

Deriving an upper edge through risk and finance alignment



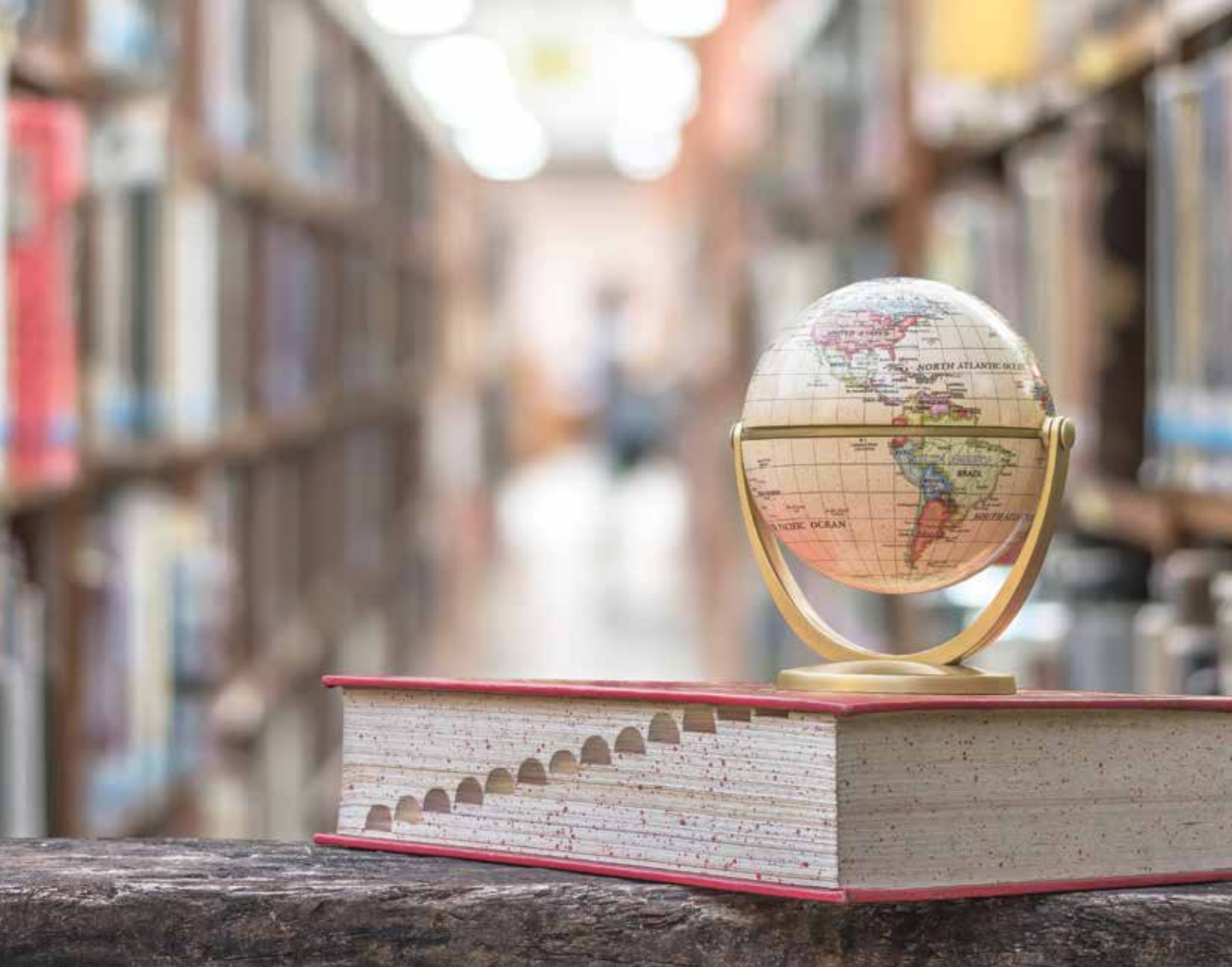


Table of contents

Section 1:	Setting the context	03
Section 2:	The heart of the matter	05
Section 3:	What does the industry have to say?	08
Section 4:	Our recommendations	11
Section 5:	What should firms do next?	15

Setting the context

Financial institutions¹ in India, like their global counterparts, are under pressure from business unit leaders, investors and boards of directors, and their regulators to deliver improved and more transparent performance management data in cost-effective ways. Many of these pressures are driven by regulatory changes that emerged in the post crisis era.

Financial institutions were accustomed to managing their businesses with summarised financial information, based largely upon generally accepted accounting principles.

