



Integrating trading, risk and operations: Risk management's new zeitgeist

Volatility and correlation have reached unprecedented levels, and liquidity and counterparty credit risk have skyrocketed. Now, more than ever, traders and risk managers need answers they can trust. "An integrated trading, risk and operations system is vital in this kind of market environment," says Ken Knowles, executive vice president of financial and risk solutions at leading vendor, OpenLink

It is no exaggeration to say that few, if any, current market participants have experienced times like these. Whether we're considering the extreme, persistent volatility across asset classes, atypical inter- and intra-asset correlations, illiquidity or heightened operational and credit risk, this is, in many ways, uncharted territory for the financial markets.

This challenging environment has highlighted that, during crisis, market risk, liquidity risk and credit risk overlap greatly and what starts out as one form of risk can quickly transform into another. Examples of this are everywhere: banks have found that systematic concerns about credit risk can unsettle once-stable sources of funding; hedge funds have suffered as heightened market risk prompts hitherto successful investment strategies to unravel, their prime brokers to reel in credit and their investors to scramble for the exits; meanwhile, counterparty credit concerns have risen in key energy and commodity markets as spot market prices have collapsed amid fears of global recession.

It is clear that, to be mitigated effectively, these risks cannot be measured and managed separately. There has never been a greater need for effective solutions that integrate trading, risk management and operations. "Unexpected market events in recent months have repeatedly tested risk management practices and technology – sometimes pushing them to their limits," says Ken Knowles, executive vice president of financial and risk solutions at OpenLink. "We're seeing a move beyond traditional regulatory frameworks for reporting counterparty credit and liquidity risks and into the active management, measurement and incorporation of these risks into the real-time trading environments." Now that traders and risk managers have a much more visceral understanding of the 'reality' of non-market risks, the value of integrated risk management technology has been thrust into the limelight. OpenLink's Findur and Endur solutions are targeted at financial capital markets and energy markets participants, respectively. Both are built upon the same OpenLink core architecture and functionality. The OpenLink systems allow users to manage the entire life cycle of a trade: front to back office and from deal entry right through to settlement and accounting.

The importance of real integration

However, not all firm-wide risk management systems are created equal, and users need to be cognisant of the modelling assumptions and limitations of their 'integrated' solutions. As some firms may have discovered during the recent turmoil, market stress has a habit of exposing shortcomings in solutions that, although effective in some ways, are not truly integrated. "Rigid systems that may have appeared to work well for control and compliance are not necessarily well suited for truly active risk management. Being nimble in your risk management is a necessity in the current market environment," says Knowles.

So, while OpenLink's solutions come with a rich set of out-of-the-box functionality that users can deploy, it is perhaps the emphasis on configurability and extensibility that are particularly compelling right now. "Extensibility is something for which we have always strived. But, for our clients, it's about having a plug-in architecture so that new risk measures and reporting, novel valuation models and recalibrations can be implemented as easily as possible," Knowles says.

It is not uncommon for firm-wide risk management systems to be described as 'integrated', but the reality can be somewhat different. Often, what is touted as integration is actually a collection of very different solutions that have been stitched together – creating an 'integrated' solution that, at best, is inefficient and, at worst, masks contradicting processes and assumptions. "We have consciously made the decision to develop our solutions organically using the same core architecture and functionality," comments Knowles. "Flexibility is at the heart of what we do."

In stable markets, this flexibility is most obviously manifested in the cross-asset architecture of OpenLink's solutions. So, for example, a corporate treasury group that may have just been using a solution for managing interest rate and currency risk will find it straightforward to begin to manage energy price risk and incorporate this seamlessly and consistently within the system.

