

RiskTransform

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Changing the Face of Risk

# Risk Transformation in the Post Crisis World

Architecting capabilities to thrive in the New Normal

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# Risk management in banks is undergoing transformational change

- The last years have demonstrated that the management of financial and behavioural risk in banks is not sufficient.
- The existing architecture of risk is not sustainable. Risk is siloed and segregated from Finance. Underlying information is inconsistent. Risk measures, economic and regulatory capital are not always consistent. Cost of risk is high. Still, conduct risk is a persistent threat to the banking industry.
- To succeed in the new environment, banks need to undergo transformational change of their risk capabilities.
- This will also unlock new opportunities for business without compromising the independence of the second line.
- An architected approach is inevitable.

## Challenges in the financial system

- Barings
- LTCM
- The “Credit Crisis”
- Interest Rate Mis-Selling
- ...

## Regulatory Responses

- SMR
- Stress Testing
- Business Model Review
- Dodd-Frank
- EMIR
- Central Clearing
- BCBS239
- FRTB
- ...

## New Capabilities

- Structural reform agenda
- Traceability, coherent incentives and controls
- Integrated risk and business management
- Quality conscious information architecture
- Integrated information infrastructure

## Building a roadmap to success

- Planning the larger picture
- Combining consulting and architectural approach
- Anatomy of a successful incremental approach

# Lehman wasn't the first organization to fail

- The 2008 financial crisis had a high level of visibility and raised fundamental questions about the financial ecosystem
- However, the underlying challenges – failure of internal controls and liquidity issues – have happened before
- New was the scale and interconnectedness of the losses
- Regulators have taken decisive steps to increase resilience of the financial system



- Founded in 1762, family owned, 2<sup>nd</sup> oldest merchant bank
- Collapsed in 1995 after unauthorized futures trading activities of Nick Leeson out of the Singapore office
- Loss of \$1.3bn
- Unsuccessful bailout attempted by BoE
- Sold to ING for £1



- Set up in 1994 by partners including
  - John W. Meriwether, former vice-chair of Ex Solomon Brothers
  - Myron S. Scholes and Robert C. Merton
  - David W. Mullins Jr. – former vice chair of FED
- Convergence strategies on spread
- Highly leveraged – 4.7bn equity, 129bn assets, 1.25tn notional of derivatives
- Markets moved against LTCM, esp. during Russian debt crisis
- FED arranged a bail-out of \$3.625bn by its creditors, who were fully paid back



- 4<sup>th</sup> largest investment bank in the US
- Loss of \$2.8bn in 2Q2008, esp. due to massive exposure to lower rated tranches of mortgage securitisations
- Filed for Chapter 11 in Sept 2008
- Major challenge unwinding derivatives positions
- US TARP programme invested \$426bn in 2012. Equity bought back for \$442bn in 2014

Fraud, Failure of internal controls  
Market Risk

Spread Risk,  
Liquidity Risk,  
Model Risk

Predatory lending and borrowing  
Product risk, Correlation risk,  
Liquidity Risk

# Post-crisis regulation is changing the market place and requires new capabilities

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- To succeed in the new environment, banks need to undergo transformational change of their risk capabilities.
- This will unlock new opportunities without compromising the independence of the second line.