Now, they are required to include a wider range of information at a more granular level, with both accounting and risk-based views. This requirement has been magnified by the following drivers:

- Regulations encompassing risk and finance functions such as BCBS 239² and FRTB³ Regulations
- Greater use of forward-looking measures for financial statements such as IFRS 09/Ind AS 109 and IFRS 17/Ind AS 117
- Information required for strategic business decision making (such as capital management, risk-based finance decisioning, liquidity management)
- Higher costs associated with duplicative infrastructure for risk and finance functions and increased latency in reporting

The reporting requirements in India are magnified by the existence of multiple regulators such as the Reserve Bank of India, Securities Exchange Board of India, Ministry of Finance and Insurance Regulatory and Development Authority of India. This has disparate impacts on financial markets, products and functions. Further, the rising fraud menace in the Indian banking sector is expected to lead to enhanced stringent regulatory measures and reporting requirements.

At the end of the day, financial institutions need quick access to accurate and actionable information to support reporting to regulators and business decisions. It is our view that executives should undertake a formal assessment of how risk and finance should operate in their organisations in the future. There are several ways for the chief risk officer (CRO) and chief financial officer (CFO) to coordinate efforts in order to reduce or eliminate redundancy across their two functions while improving quality. We call this risk and finance alignment.

In this paper, we outline our observations of the industry, present our views on the four dimensions of risk and finance alignment, and provide our recommendations on the way forward.



¹ In this paper, we use the term 'financial institutions' to refer to banking institutions, asset management companies, insurance companies and non-banking financial companies.

² BCBS 239 is a publication issued by the Basel Committee on Banking Supervision on 'Principles for effective risk data aggregation and reporting'.

³ FRTB is a publication issued by the Basel Committee on Banking Supervision on 'Fundamental Review of Trading Book'.



The heart of the matter

What is risk and finance alignment?

Risk and finance alignment is a conscious, organised way of more closely linking some, but not all, elements of both the risk and finance functions. It requires a comprehensive and pragmatic view of the risk and finance functions, especially from the point of view of data management, organisation and governance, process management, technology, and standards and definition.

More importantly, this is what risk and finance alignment does not mean:

- A single aligned function: We propose that financial institutions only combine those activities that it makes sense to combine, based on agreed-upon criteria.
- A wholesale redesign of the risk and finance operating models and architecture: Most organisations do not have this option, as unwinding existing risk and finance structures is both expensive and impractical.

It is our view that delivering on this effort will require new ways of thinking about risk and finance, the processes that are executed, the controls in place, as well as the systems that store data. It will also require resolving the differences

between two functions that have fundamentally different cultures.

The mission of finance is to find ways to improve business performance while conforming to largely predefined accounting and regulatory mandates. In the past, most of the accounting standards were backward looking for cost and reserves. However, with some of the newer accounting standards, they now require forward-looking information—a domain which was largely in the wheelhouse of risk.

The risk function uses much of the same data as finance, but it uses it differently. Specifically, risk inputs data into models to predict future outcomes based upon correlations, analytics and assumptions with a higher reporting frequency and velocity. With relatively few industry standards for risk management, each financial institution has tended to focus on different measures and methods. As a result of its mandate, risk has largely preferred to have imperfect information faster, whereas finance required additional quality and controls.

The numerous benefits derived out of risk finance alignment include greater cost savings, improved controls, greater transparency, the ability to make better business decisions and improved compliance with regulatory mandates.





Drivers of risk and finance alignment

The shift towards risk and finance alignment is being driven by both the way financial institutions are doing business and by the evolving regulatory environment.

Internal drivers

The closer alignment of risk and finance within financial institutions is largely motivated by internal changes to business models. Specifically, we have observed the industry under pressure to do the following:

- **Reduce costs**

Reducing costs requires the elimination of duplicative or inefficient tasks currently conducted by both risk and finance. However, changes should focus on streamlining processes and promoting aligned reporting while improving quality.

- **Drive profitability**

Financial institutions are under pressure to increase

returns on each transaction. Improvements in both forward-looking analytics and capital information enable organisations to better price for risk and risk-taking in the business. These improvements can help drive profitability in an environment where their business models and market opportunities are constrained.

- **Strengthen controls**

The business can better focus on effective and efficient controls when it no longer needs to spend time doing manual workarounds and reconciliations.

- **Attract and retain talent**

Financial institutions want to provide employees with challenging career paths that may span both the risk and finance functions. Providing these opportunities will help better prepare future leaders and provide incentives for the most talented individuals to stay within the organisation.

