Organisations need to put risk management at the head of their agenda and in the heart of their operations, writes Larry Mitchell, vice-president of solutions management at Misys

Joined-up thinking

We are continually warned about the risks we face, both good and bad. Risk is unpredictable and the frequency of events that previously would have been considered as "once in 100 years" events has increased. While it is difficult to predict so-called "Black Swan" events, how do we measure our preparedness for these situations in order to stop the impact from becoming a disaster? Clearly, we have seen the impacts of systemic risk on a global basis over the last two years. But what have we learned, and how can we determine how best to handle risk exposure and, more important, mitigate against the risk and its consequences in the future?

Changing the culture

For many financial institutions, a real step change in the culture of risk management is now required to ensure that process and procedure is truly effective. After all, this is an issue that encompasses the whole of an enterprise and requires an ethos of risk management that reflects a more joined-up and enterprise-wide response.

Once joined up, anyone communicating with their counterpart at the next

Résumé

2009 - Present	Misys, vice-president solutions management
2003 - 2009	Winton Group LLC, president
2001 - 2003	Citco Group, chief information officer
1996 - 2000	Morgan Stanley, executive director
1983 - 1996	Chemical Bank/Chase, vice-president

desk, or with someone at a currency trading desk in Hong Kong or a fixed income desk in New York, can use the same vocabulary to communicate the risk factors in trading decisions. With such a joined-up process throughout the organisation as well as a culture that puts risk management at the top of its agenda, organisations can draw confidence that any systemic and procedural response to risk will be effective.

Asserting control at a global level

In order to achieve an enterprise-wide approach to risk management, financial institutions need to assert global control of the total risk exposure and a risk culture needs to be ingrained across the organisation. The risk agenda needs to be front of mind throughout the front, middle and back office with investment in the systems and the people required to realise the processes that facilitate enterprise-wide risk management. Traditionally, risk was separated between the front and middle office, between those executing the trades and managing their positions and those managing risk on the balance sheet. Likewise, there is often high latency in the process, between the time the trade (risk) was taken and the time that risk was measured.

The required impetus to force a change in approach to risk management has arrived, not only from the realisation of financial institutions (in both the buy and sell side) that inadequate investment in risk control really is a false economy, but also from the pressure enforced by regulators intent on ensuring greater robustness of the financial systems that underpin the world's economy. Recent appointments of chief risk officers to the boards of many financial institutions has escalated risk to the highest echelons of the organisation and has emphasised the growing urgency that management teams face in ensuring risk is managed effectively.

Beyond the silo

Today, many institutions have implemented independent market, credit, liquidity or operational risk systems. What we have learnt from the recent economic turmoil is that it is imperative to develop practices that encompass all these types of risk along with the external factors impacting them to gain a 360-degree view of risk. Without correlation of all the different types of risk at any one time, no full picture of an organisation's risk exposure can be painted.

At Misys, we are seeing our customers focus on a number of key areas to achieve this correlated view:

- real-time risk positions and calculations across asset classes with pre-deal risk metrics, compliance and limit controls
- centralisation of the underlying data, improving pricing and risk calculation engines
- transparency in all areas of the business operation, with views required at the trade, portfolio, counterparty and balance sheet levels

So why these particular areas?

Real-time

Accurate, enterprise-wide information to give an intraday representation of risk is a key goal. After all risk is real-time – a risk position can change from one minute to the next and financial institutions need to put processes in place that accommodate this reality. The risk taker is now in a position to understand the impact of the next trading decision prior

A 360-degree view of risk

Source: Misys

"In order to reconcile and deal with all the different risks a financial institution is exposed to, calculators need to be centrally deployed to ensure consistency across the multiple kinds of risk facing an institution at any given time."

The top 10 biggest trading losses in history

A report published by the TowerGroup last year on risk failures at securities and investment firms showed that in 2008 rogue traders caused trading failures so large as to reach the list of the top 10 biggest trading losses of all time. These were Société Générale's loss of $7.1bn in trading European index futures, Brazilian firm Aracruz's loss of $2.1bn trading foreign exchange options, and China's Citic Pacific loss of $1.9bn in foreign exchange trading. Together these represented more than $12bn in trading losses in just one calendar year. Many of these notorious losses could be traced to weak risk management and loose, inadequate operational controls over trading operations.

The trading losses drove securities firms worldwide to re-examine the risk management measures they had in place. Of interest regarding this list are two other points:

- The wide range of countries where the losses occurred emphasises the global nature of the operational problems the securities industry faces.
- Eight of the 10 instances involved some form of derivatives.

In risk models and stress tests historically, firms had never expected the demise of a major financial institution such as Lehman and the risk fallout from such an event. So counterparty risk became a top concern for securities firms.

Loss (bn)	Country	Company	Year	Source of Loss	Trader
$7.1	France	Société Générale	2008	European index futures	Jerome Kerviel
$6.7	US	Amaranth Advisors	2006	Gas futures	Brian Hunter
$5.85	US	Long-Term Capital Management	1998	Interest rate, equity derivatives	John Meriwether
$3.44	Japan	Sumitomo Corp.	1996	Copper futures	Yasuo Hamanaka
$2.38	US	Orange County	1994	Interest rate derivatives	Robert Citron
$2.1	Brazil	Aracruz	2008	FX options	Isac Zaguri, Rafael Sotero
$1.97	Austria	BAWAG	2000	FX trading	Wolfgang Flottl, Helmut Elsner
$1.96	Germany	Metallgesellchaft	1993	Oil futures	Heinz Schimmelbusch
$1.9	China	Citic Pacific	2008	FX trading	
$1.8	UK	Barings Bank	1995	Nikkei futures	Nick Leeson

Source: HSBC

to execution. Centralised limits impose real-time enterprise-wide constraints on a global basis avoiding unintentional risk taking and downstream impacts.