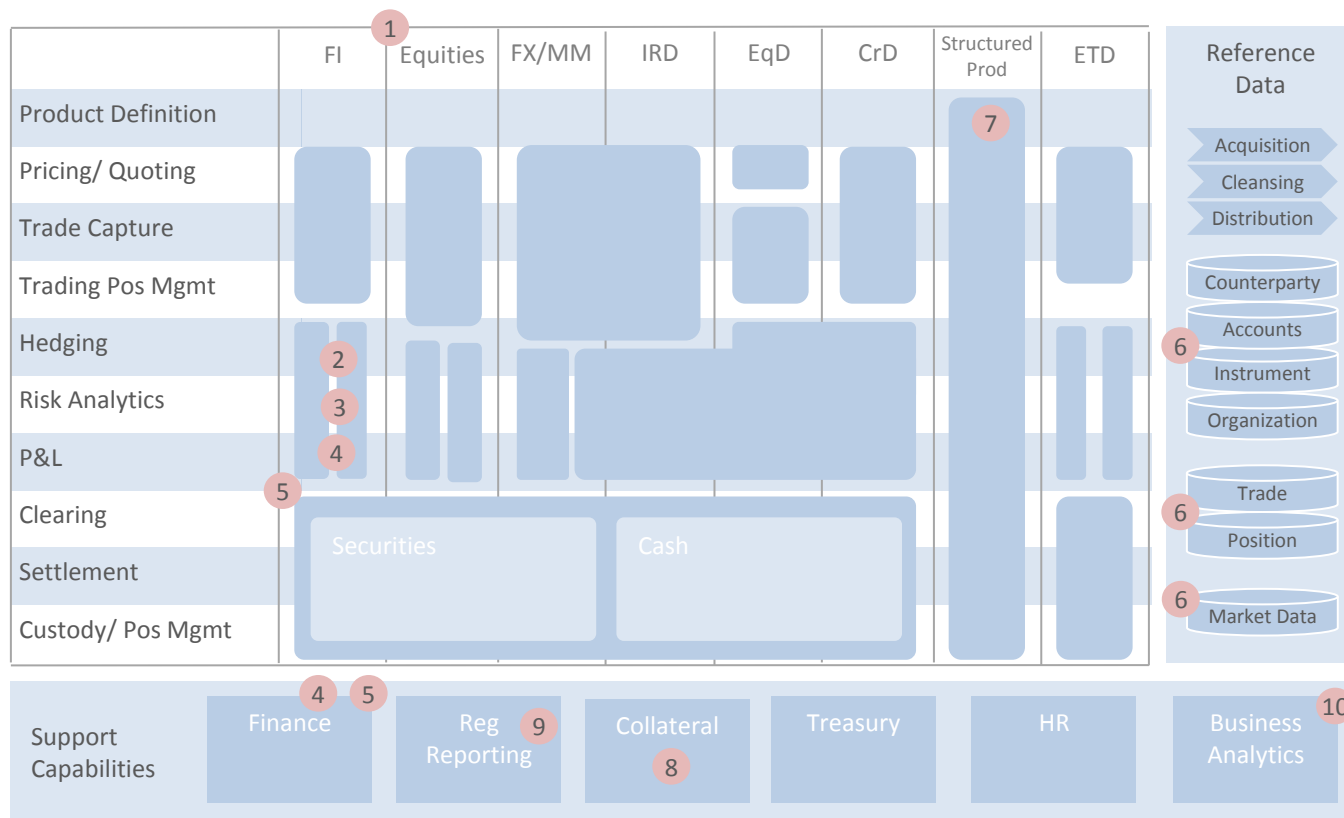


# Fragmented data architecture and siloed IT landscape make risk oversight and change difficult

- IT landscapes of many banks have grown over time. They contain functional duplication and considerable inconsistency.
- Data is aggregated bottom-up. Consistent definitions of data are missing, inconsistent reference data. Decomposition of risk measurements is difficult.
- Consolidation can enable change and reduce cost of ownership.

## Frequent challenges of IB landscapes

- Duplication of systems by LoB and geography hinder consolidated view of risk, introduce inconsistent data semantics and drive maintenance cost
- Market and Credit Risk are stovepipes hindering the establishment of a consolidated risk view
- CVA as a “bolt-on” of the landscape
- Independent P&L methodologies between Risk and Accounting, use of different cashflows and valuation methods
- Use of data from secondary sources, manual activities and batch data flows hinder timeliness of reporting and impact data quality
- Lack of central “golden source” of reference data and well-defined distribution and management hinders aggregation of risk data and impacts data quality
- Custom built end to end solutions difficult to be integrated with a centralized view of risk
- Collateral managed in multiple places result in split collateral positions, operational cost and operational risk
- Tactical integration activities make it difficult and expensive to provide the right data for changing reporting needs
- Shared services for other units hinder ring-fencing and spin-offs



# For banks, this means strengthening capabilities across the operating model

- To address these challenges, banks require change which is more disruptive than incremental.
- They need to tear down organizational, information and technical silos.
- Looking at risk measurement as a production process and leveraging experience from other industries will achieve disruptive improvement.

## Coherent Incentives and Controls

Banks will ensure that incentives are aligned with compliance. Independence and oversight across the lines of control. “Reasonable steps” to ensure compliance with regulation. Statistical oversight of behavioural dynamics to manage conduct risk and financial crime.