External drivers

New regulations have increased the compliance cost of financial institutions in a significant way. Due to the urgency of regulatory deadlines, financial institutions generally implemented one-off highly manual solutions. And while these regulations worked in the past, heightened regulatory standards that focus on governance, tone at the top and continuous improvement are now forcing these institutions to adopt a holistic view of the regulatory changes and the associated impacts.

Figure 1: Dominant drivers in industry



A global survey conducted by PwC on risk and finance alignment revealed a significant industry shift towards greater alignment between the risk and finance functions. However, this shift is still in its early stages with much to be accomplished in the coming years as institutions move towards a growth agenda.

In the survey, about 30% of the respondents identified regulatory demands as the dominant catalyst for increased alignment between risk and finance, with a few laying emphasis on enhanced business decision making and internal reporting.

We think such emphasis on external regulatory demands is misplaced and that the real value of increased risk and finance alignment comes from the improvement of business decision-making capabilities. However, we do acknowledge that some managers may say that regulatory demands are key drivers in order to secure budgets without having to deliver on/or prove performance enhancement business cases.

⁴ The global survey comprised 85 interviews or questionnaires spanning 30 institutions globally. The survey respondents were from risk, finance and operations. Some respondents may not have answered every question.



The four dimensions of risk and finance alignment

The concept of risk and finance alignment is still at a very nascent stage and requires detailed discussion. Management has multiple views on the scope and granularity of risk and finance alignment.

To illustrate, there are divergent views on:

- Whether the concept should be broadened to include alignment of the entire finance and risk functions or whether it should apply to only specific areas within these functions;

The four dimensions of risk and finance are discussed below:

Data management



It comprises all the disciplines related to managing data as a strategic asset. The dimension defines and resolves data sourcing and quality management to make the

environment fit for use. It requires a common, agreed-upon set of standards and definitions for use when functions interact and communicate with each other.

Process management



It refers to the agreement of business process flows between people, agreement on how people use systems, and agreement on how people do reporting and analysis. Process

management should be defined for both expected results and any processing exceptions.

It is important to realise that in any organisation, the risk and finance functions do not operate in silos. They interact with each other as well as other business functions—importantly, IT and operations. Alignment of the two functions will have

- Whether the alignment should apply to data alone or also to the systems that produce the data.

In order to clarify the issue and better frame the areas on which the CRO and CFO should focus their energy, we define the following four dimensions of risk and finance alignment: Data management, organisation and governance, process management, and technology. In our view, the reason this issue is so complicated is that it is multidimensional, cutting across multiple functions (some expanding beyond risk and finance) and numerous activities.

Organisation and governance



This dimension defines the roles and responsibilities within and across the risk and finance groups, and any associated committees. It provides the organisational structure and

establishes the operating standards that span the two functions.

Technology



Traditionally, technology is the collection of computer hardware, software and other tools needed to run the business. However, recent disruptive technologies such as artificial

intelligence, machine learning and blockchain require organisations to relook at the way they conduct business.

an impact on the operating models of business. It is therefore pertinent that organisations develop a target operating model covering governance, organisational design, and process management.

What does the industry have to say?

PwC conducted a global survey to understand the prevalent industry practices and plans for risk and finance alignment. The findings of the survey have been summarised below.

Data management

Figure 2 shows the respondents' rating of the maturity level of the various aspects of their data management alignment between the two functions. While the industry ranks high on some parameters such as data security, data controls and

data reconciliation, it lags behind considerably on others—for instance, data remediation, data lineage and metadata management.

Also, while most financial institutions have instituted data quality and control standards, only some have developed real-time metrics and tracking processes and are tying data quality issues to incentives and penalties for the originators of information.

Figure 2: Relative maturity level of each aspect of data management today in terms of consistency and effectiveness for cross-functional risk and finance purposes

	None	Low	Medium	High
Data quality	0%	46%	50%	4%
Data ownership	7%	50%	39%	4%
Data standards	2%	42%	49%	7%
Data architecture	5%	38%	49%	7%
Data requirements	2%	42%	46%	10%
Data controls	2%	30%	61%	7%
Data stewardship	9%	56%	30%	6%
Data lineage	8%	57%	28%	8%
Data remediation	4%	50%	37%	9%
Data reconciliations	4%	29%	61%	7%
Data policies	4%	35%	50%	11%
Metadata management	10%	50%	33%	8%
Data adjustments	9%	38%	49%	4%
Data security	2%	22%	48%	28%

Source: PwC's global survey

Pursuant to BCBS 233 (issued in October 2012), which lays down 'a framework for dealing with domestic systemically important banks', the RBI releases a list of Domestic – Systemically Important Banks (D-SIBs). Currently, vide Circular dated 4 September, 2017, SBI, ICICI Bank and HDFC Bank are identified as D-SIBs.

