

Aggregation versus aggravation

Five years have elapsed since the onset of the financial crisis and, at the behest of regulators, firms have scaled back many of the risky activities they engaged in at the time. But, if another crisis emerged tomorrow, too many institutions would still have an inadequate overview of the risks they were running

While firms have spent the post-crisis period restructuring their operations and coping with myriad regulatory changes, there is a heightened danger of the good work achieved so far being unwound by a lack of visibility over their operations, which begs the question: is it too much aggravation to undertake data aggregation?

Enterprise-wide data and risk management endows financial institutions with the tools to join up processes and elevate visibility of risk exposures across trading operations. This provides a single version of the truth to senior management. Only with an aggregated or holistic view of data can firms see issues as they appear in real time and make decisive moves to avert a crisis or to capitalise on an opportunity. But technology is not a panacea in isolation – it is the combination of people, technology and processes that creates a dynamic and effective risk management unit.

However, for data managers, an enterprise-wide project can be seen as an aggravation that is perceived as too big to tackle and leading factors such as cost and time outweighing less tangible, yet riskier, factors such as the ability to respond when market/trading risk is elevated. In fact, regulators have highlighted how important this is.

According to the Basel Committee on Banking Supervision (BCBS), “one of the most significant lessons learned from the financial crisis was that banks’ information technology and data architectures were inadequate to support the broad management of financial risks. Many financial institutions (FIs) lacked the ability to aggregate risk exposures and identify concentrations quickly and accurately at the bank group level, across business lines and between legal entities. Some FIs were unable to manage their risks properly because of weak risk data aggregation capabilities and risk reporting practices. This had severe consequences to the FIs themselves and to the stability of the financial system as a whole.”¹

The BCBS has outlined *Principles for effective risk data aggregation and risk reporting* and, according to Sven Ludwig, senior vice president, risk management and analytics EMEA at SunGard, it will lead to a new type of risk management that he calls ‘Tiki-taka risk management’, based on the dominant style of Spanish football teams that is characterised by short passes and maintaining possession.

“This football style can be applied to the risk management of the future. Tiki-taka risk managers are mainly focused on the analysis of risk data. Similar to a player who receives the ball virtually undisturbed in the passing game and does not have to chase down the ball, the Tiki-



Sven Ludwig, senior vice president, risk management and analytics EMEA, SunGard

taka risk manager easily accesses the data from the IT systems for analysis purposes, and thus does not have to collect all the data himself anymore,” says Ludwig. “With an enterprise-wide data aggregation system, a Tiki-taka risk manager could efficiently access the data required to quickly assess risks also in crisis mode.”

As well as making risk managers more agile, another benefit of data consolidation is achieving a better dialogue with regulators, especially given the increased information requested of supervised firms.

“Regulators expect financial institutions to have a complete ‘single-customer’ view of all credit exposures across trading and banking books. A consolidated view of credit exposures across the enterprise is essential in the current environment, and the monitoring of concentration risk under a global limits framework requires a holistic view of

exposures. This is underpinned by large exposure reporting requirements. This should include not only direct risk-taking activities, but also holdings in securities (issuer risk) and positions with central counterparties,” says Jean-Marc Schwob, product manager, Adaptiv Credit at SunGard.

Indeed, the move to central clearing of over-the-counter derivatives and reporting to trade repositories and regulators by given time frames is adding to the data burden for firms. Moreover, portfolio reconciliation means there is an increasing push for financial institutions to agree on the mark-to-market of trades. The proliferation of actors in the trade life cycle from regulators, brokers and other intermediaries highlights the difficulty of data consolidation and aggregation across the financial industry.

Risks

Clearly, large, diversified financial institutions have a greater need for a consolidated view of credit exposures, due to the breadth of their risk-taking activities across products, business units and geographies. For credit risk data, for example, the main challenge is to build trade feeds from multiple disparate source systems into a central credit exposure monitoring system but, once in place, things become simpler, according to Schwob. “Enterprise risk data aggregation and reporting tends to be strongly correlated with decreasing complexity of risk IT infrastructure,” he says.

Implementing a system

So far, so compelling. But, how should firms approach such a big task as consolidating firm-wide data? “In making the decision to consolidate enterprise-wide data, firms face many challenges, with data quality and completeness being the most fundamental. The provision of enterprise-wide data is not about trivial storage of data, it is about the enterprise-wide consistent and accepted source of data and risk analytics,” says Ludwig.

It is also a huge cultural shift for any organisation to consolidate data as it embeds the importance of risk management and risk-based decision-making. The overarching business imperative is to improve risk decision-making and information security capabilities.

Ludwig says data consistency and acceptance are the two key pillars that feed into the data consolidation process. “Within each financial institution there are many data items that are similar, but different, across departments. However, consistency requires a single truth. Data is only accepted by users if it has transparency on any correction and transformation process,” he says.