- Business Architecture and Operating Model definition
- Mapping of controls onto the operating model

## Integrated Risk Management

Organizations will find an integrated approach for calculating risk figures, capital measures and P&L. They will understand and bridge the differences in language and mind-set between the risk silos and between Risk, Finance and Regulatory Reporting. Business modelling must be integrated with risk modelling.

- Integrated Risk-Finance Modelling
- Cashflow Analysis

## Process Re-engineering and Risk Data Factory

Banks will address the duplication of effort between the lines of defence in measuring risk. Process standardization and optimization will increase quality and throughput. Specialization and automation will drive effectiveness.

- Business Architecture
- Process Optimization

## Information Architecture and Data Quality

Both to cope with IT complexity and regulatory pressures, banks will consolidate semantics, information flows and information sources. To achieve timeliness, data quality will be a property of information flows at the same level as data semantics. A quantitative model of data quality will support decision making.

- Information Architecture
- Quantitative Data Quality Management

## Integrated Information Infrastructure

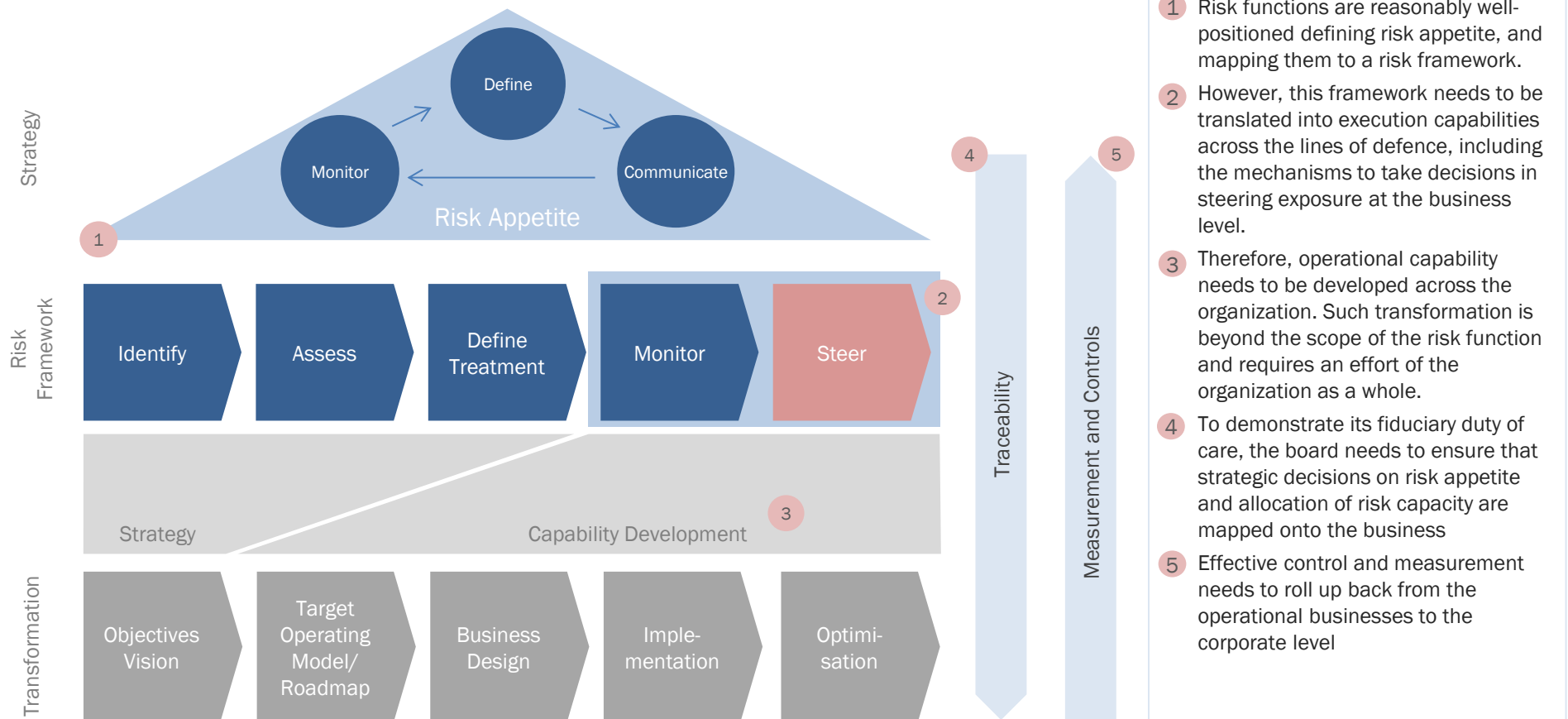
Risk and finance systems will change considerably under regulations such as FRTB (ES, liquidity horizons, desk level reporting). Firms will leverage this opportunity for consolidating the landscape and building a future proof platform. Integration of collateral management.

