wide range of monitoring activities to detect a wide range of potential disruptions … For companies with global supply chains, this implies monitoring global events" (page 189).

A disappointment to me is that the book fails to live up to early assurance that it “explores the encroaching threats that face today’s corporate supply chains” (page viii). In particular it omits discussion of topics as important as terrorism, demographic changes, exponential growth in the frequency of disasters involving explosions and fire in conventional plant, regulatory changes, shifting wealth and migration. Another important topic that threatens firms’ resilience but is only lightly treated is prediction of factors such as demand and prices. The difficulty is acknowledged early: “the first rule of forecasting – that forecasts are always wrong – is truer today than ever before” (page 24). But much of the book progresses as if extrapolation of the past can provide reliable forecasts.

The idea of resilience is gaining traction in many areas. Like other modern concepts it makes a lot of intuitive sense and resonates with widespread ambitions to improve governance, sustainability of systems and security. It is a pity to see loss of an opportunity to promote it.