# Agility versus transparency

For the past 30 years, banks have faced a trade-off between agility and transparency. David Rowe argues this choice was the unavoidable outcome of twentieth century technology and can now be overcome, although doing so will be neither quick nor easy

Many people looking at the fragmented and dysfunctional state of the banking industry's information systems are tempted to ask, "How could this possibly have happened?". In retrospect, the forces that brought it about are fairly clear. It was the consequence of competitive pressures, combined with an extended period of symbiotic interaction between innovations in both information technology and finance.

The late 1970s and early 1980s saw the introduction and growing adoption of personal computers in the business world.[1] The killer app that drove the growth of PCs was the Lotus 1-2-3 spreadsheet. This combination freed information system development from the heavily bureaucratic process characteristic of mainframe technology.

Before PCs and spreadsheets became commonplace, an almost impermeable barrier stood between users, who knew the details of their system requirements, and the engineering staff, who had the systems expertise and machine access to implement these requirements. Communication across this barrier happened via formal documents defining specifications and test cases. The cycle time was lengthy and implementation times frustratingly prolonged.

The combination of PCs and spreadsheets literally revolutionised this sclerotic environment. Suddenly, the power to create useable computer code and the hardware to execute it were both in the hands of end users.[2] The feedback loop between user and developer went from days or even months to minutes or seconds. What had been a bureaucratic process fraught with paperwork and rigid protocols became an iterative feedback loop in one person's head.

At a stroke, PCs and spreadsheets allowed the application of previously unthinkable speed and agility when creating new financial products. In my view, it was this combination that drove the creation and growth of the derivatives market, starting in the early 1980s.

Like all revolutions, however, this one had its dark side. Of particular current relevance is the resulting fragmentation of data across multiple and often inconsistent platforms and formats. This created a serious lack of transparency at the enterprise level. Given the technology of the day, there was no easy way to achieve both agility and enterprise transparency at the same time. Facing this trade-off, banks in particular felt forced by competitive pressures to pursue agility, despite the loss of transparency.

In the years that followed, a multi-billion dollar industry grew up with the specific goal of restoring transparency by gathering and standardising an institution's badly fragmented data. The underlying assumption, indeed the underlying reality for at least 20 years, was that recasting all an institution's data in a standardised format was the only way to achieve transparency. This led to such concepts as "extract, transform and load" – or ETL – and the "golden copy", which still dominate enterprise data efforts to this day.

Around the turn of the century, the rise of the internet created a new and even more daunting transparency challenge. The available material was more fragmented and unstructured than most business data. In addition, the global surge in content meant the total volume of internet data soon became orders of magnitude greater than that of any one company. Clearly, trying to bring transparency through standardisation was out of the question. The only way forward was to embrace the chaotic nature of the material and find a way to deal with it. This gave rise to the indexing and search technology we all use every day when we surf the web.

In addition, the web gave rise to another challenge. As literally billions of people came online, co-ordinated updates of applications across all users was equally out of the question. The result was a similarly revolutionary means of allowing different applications to interact despite being radically decoupled. This meant upgrades in specific components did not risk breaking systems or routines that depended on the superseded versions. This sounds remarkable, but we all see it every day when we download updates to our apps on tablets and smartphones in seconds and hardly ever encounter difficulties.

In brief, we no longer need to accept the trade-off between agility and transparency. Unfortunately, most business systems have failed to leverage this new architecture. Perhaps even more worrying, regulators are equally stuck in the mindset of last-century technology, where this trade-off was necessary. Initiatives such as the Basel Committee on Banking Supervision's principles on risk data aggregation – BCBS 239 – continue to emphasise the restoration of transparency through standardisation, implicitly at the cost of reduced agility. In this way, regulators are hampering banks' ability to meet the challenge of highly agile non-bank competitors. A far better course would be for regulators to encourage banks to begin a transition to the twenty-first century system architecture that empowers both the web and these aggressive non-bank competitors. **R**

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[1] The Apple II first appeared in June 1977 and the first IBM PC debuted in August 1981.
[2] Indeed, old-time systems people were known to say, "The users are revolting … in both senses of the word."