- Data Quality Aware Integration Architecture

- Organizations will obtain a risk measurement capability which is
  - Much more robust;
  - More flexible;
  - With stronger capability;
  - And at lower cost.

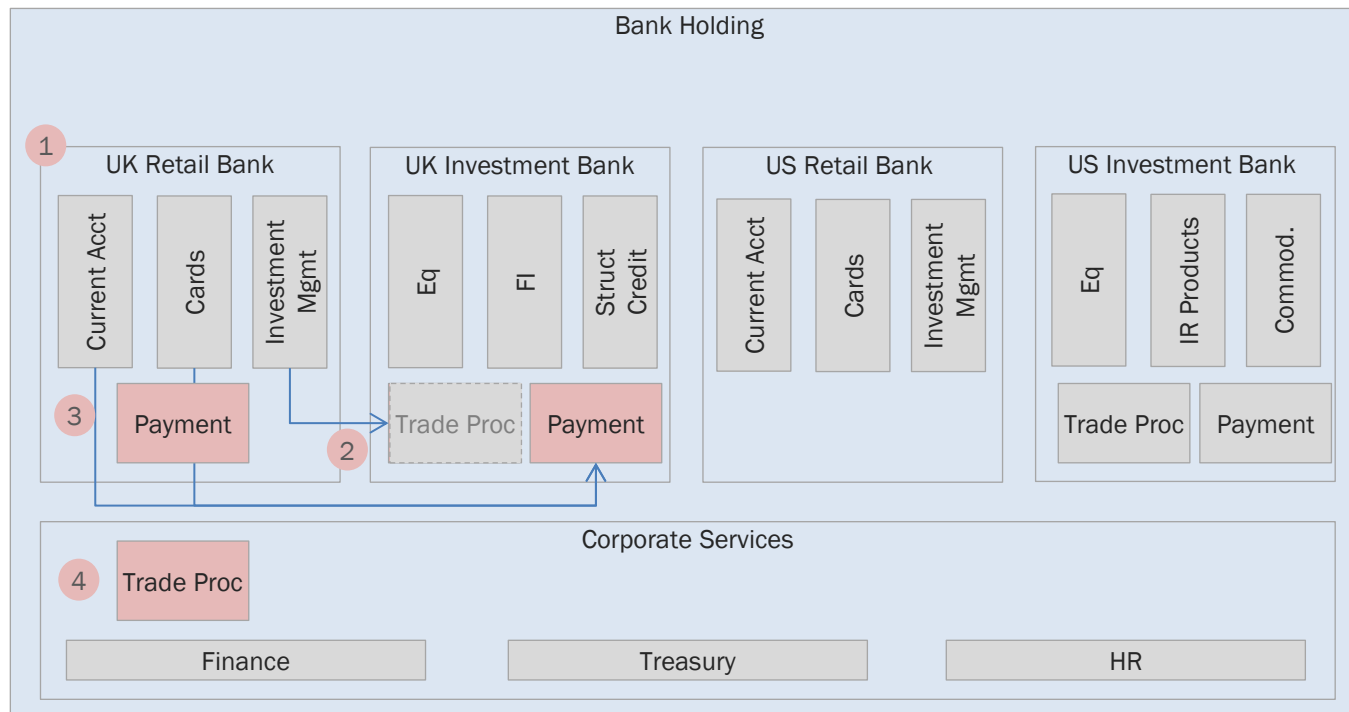
# Many organizations find it difficult aligning the execution capability with their risk governance

- Many risk functions are looking at the risk governance framework in isolation from their operating model, or map it only to the operating model of the risk function itself.
- Risk management activities are performed across the organisation. In face, there is a clear trend of shifting risk measurement to the first line.
- To govern risk effectively, risk measurements and controls need to become integrated into the overall operating model.