In fact, it is this consistency of data that helps to steer a financial organisation. “It is not possible to steer, if the CFO and the CRO agree to disagree purely because the basis of their decision is different, as in the case of identical analytics or reports showing different results. Inconsistent reports lead to distrust and distrust avoids any transparent decision, which, in turn, questions the risk culture.”

By eliminating the debate across risk and finance on who has the best data, and the need to sometimes ‘plug’ decision-making with unknown or poorly sourced data, risk decision-making is significantly enhanced. It also creates the insight and foresight for more informed, agile and defensible business decisions at all layers of an organisation.

Ensuring a strong gatekeeper (committee) to maintain data items (content and coverage) going forward is a crucial part of the process. Each data item requires a responsible, visible and intrinsically incentivised owner.

A true risk IT infrastructure is real-time-enabled and combines multiple risk analytics. This allows portfolio risk to enter the front office. Traders can be serviced pre-deal with trade parameters, including funding costs and portfolio-dependent measures such as credit and debit valuation adjustment. Regulatory impacts, such as the liquidity coverage ratio or capital in the form of risk-weighted assets, can also be applied. Common trade data and market data can also be leveraged to calculate both counterparty/credit risk and market risk. In an environment of reduced margins, this is essential for a profitable banking business.

There are also numerous additional benefits of employing enterprise-wide data management systems, for example, leveraging data to create a dual aspect, outward-in and inward-out, view of risk exposures and real-time transactions. Productivity gains can also be expected, which should deliver cost savings and reduce operating and technology expenses while improving operating margins.

Technology

The technology component or ‘big data’ aspect of an enterprise-wide data system is also compelling, with advancements in computing power and technology allowing computers to store exabytes of data – each of which is equivalent to one billion gigabytes.

“High-performance information technology also means that risk data becomes real time – sometimes even real-time streaming – and historic data is of similar importance. Enterprise data talks in terabytes of data and has a dynamic dimension compared to the static data associated with a data warehouse,” says Didier Ache, senior financial services industry director – Asia at Microsoft. “It enables financial institutions to address requirements of finance, risk management, performance and regulatory



Didier Ache, Senior Financial Services Industry Director – Asia, Microsoft

reporting with a single version of the firm’s data”

Moore’s law – the theory that, over the history of computing hardware, the number of transistors on integrated circuits doubles approximately every two years – means that the technology cost has also come down in recent years. The evolution of cloud computing has also been a game-changer in this area.

“Cloud computing has played a vital role in the financial services industry, storage of mega data is now more cost-effective, but it is not just data that is important.” The insights and aggregation from dynamic data – both from internal and external sources through complex data modelling and risk analytics, giving the full holistic exposure – are all crucial requirements for financial institutions today,” says Connie Leung, senior financial services industry

director, Asia at Microsoft.

Analytics engines on top of such a storage layer bring data to life and represent a true risk infrastructure. It becomes tangible for the user and generates a competitive advantage for financial institutions by allowing trusted access, reporting and analysis of the actual and historical risk taken across risk types in a consistent fashion across organisational silos.

The next step is to use specific tools to create reports for different stakeholders. “Instead of just collecting and storing risk data, the emphasis is now on making sense of that data, aggregating it in meaningful ways, and explaining it to management, auditors and regulators. Flexible and intuitive ‘slice-and-dice’ tools are needed, such as online analytical processing databases,” says SunGard’s Schwob.

Preparing for the next crisis

Full transparency of exposures across financial institutions could have mitigated the worst effects on some firms of the global financial crisis but, at the time, perhaps the cost-benefit pay off was not perceived as favourable enough.

Data consolidation systems, as an enterprise-wide project, can be seen as a huge project to tackle and cost, scale and return-on-investment factors may outweigh the less tangible, yet arguably riskier, factors such as transparency, visibility and ability to respond when market or trading risk is elevated.

But the balance has tipped, with firms of the future placing risk management systems at the very top of their agendas. The prudent approach of investing in the good times to avoid losses and regulator sanctions in turbulent times is increasingly being seen as best practice.

“Data management across banks, brokers and financial institutions is not as comprehensive as it could be. We are seeing a trend where consolidation of data across systems, functions and geographies to give a holistic picture of exposures, is becoming the hot topic that business and IT agree deserves priority treatment,” states Ludwig.

SUNGARD®



Learn more about SunGard's and Microsoft's solutions for capital markets at:

www.sungard.com/capitalmarkets
www.microsoft.com/financialservices

¹ BCBS239 and the consultative BCBS222. Principles for effective risk data aggregation and risk reporting, <http://www.bis.org/publ/bcbs239.pdf>