Risk Matters for Capital Markets – Why Risk as a Service is Rising

Insights into the rise of risk as a service, from the FIS webinar with Chartis Research and EY

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Get Up to Speed with the Risk Management Revolution

Across the world's capital markets, buy- and sell-side institutions are under pressure to support a more sophisticated approach to risk management and analytics. With increasingly complex risk models, firms find they are better able to meet regulatory requirements and optimize their margins by leveraging external expertise.

Traditionally, such sophistication has also come at a significant cost, making complex risk metrics a luxury that only top-tier banks could afford – until now.

Deep within the operations of the financial services industry, a revolution is quietly taking place. From a perfect storm of challenges and technological changes, a new breed of service-based architecture has emerged to bring complex risk metrics to a wider market.

In a recent webinar, risk management experts Sidhartha Dash, research director, Chartis Research, Mario Schlener, Canadian leader of EY's Financial Services Risk Management Practice and Andrew Woods, head of risk services for FIS' Cross-Asset Trading and Risk business, gathered to discuss the latest industry trends and drivers of risk as a service (RaaS). Read on to know their insights – and learn how RaaS could help you get risk right.

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What's Driving New Approaches to Risk Analytics?

At a pivotal time for risk management and analytics, several contradictory trends are at play.

As the buy side branches out, the sell side is pulling back

"On the one hand, we see a huge pullback by the sell side from more exotic and complex instruments, especially over-the-counter derivatives," explains Sidhartha Dash, research director, Chartis.

"But on the other, the buy side has expanded not only its balance sheet but also the range of asset types it will take on.

"Now, we're increasingly seeing buy-side firms with a much bigger book of fixed income, securitized products and credit instruments."

Models need more care …

With complex credit and derivative instruments in many a buy-side portfolio, as well as structured fixed income products, changes in market structure are putting increased pressure on analytical platforms.

"There's a growing focus on risk models and analytics, particularly in fixed income," continues Sidhartha Dash. "Buy-side firms need to keep a much firmer grip on the structure of products and how prices and risk sensitivities will evolve over time."

"Credit products have always been complex, but before the global financial crisis, their models were based on very standardized assumptions," notes Mario Schlener, Canadian leader of EY's Financial Services Risk Management Practice. "There's much more variance now in the market."

Despite the sell side's withdrawal from more complex instruments, risk models themselves continue to grow increasingly sophisticated.

> "Product complexity may have come down, but the desire to model products accurately has gone up.
>
> **Sidhartha Dash**, Chartis

> The sell side may need to move back into more complex products and illiquidity to actually gain revenue.
>
> **Mario Schlener**, EY

… But margins feel the squeeze

While buy-side firms are becoming a much bigger consumer of risk analytics, they often lack the human resources and infrastructure to run and maintain complex risk models and calculations.

As Sidhartha Dash explains, “Unlike the sell side, where there are only 200 or so institutions with significant market-making capacity, the buy side is incredibly fragmented and made up of thousands of smaller firms with stretched in-house resources.”

However, ongoing falls in revenue mean that even large sell-side firms are looking to consolidate their operations and reduce in-house costs. And with increasingly compressed margins – plus the regulatory demands of the Fundamental Review of the Trading Book (FRTB), the reformed interbank offered rate (IBOR) and valuation adjustments (XVAs) – organizations might need a change of strategy.

“The sell side may need to move back into more complex products and illiquidity to actually gain revenue,” Mario Schlener observes.

“Globally, we’re now also seeing the transition of a lot of banks from calculating risk exposure with Monte Carlo simulation techniques to performing historical simulations. That’s another indication of increasingly complex approaches to managing risk.”

How Is the Industry Keeping Up?

Market-leading vendors like FIS have long helped buy- and sell-side institutions automate complex risk management processes. But as the risk function continues to rise in profile across organizations and infiltrate the front office, firms need more than technology alone to handle the complexity of their risk models and calculations. And that's where RaaS comes into its own.

RaaS is rising

"Automation isn't enough, especially for smaller firms," admits Andrew Woods, head of risk services for FIS' Cross-Asset Trading and Risk business.

"With RaaS, institutions can rely on expert quantitative skills and knowledge without the burden of retaining costly talent or maintaining the calculations, freeing them up incredibly.

"RaaS providers' investment in multiple risk models – and being able to consolidate these over time – means they can drive efficiencies in their own organization, with less crossover and more consolidation of models and quantitative resources."

In turn, buy- and sell-side clients can benefit from more affordable and flexible outsourced services.

Andrew Woods elaborates, "Pay-as-you-go RaaS models and cloud-based services also allow clients to manage peaks and troughs in calculation activity more cost-effectively and only ever use the infrastructure and resources they need."

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Market data is under control

For the financial services industry, the sourcing and management of market data represents a costly overhead and a time-consuming component of the risk management process.