# Ringfencing requires a realignment of corporate capabilities

- The PRA has defined requirements for segregating “critical economic activities” of bank (e.g. current accounts, savings) from the rest of the organization to ensure continuity in case of a default in more risky business activities
- This requires ensuring continuity of critical shared services by duplication into the ringfence or by moving them into a bankruptcy remote entity
- A structured, architected approach is required to resolve the dependencies

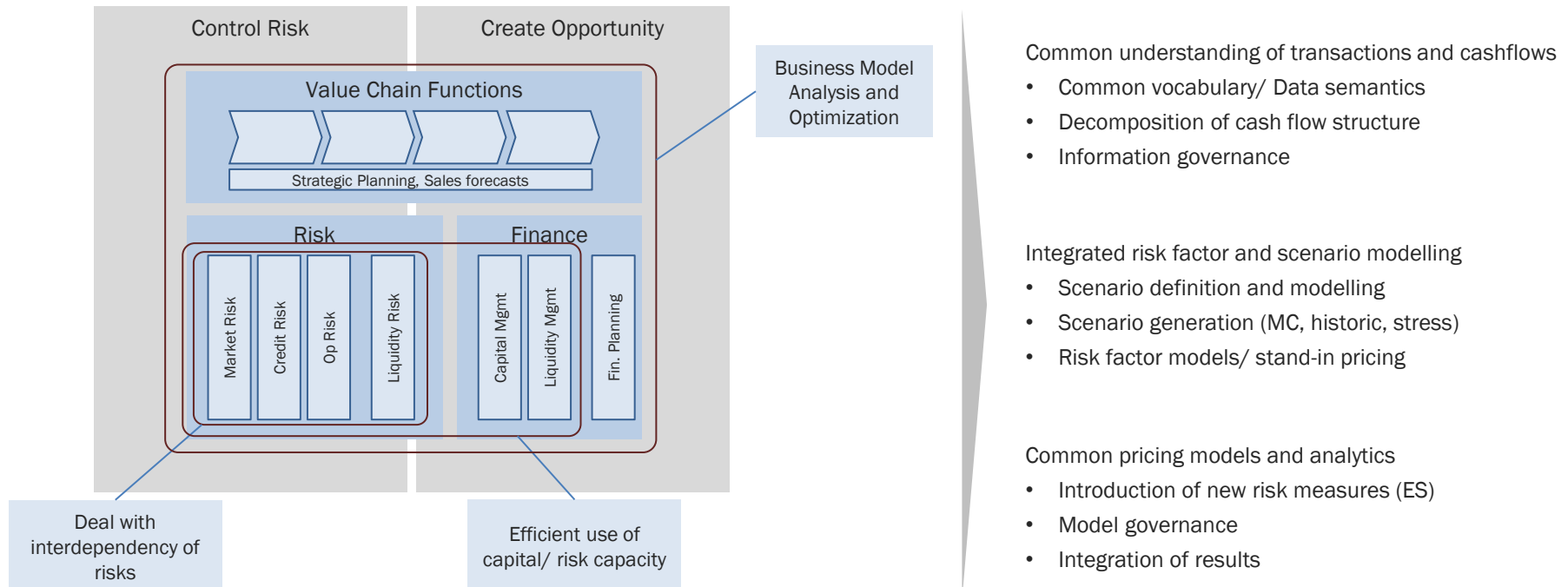


- 1 The retail banking organization has to be ringfenced to protect it in case of a default of the parent company .
- 2 Today, many shared services are provided between ringfenced and non-ringfenced areas of the bank
- 3 One option is to be moved into the ringfence (resulting in duplication)
- 4 The other option is to move them into a bankruptcy remote entity