Knowles says "OpenLink thinks of this flexibility as an invaluable kind of software-related 'real option' that users of truly integrated solutions can own. Needs can change rapidly due to market

conditions, regulatory shifts, and organisational or business changes, and this will necessarily prompt different kinds of functionality to be deployed," he explains. "But, having that real option can be empowering in its own right – spurring users to raise the bar when it comes to sophistication." The flexibility of OpenLink's solution environment is perhaps best borne out by a glance at its client base, which includes clients of virtually every type and size – including central banks, major pension plans, hedge funds, banks, corporations and energy companies across the globe.

New points of focus

Obviously, as turmoil has spread from its roots in the US subprime residential mortgages out to affect nearly all asset classes and market participants, big question marks have been raised about the effectiveness of various risk models and risk management techniques. Knowles says he's unsurprised to see that value-at-risk (VaR) has once again been fingered as a culprit in the current turmoil, but says this specific debate is missing the bigger picture "VaR can, and is, applied in many different ways. But the bottom line is it's just a tool and over-reliance on any single tool is dangerous," he adds.

It's little wonder then that truly integrated risk management tools like those from OpenLink appear to be coming into their own right now. After all, whereas one might typically expect more than a handful of VAR exceptions at times of heightened volatility and dramatic shifts in correlation, an ability to probe and analyse model exceptions at the drop of a hat can yield greater insight for more proactive risk management. Knowles says "It's clear that being able to back-test and do attribution analyses to see where components of profit and loss were generated at a granular level is incredibly useful. With this kind of insight, models and the assumptions used in models can be refined dynamically."

"The failure of major derivative counterparties and heightened systemic counterparty credit risk concerns is naturally leading to increased interest in measures that look at the sensitivity of credit exposures to market rates, such as Potential Future Exposure (PFE)," says Knowles. Put simply, PFE seeks to quantify (at a specified confidence level) maximum exposure over a specified future extended period. Whereas more traditional credit risk exposure measures tend to be short term, point-in-time, static calculations based on notional principal amounts, and so have trouble in capturing offsetting risks, PFE is much more adaptable.

"Indeed, the whole concept and practice of collateralisation is becoming much more sophisticated and nuanced in light of recent experiences," according to Knowles. "A broader array of instruments is being accepted as collateral and many of these will have significant market risk exposures in of themselves," he explains. "That is accelerating the move to integrate collateral management into an overall risk management framework."

Some market participants have quite appropriately described the current financial crisis as a 'real world' stress test. In some ways, the stress tests performed before the turmoil struck now appear to be deficient. Some have attributed this apparent failure as being symptomatic of some systems' rigidity in the ways that they allow stresses to be applied – a point that Knowles says is not without merit. "OpenLink provides its users with tools that greatly simplify setting up rules-based shocks, and users are not restricted to commonplace regulatory-type stress tests," he explains. "Combinations of rules-based shocks, correlated random shocks, historical shocks and more arbitrary shocks are facilitated within our system."

Lessons learned

Although painful for many market participants, the challenges of recent times will ultimately lead to more effective risk management practices. Whereas risk models are always going to need to be updated in light of experiences during market stress, a perhaps more unexpected lesson is that not all firm-wide risk management systems are the same. After all, it is at times of market stress when such systems are most needed – but it is at just these sorts of times that redundancies, inefficiencies and inadequacies due to legacy systems that have been stitched together can surface. "The whole issue of remodelling risk is avoided when you have a truly integrated system built from the same transparent risk architecture," says Knowles. "When in the future we look back and assess our experience of managing risk through this period, this might just be viewed as one of the most important issues to have come to light."



About OpenLink

Founded in 1992, OpenLink is a leading developer of cross-asset trading, risk management and related operational and portfolio management software. OpenLink's diverse client base of over 130 customers worldwide includes 10 of the top 25 largest energy companies by market capitalisation, eight of the largest financial institutions and seven of the largest central banks, as well as major hedge funds and public utilities. Headquartered on Long Island, New York, and with offices in New York, Houston, London, Berlin, Vienna, São Paulo, and Sydney, OpenLink has more than 620 employees worldwide.

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