



Building the next-gen risk and trading platforms

Point of view

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Trading and risk architecture in a flux

Stringent new regulatory asks and evolving market conditions have spurred multiple changes in the trading and risk management landscape in recent years, making it imperative for banks to re-evaluate their resiliency to challenges ranging from complying with regulation to shoring up cost efficiency and having the right product platforms.

Technology upgradation should be the natural path to take in such an environment. Financial institutions should prioritise policy, governance, and data/ processes alignment across front office and risk and finance functions.

For most banks, however, regulatory mandates overshadow the much-required transformation plans today, with the result that 'run-the-bank' verdict trumps 'change-the-bank' decisions. While many have started digitalising their trading and risk platforms, the pace is slower than the situation warrants.

Eventually, we see the emergence of a target operating model that enables the convergence of front office, risk and finance models and process, leverages best-in-breed platforms, embeds sound data architecture, and embraces cloud and advanced analytics across the value chain.

The big question before banks, therefore, is how to build an integrated trading and risk platform using the best bits of different approaches.

The destination is not a place, but a new way of looking at things

CRISIL, through Coalition Greenwich (a division of CRISIL), conducted 30 expert interviews with bank executives during December 2020 - January 2021 to understand their priorities on the trading and risk infrastructure over the next 1-3 years. Key findings from the survey are detailed below:

1. RiskTech spending driven by regulatory changes; calibrated spending based on market expansion and regional sensitivity

- Regulatory compliance and improving operational efficiency to drive RiskTech (risk technology) spending over the next 1-3 years
- Technology spending by Tier I banks is mixed, but wallet size is bigger for banks with global or European exposure. While the short-term focus is on regulatory compliance, medium-term strategy includes incorporating cloud migration and data solutions, and vendor/platform consolidation
- On the other hand, the key theme for Tier II banks is platform migration. Tier III banks, with limited budgets, are opting for third-party technology options to achieve cost efficiencies

Challenges: Banks struggling to manage complex risk and global compliance asks while managing costs

- Regulations are getting wider, leading to data control challenges - lineage and governance issues
- Pause in integration efforts for risk, surveillance, and compliance systems due to the pandemic

2. Slow transition from legacy systems; prioritisation of select functions leading to more work on customisation of existing platforms

- Banks are actively working to create more efficient and modular infrastructure, but legacy systems pose significant challenges to transformation or migration
- Consolidation, decommissioning and customisation of legacy platforms underway to reduce infrastructure downtime such as trading systems and simplifying data models
- There is a preference for core and risk trading platforms that cater to multi-assets and can be customised in-house
- End-to-end systems are very expensive. Most banks are choosing best-in-breed solutions for upstream activities complemented by a few external or in-house solutions for downstream activities
- Survey indicated a clear concentration around four vendors (Murex, Finastra, Calypso, and Bloomberg) even while platform usage varied by firm size and complexity. Banks also integrate the best-in-class solutions for analytics, cloud, AI/ML, and databases
- Prioritisation of select functions such as derivatives management for technology upgrade

Challenges: Poor integration and significant customisation

- Balancing the useful life of existing legacy systems and resources along with downtime involved in new technology adoption makes the transition difficult. Cost streamlining to even out budgets
- Some data transitions to other systems were costly and required a lot of customisation

3. Focus on building next-generation trading and risk platforms; evolution of integrated architecture

- Next-generation risk infrastructure is likely to be an integrated platform with co-ownership across functions. Key to the integrated solution will be standardised models (driven by unified data) though the debate would be on convergence of models - credit risk and market risk models
- Banks are benchmarking product development and deployment to technology companies

Challenges: Internal buy-in dependent on various banking divisions

- Internal agreement dependent on cost benefit analysis across various business functions and is time consuming
- Management changes leading to shift in preference between external and in-house platforms

4. Banks prefer SaaS-based models and public cloud

- Cloud computing and usage of more SaaS-based models is key for reducing cost, apart from delivering drastic improvements in computational efficiency of risk engines
- Banks are moving away from strictly private cloud approach towards public cloud

- Urge to move even critical front/middle office risk functions and applications to cloud, deploying IaaS or PaaS or FaaS. The immediate use cases for deployment are selected based on trade-off between computational power advantage, data security, and regulatory requirements
- Increasing usage of artificial intelligence/ machine learning in running sophisticated risk models and need for on-demand risk analytics for pricing and risk segregation driving demand for cloud infrastructure. Cloud migration led by need for intra-day computations, recurrent regulatory reporting, and op-risk monitoring