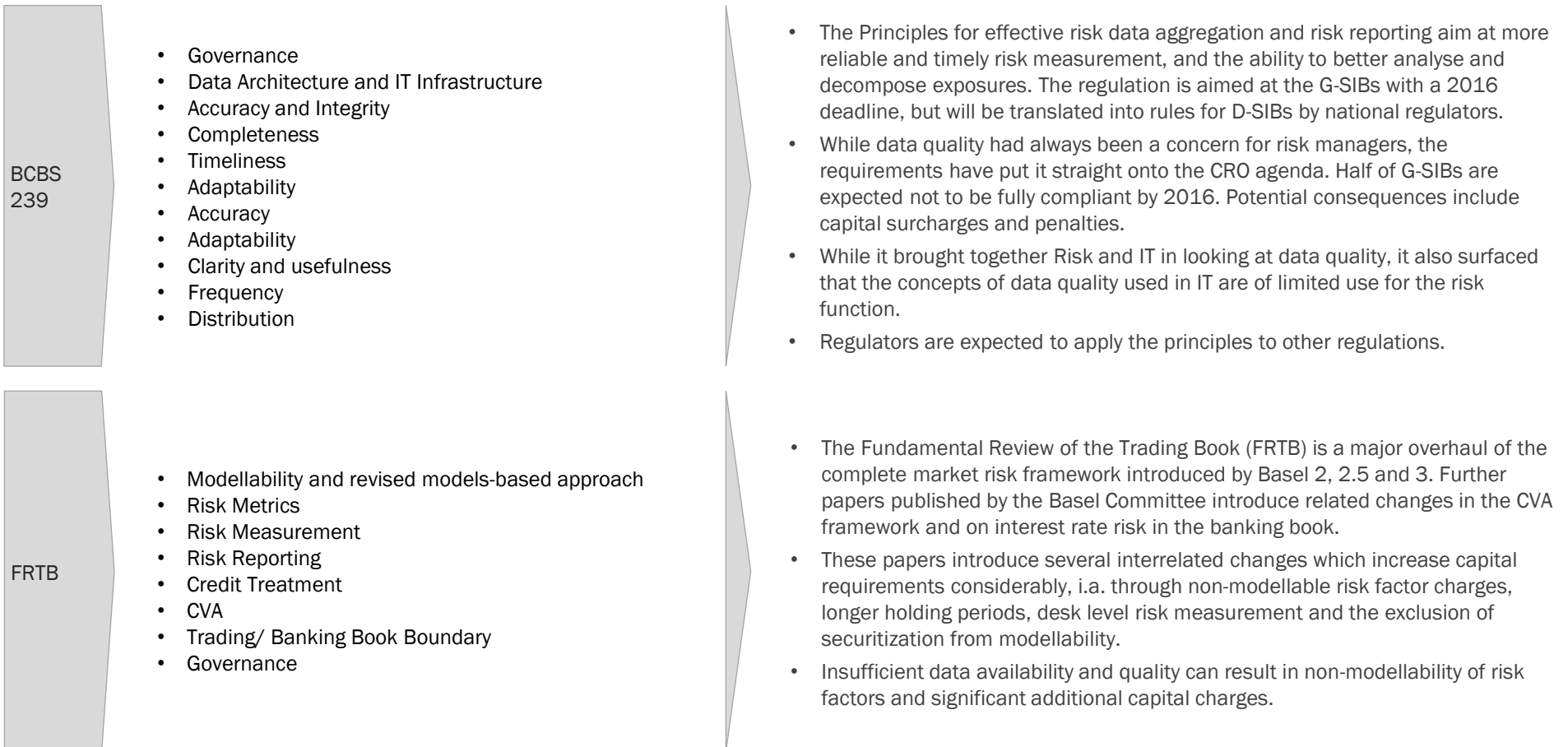
# Organisations will progress from measuring risk to optimizing business

- To address new, contingent exposures (e.g. contingent liquidity risk), organizations will integrate their risk management capability across the traditional silos of credit, market, liquidity and operational risk.
- Obtaining a robust and consistent view of capital under stress requires integration with the finance function.
- A realistic picture of business performance under stress requires integration with strategic business planning and sales forecasting. Combining this with a robust simulation capability allows to test robustly how changes in company structure and business model impact resilience to stress.
- Providing these capabilities requires not only new integrated processes and procedures but also strong governance of models and information.



# Information must be reliable, appropriate and timely

- Both financial services organizations and regulators have realized the criticality of managing risk data effectively.
- The “Principles for effective risk data aggregation and risk reporting” describe good practices for gathering and disseminating risk information
- FRTB – apart from other aspects – puts direct capital penalties against gaps in data availability and quality
- Other regulations, such as FSDF, will also be measured on the consistency and quality of data submitted.



# Providing consistent and correct information is critical to risk management

- Risk only is able to influence the organization if its information is trusted.
- On the one hand, this requires consistently high data quality. Traditional IT centric data quality measures are meaningless for the risk function – organizations need to understand the level of uncertainty in results. To improve quality of output, process quality and governance must be controlled.
- On the other hand, the meaning of data must be agreed. This requires a well-defined semantics. Reference models and standards help establish shared meaning.