“The costs and effort involved in keeping a complex suite of models alive is significant,” acknowledges Mario Schlener. “You need both talent and investment to maintain market data and data platforms.

“So, one of the biggest trends we’re currently seeing across the globe is the use of RaaS and managed services to manage the whole market data side of risk calculations. That allows firms to focus on actually managing risk and making a profit.”

Barriers to RaaS are falling

The outsourcing of risk management processes may have required a leap of faith for many firms, but it's a jump that more and more are making.

"The barrier has been highest for the largest sell-side firms – and even there we're seeing it drop away," comments Sidhartha Dash.

"Historically, big banks have built all their technology and infrastructure in-house, so the challenge is how to open up their internal systems.

"But banks often use more external systems than they think, such as traditional market data platforms and the considerable amount of analytics embedded in those. And with growing awareness of this fact, barriers to RaaS are falling across the buy and sell sides."

Traditionally, with less infrastructure and fewer resources to fall back on, the buy side has used RaaS more widely than the sell side. But according to Sidhartha Dash, "We're now seeing tier two and even tier one sell-side firms use the RaaS model for XVA calculations.

"It may not be universal, but a major shift is happening – and the direction of travel toward RaaS is clear."

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Vendors are building strong control frameworks

As RaaS continues to rise, there is an increased focus globally on vendor risk management services, particularly from regulators including the European Central Bank and Canada's Office of the Superintendent of Financial Institutions.

In the words of Mario Schlener, "Outsourcing guidelines promote a strong governance and control framework to validate the services that RaaS vendors provide, such as model validation.

"Regulators are happy for institutions to outsource certain areas, as it allows them to focus more on the right things. But they also want to make sure firms can track and control third-party services.

"Increasingly, vendors will need to comply with specific regulatory requirements – and there will be a shift in the market toward providers that are most accountable and that institutions can rely on."

What's Powering RaaS?

A combination of technical trends and approaches are helping drive the rise of RaaS into the next decade.

Systems are more streamlined, powerful and scalable

"On the sell side," says Sidhartha Dash, "there's an obvious drive to reduce the number of risk systems being used, with many institutions still operating as many as 50 or 60 front-office systems.

"Banks can no longer afford the luxury of giving every micro asset class and regional book its own risk framework and system, so there's been a tremendous amount of consolidation, restructuring and reengineering.

"Within internal and vendor platforms alike, there's also been a general push to reengineer the underlying infrastructure to make it more scalable and efficient. Modern systems and databases increasingly harness the power of high-performance computing (HPC) and graphics processing units (GPUs) to boost analytical capabilities, accelerate calculations, improve data management – and deliver economies of scale."

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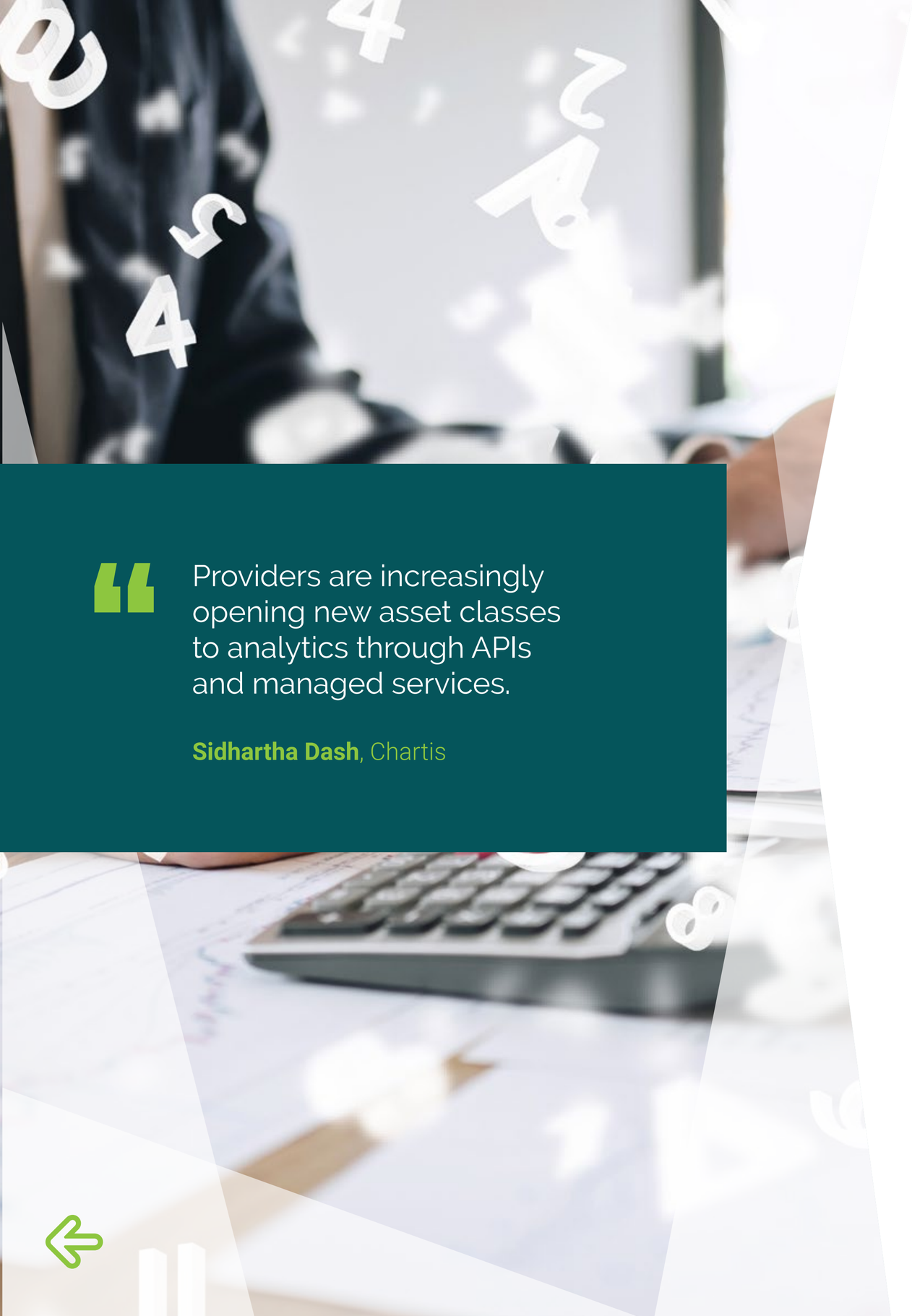