Challenges: Fear of data security on cloud

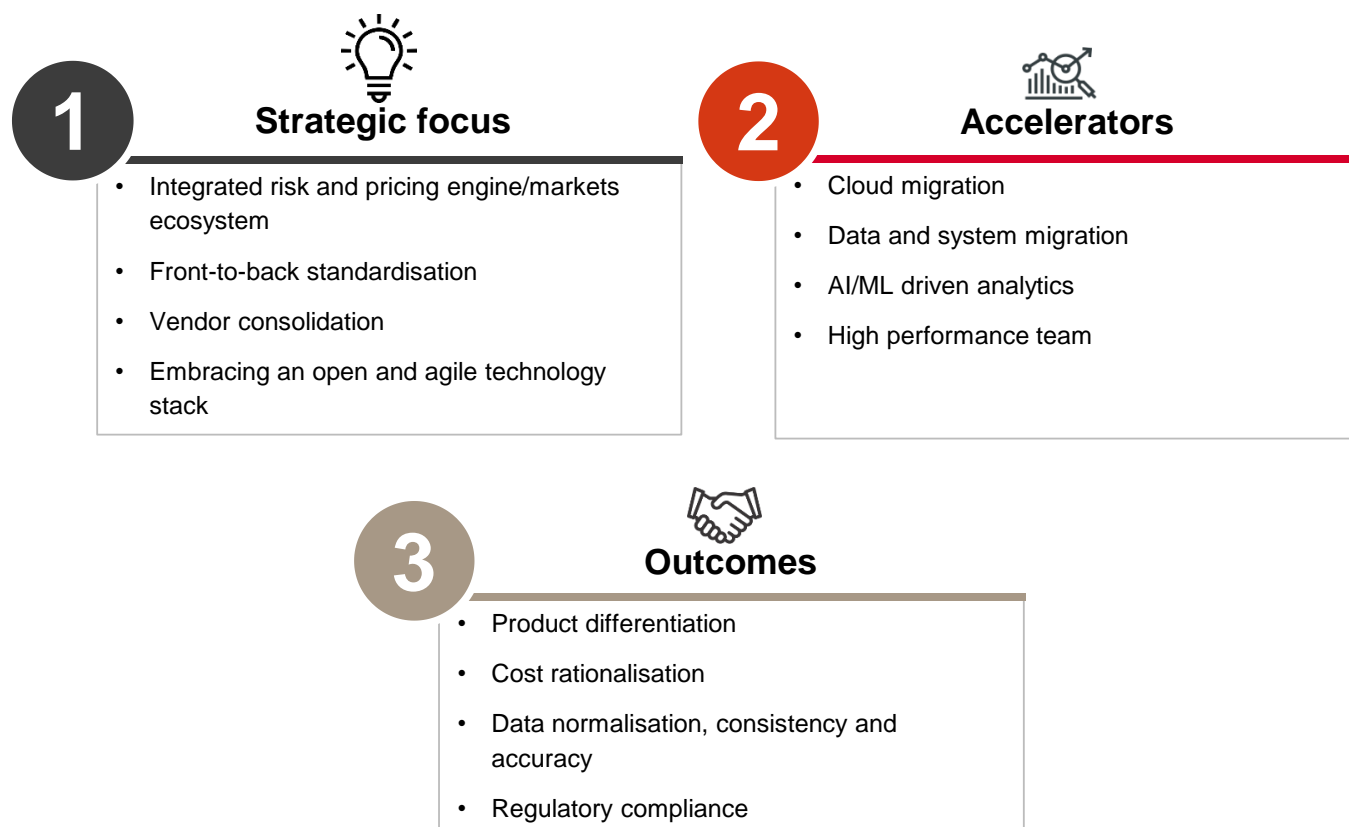
- Lack of clarity on data storage and localisation
- Debate on which applications can be deployed on cloud and which ones will remain on the premises
- Deployment of multi-cloud environments hindered by concerns over integration costs and efforts

Steering the transformation, building the next-generation risk platform

As the capital markets are reinvented, trading and risk architecture of banks is likely to fundamentally change. Banks are integrating their fragmented and legacy front and middle office platforms/applications.

They continue to evolve and target areas such as integration of pricing and valuation, upgrade of technology stack, modular solutions, unified risk engine and data store, and work towards building a target operating model. While the target operating model will need to address the specific needs of each bank, we see some ideal approaches emerging.

Risk architecture – target operating model



Multiple applications across asset classes and processes result in significant efforts while preparing for new regulatory scenarios and independent evaluation across each risk platform. Banks will continue to consolidate their trading platforms while reducing customisation and complexity of risk systems. As integration becomes pervasive, it is critical for banks to develop a blended approach based on their operations. Broad integrations to develop a blended approach are as follows:

Vertical integration: This approach entails a comprehensive front-to-back integration of risk and pricing platforms for select businesses such as equity derivatives, FX, commodities, and prime rates. The target architecture hinges on a single platform for booking, pricing and risk management for one or two of the businesses. While a vertically integrated architecture ensures common data layer and standardised risk sensitivity calculations with defined

control points and validation rules, it will be multi-year transformation and will require extensive process transformation and business level customisation to be successful.

Horizontal integration: This approach focuses on developing one reporting layer and one risk system across businesses. It is mostly applied across middle and back offices, while the front office exists as a separate platform. Though a horizontally integrated architecture ensures a unified calculation service layer for multiple pricing libraries and a common data layer for access to all front office data, firms will need to engage multiple applications, normalise data from multiple pricing libraries, and standardise calculations to be successful.

Off-the-shelf products: This approach is preferred mostly by smaller banks, with limited budgets, where stringent regulatory landscape encourages them to opt for third-party technology platforms to achieve cost efficiencies. While customisation across product categories is limited in this approach, third-party platform providers enable vertical or horizontal integration to some extent.

It is observed that the success of building a new-generation architecture at banks hinges on the integration of data and architecture than the technology itself. Enhancing enterprise data management (EDM) processes and technology is seen as critical for building a target operating model. A blend of vertical and horizontal integration would be ideal, especially for Tier I and II banks, where standardisation of as many processes of mid- and back-office operations as possible is done and where uniqueness is possible in the front end, where they hold the edge. Further, banks are mostly using Java or Python houses for technology developments to standardise some processes. Some applications are being deployed on the cloud by banks irrespective of their size.

Key takeaways

To sum up the findings of this study, migration – be it system, data or cloud – emerges as the key theme for banks in the next 1-3 years, irrespective of their size.

Industry-wide, the movement is towards a target operating model that enables the convergence of front, risk and finance models and process, leverages best-in-breed platforms, embeds sound data architecture, and embraces cloud and advanced analytics across the value chain.

Thus, banks that implement and execute the programme with right integration approach, along with building and running effective cross-border teams across system, data and cloud migration, have higher chances of building a successful next-generation trading and risk architecture.

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