## Information Quality

- Cost of information and data quality deficiencies is high
- Conservative estimates can increase RWA and liquidity buffers
- Traditional data quality metrics are IT centric and irrelevant
- Does not help to determine the uncertainty of risk numbers
- Quality of risk data is insufficient
- Correctness, timeliness and completeness of data

Data quality to be described by variance and bias of risk measures

- Quantitative methods required for data quality measurement
- Allows to assess where investment in data quality improvements is most effective

## Data Semantics and Standards

- Data is generated bottom-up without consistent meaning
- Difficult to aggregate risk data in a meaningful way
  - Difficult to analyse exposures
- Difficulty to integrate data from external sources
- Lack of standards for data semantics
  - Lack of standards for structure of data

Standardising data semantics and structure results in more meaningful risk metrics and reduced integration cost

- Industry data standards such as FIBO provide a framework for mapping data
- Integration standards like BIAN reduce integration cost

## Data Governance

- Originators of data do not take ownership
- Lack of accountability for data quality
  - Data cleansing and enrichment across the organization
  - Inconsistent versions of information

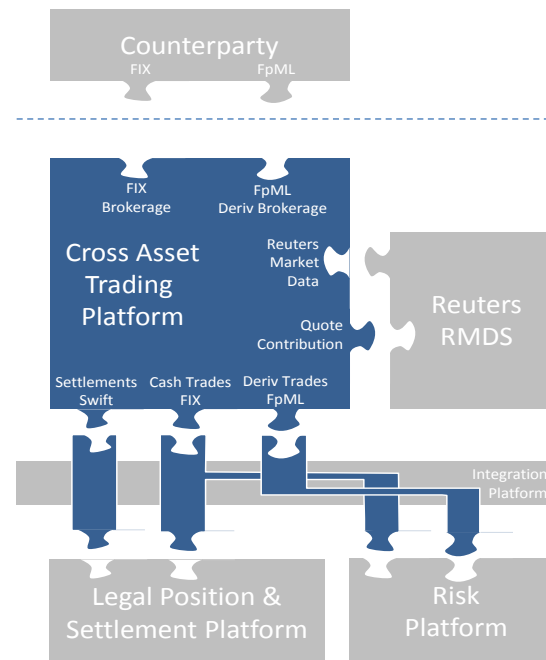
Establishing clear accountability for data across the organisation and clear processes results in sustainable improvement of quality of information.

- Clear RACI, defined roles and responsibilities
- Monitoring and measurement of data quality
- Relevance to senior management's goals

# A combination of semantic standards and packaged applications adds value way beyond reuse

- Integration Cost is a significant part of the IT budget<sup>4)</sup>. The combination of packaged applications and standards addresses this issue
  - Packaged applications carry the same standard interfaces as used externally
  - Integration Platforms provide out of the box adapters
  - The combination reduces integration effort significantly
- Financial Services have developed standards for external interaction early ( SWIFT/ ISO 20022, FIX, FpML, IFX, ...) and are beginning to adopt service and data standards internally (BIAN, FIBO).
  - A frequent challenge to integration are different requirements in terms of data quality.
  - It is critical to realize that there is a trade-off between timeliness and correctness of data. Reconciliation takes considerable time.
- Data quality is a property of information similar to its semantics. Recognizing it explicitly in an integration architecture allows standardizing data feeds without compromising availability of data.

## Standards dramatically reduce integration cost

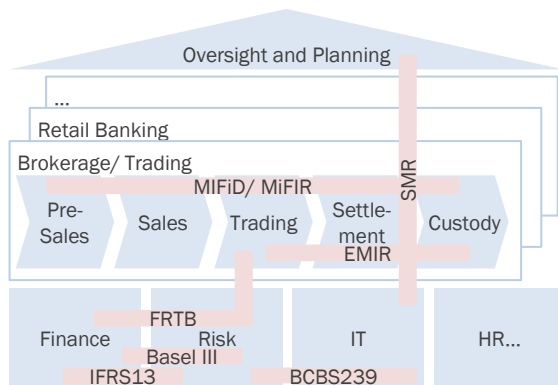


<sup>4)</sup> For example, [Schmidt/ Lyle: Lean Integration] claims that integration related cost is 50 – 70% of IT budgets