> Providers are increasingly opening new asset classes to analytics through APIs and managed services.
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> **Sidhartha Dash**, Chartis

Analytics are expanding in scope

With more RaaS vendors offering services that cover both market data and analytics, providers are also looking to extend the scope of securities they can handle for their clients.

“Providers are increasingly opening new asset classes to analytics through APIs and managed services,” remarks Sidhartha Dash.

“Rather than confining your analytics to, say, market-backed securities, you can use an API to extend into a full range of instruments. And with a managed service, you don’t just get the software but also support from quantitative experts, who can make sure you’ve got the correct risk data and explain your risk numbers.”

Artificial intelligence is increasing automation and sophistication

Real-life use cases for artificial intelligence (AI) continue to emerge in risk management and RaaS.

“In the past few years we’ve seen a lot of new AI techniques being tried out for different theoretical purposes,” says Mario Schlener, “whether for prediction models, the automation of tasks or even the optimization of hedging strategies and costs.

“We’re now seeing AI being used to great effect to optimize data governance and data quality. By helping backfill missing data fields, especially in reference or proxy data scenarios, AI tools have the power to considerably improve efficiency and reduce manual steps and costs.”

Sidhartha Dash adds, “Sophisticated analytical tools that use AI for validation, mapping and data filling have found a particular sweet spot in fixed income and credit data.”

FIS’ Andrew Woods concurs, saying, “The discussions we have with our clients tend to cover all these areas. There’s some great work going on with AI to spot data anomalies before they enter the system – and to improve regulatory-driven governance and credit risk analytics.”

Mario Schlener concludes, “The capital markets space has been sophisticated in developing AI models. The next challenge is finding ways to combine deep learning technology, which means addressing the constraints of data availability.”

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Conclusion – How Far Will RaaS Go?

RaaS is growing in scale all the time. "I think we're still in the early stages of adoption," says Mario Schlener, "but market penetration is only going to increase over the next few years. And with the growth of open source technology, the innovation cycle will speed up dramatically going forward."

"How far RaaS will go depends what kind of institution you are," suggests Sidhartha Dash. "In certain types of buy-side firms, the model is already mature and taking off – it's really more about getting the right vendors to provide the right services.

"The sell side is much less mature when it comes to adopting RaaS and has a slightly shorter runway. But with XVA and market risk services starting to gain traction, sell-side institutions are definitely coasting along the runway, preparing for take-off and starting to move more risk systems and infrastructure off premise.

"I think the sell side will always keep a certain proportion of risk systems in-house. But I would bet that in three or four years, between 40 and 50 percent of banks and sell-side organizations will be transitioning to the RaaS model – and as many as 70 to 80 percent of firms on the buy side."

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About FIS

FIS is a leading provider of technology solutions for merchants, banks and capital markets firms globally. Our 55,000 people are dedicated to advancing the way the world pays, banks and invests by applying our scale, deep expertise and data-driven insights. We help our clients use technology in innovative ways to solve business-critical challenges and deliver superior experiences for their customers. Headquartered in Jacksonville, Florida, FIS is a Fortune 500® company and is a member of Standard & Poor's 500® Index.

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