Often banks' systems have been relevant to a single asset class so there has been no central snapshot to which a financial institution can refer, particularly on the sell side. Risk measures across asset classes are linked to each other, but not necessarily additive, so an enterprise view is difficult to achieve without a single point in time snapshot across all asset classes. Therefore, a multi-asset class repository of information to hold all of a financial institution's positions is required to provide a holistic and complete view.

Centralisation

Likewise, data needs to be accumulated in a uniform and transparent way throughout the organisation, subject to the same controls and stored in the same format to facilitate creation of these snapshots. Most firms have multiple systems trading multiple asset classes, meaning data is captured separately, this results in reliance on time-consuming manual interfaces prone to error. Getting data out of legacy systems is proving extremely difficult.

Additionally, behind each of those systems is an accounting engine that creates a sub-ledger for that business silo. At the end of every day these sub-ledgers run and generate cash equivalent debits and credits which are then pushed into the cash general ledger of the entire institution or company. The position level contract and security detail required for risk calculation is often lost.

In order to reconcile and deal with all the different risks a financial institution is exposed to, calculators need to be centrally deployed to ensure consistency across the multiple kinds of risk facing an institution at any given time. That requires a risk engine that is robust enough to look at all those different positions, across multiple asset classes and one that can handle the risk metrics correctly. While most banks have already made steps in this direction, the frequency and scope of this integration is uneven across institutions.

Transparency

Transparency contained in the resulting risk information will become increasingly useful across the enterprise. With this, organisations have views and controls for the front office to cover market and counterparty risk, and to the back office where settlement risk can be viewed accurately and at the balance sheet level where liquidity risk under multiple scenarios can be measured. Transparency of data is one development that the regulators in the US and Europe are looking at making mandatory for a number of over-the-counter (OTC) markets. Bespoke, complex, long-dated trades in multiple asset classes sat unsettled for inordinate periods of time, without a clear picture of where the exposure lay. Central counterparty clearing moves this risk from the bank balance sheet to the clearing house, by forcing timely confirmation of contract details post-trade.

Coming out of the turmoil, we are seeing an increased emphasis on consolidated risk and consolidated risk management on the balance sheet, led in part by initiatives by regulators such as the Financial Services Authority (FSA) in the UK, to ensure that all risk measures are co-ordinated. By integrating risk, the people who run the business can achieve the transparency to see that risk against multiple scenarios turns the tide on previous risk practices. Managers can see the sources of enterprise risk in a holistic view.

Speed will be king, in order to allow the analysis of multiple scenarios, and to disseminate the information to more people analysing the balance sheet and conducting risk budgeting. Only if this process can be fulfilled fast enough can the impact of multiple scenarios be used to mitigate against potential threats and allocate balance sheet capacity to the best effect. Indeed, practices will need to evolve in order for "stress tests" to be successfully exercised on the balance sheet in order to demonstrate that it can survive such scenarios

"A holistic approach needs to be taken that encompasses all asset classes in order to give an aggregated picture of risk."

On the buy side, as the true warehouses of risk, the very nature of the business demonstrates the need for a multi-asset approach to the capturing of information and stress testing. Whether onshore, offshore, long or short, the way that information is captured and subsequently sliced and diced will ultimately impact the trades made and dictate the strategy deployed. In order to get different views of the same data, all risk needs to be integrated.

A holistic approach needs to be taken that encompasses all asset classes in order to give an aggregated picture of risk. Turning the tide on an inertia to change risk management and striving to create an enterprise-wide risk management best practice is likely to be the case regardless of whether industry reforms are undertaken via government or self regulation of financial institutions.

Delivering a blueprint

To ensure that the recent financial markets history is never repeated, we would hope that we will begin to see the evolution of a better risk culture that produces an industry standard for enterprise-wide risk management.

The collapse of Lehman Brothers highlighted the fragility underpinning the financial system, evaporating the trust that banks had with other banks, their counterparties on trades. This is a lesson that reinforces the use of robust risk management systems. If financial institutions adopt a risk-centric management culture that the regulators want to see and produce a blueprint of risk management best practice with stringent internal controls globally, this will encourage counterparties to trade with them further and restore the confidence that existed prior to the crisis.

We have just survived the worst financial storm since the invention of the computer. The global network of telecommunications and computers captured the correlated impacts of that storm on a global basis. Like a flight simulator, we can now fly today's positions through that storm, and learn the best practices required to prepare for the next "once in 100 years" event. But technology and models have their limits. In the case of risk, changing culture is an important first step to creating the behaviour crucial for establishing new and evolving standards for risk management practices. ■

Inder Grewal, global head of alliances at Markit explains why Markit has partnered with Misys since 2005.

Markit has partnered with the world's leading providers of investment management systems. Markit RED, indices and Markit CDS pricing data are integrated into Misys's flagship solution, Summit FT, which is used in capital markets and offers cross-asset front-to-back coverage. Summit provides extensive risk management coverage for the trading environment and forms part of Misys' suite of risk solutions for a bank's integrated framework. Summit also integrates with Markit Wire and Markit Trade Manager to help customers increase efficiencies and reduce operational risk in the derivatives market.