# Building a roadmap requires consideration

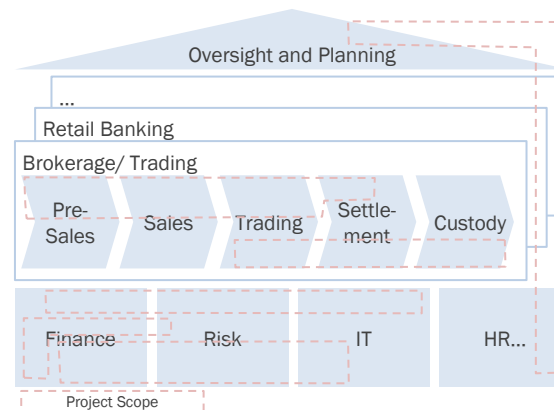
- The level of change banks have to go through requires careful planning to avoid duplication of effort.
- The change approach not only has to consider how to build the right capabilities, but also manage execution risk.
- An important consideration is how to generate frequent “good news” for a large number of stakeholders to motivate the programme.

Addressing the plethora of regulatory driven change requires planning the larger picture



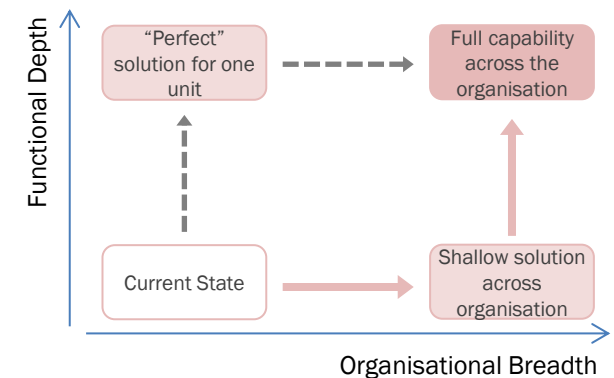
- Both the need for repositioning the business in a transformed environment and the plethora of regulatory change challenge the change capacity of organizations.
- It is critical that organizations plan the impact of this change on a coordinated level, to reduce duplication and inconsistency between initiatives, and to streamline work.
- This requires consolidated analysis of change requirements, and a different way of scoping initiatives.

A combination of consulting and an architectural approach is most effective for sustainable change



- Bottom-up consulting approaches all too often result in friction integrating the solutions
- Traditional “big bang” approaches are discredited for their massive execution risk
- An iterative approach requires a clear architectural vision to integrate multiple change initiatives into a coherent whole.
- Combining an issue driven consulting approach with architecture centric consolidation focusses work on the “big issues” and provides consistency.
- This allows reduction of overlap between initiatives

It is easier to sustain a project delivering small benefits more frequently across the organization



- When deciding on an iteration approach, organisations can choose
  - “Depth first” – implement “complete” functionality for a small part of the organisation
  - “Breadth first” – implement a relatively “shallow” functionality first, roll it out across the organization and add functionality then.
- In most cases, “breadth first” allows to keep more stakeholders engaged and hence increase likelihood of success.

# Questions?

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# About RiskTransform

- Most banks structure the risk function into silos of credit, market, operational and liquidity risk. Finding a common language and consistent reporting between them, but also with Finance is a challenge. Understanding the joint impact of market stress on asset positions and the overall business model is next to impossible. Senior management, regulators and the public are pushing for improvement.
- RiskTransform Ltd is a niche consultancy specialized in business architecture and operating model change for the Risk function. We are using a combination of consulting driven and architectural techniques to drive predictable transformation. Our sweet spot is the integration of risk, operating model and IT change.
- Risk change requires an integrated approach which combines solid change management and architectural capabilities with an understanding of the intricacies and interdependencies of risk. We have experience, processes and reference models bringing together these dimensions, based on industry standards and best practices.
- Founder and a director of RiskTransform is Thomas Obitz, an experienced consultant with Big 4 background and 20 years in the Financial Services industry. He has driven change of operating models in banks and has led large-scale architecture transformation initiatives. With a deep knowledge of Risk (certified Financial Risk Manager/ GARP FRM) and of operating model/ architecture change (TOGAF 9 certified enterprise architect), he is able to combine the functional and the change management needs of the industry.
- RiskTransform is a private limited company incorporated in England and Wales headquartered in London.

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