It can be expected that the RBI will require these D-SIBs to comply with BCBS 239 which lays down principles for effective data aggregation and reporting. This will necessitate a 'unique integrated repository' for risk and finance data and regulatory reporting.

Most financial institutions have focused on developing a common data dictionary for use in both the risk and finance functions. However, the adoption of a common taxonomy is hampered by underlying systems and data sources that still contain legacy terminology which differs for each function. As a result, users are generally unwilling or unable to adopt the agreed-upon terminology in their everyday work.

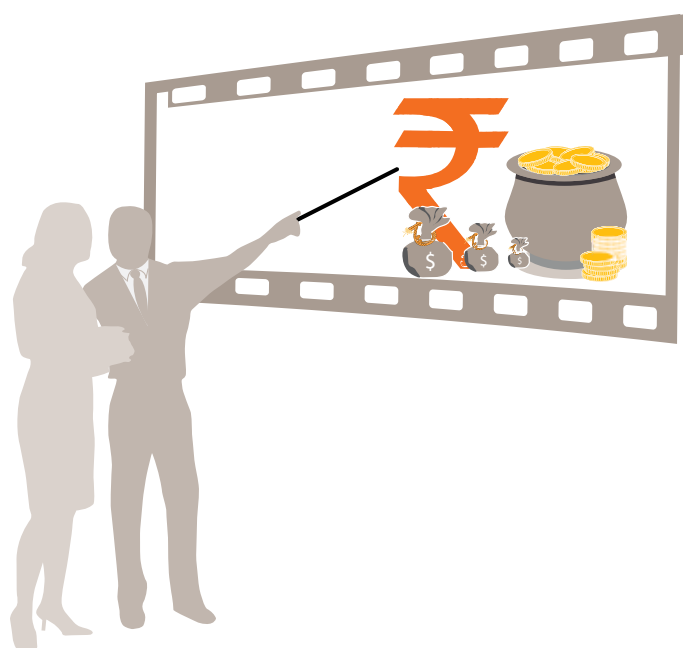
To improve operational effectiveness, some organisations have streamlined data sourcing to simplify the labyrinth of interfaces,

Organisation and governance

Most financial institutions are formalising roles and responsibilities to help ensure that the appropriate leaders receive the right information. For example, to better govern capital management activities, some financial institutions are either creating a capital management unit or are coordinating the activities of the risk/capital demand committee and the finance/capital supply committee.

Risk management reporting and analytics have recently gained nearly the same level of prominence as finance and accounting. In practice, however, the operational efficiency of risk management reporting and analytics is not par with finance and accounting because of an underinvestment in both controls and enabling technologies.

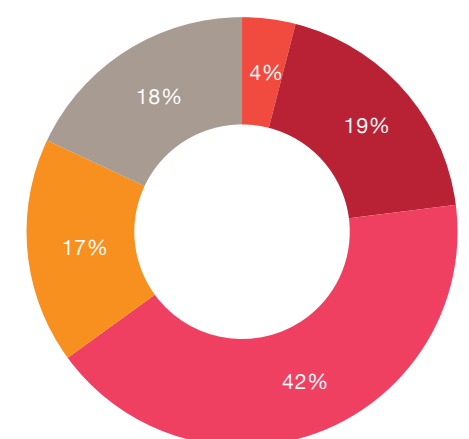
Organisations have been creating new roles and functions to address business needs. For example, the role of the chief data officer (CDO) has become more common in recent years. Based on the global survey, we have summarised the maturity around organisation and governance of the risk and finance functions.



definitions and content. This has required changes to both sourcing and storage while the business continued to operate.

As financial institutions collect more transaction and balance information, they are looking at how they can leverage this information to improve business insights. For example, organisations are leveraging global and regional portfolio data to determine opportunities to better service their clients, or focusing on concentrations in portfolio, which may help them identify risks in the business.

Figure 3: Maturity around organisation and governance of the risk and finance functions



- CRO and CFO seen as guiding forces with integrated support teams
- Risk and finance operate in individual silos: only interact where required
- Informal network of managers coordinating with agreed-upon business boundaries
- Role definitions are formally defined and published
- Clear definition of vision, only partially implemented: efficient hand-offs between risk and finance

Source: PwC's global survey



Process management

Many financial institutions have begun to place greater emphasis on data acquisition and exception management processes to ensure that risk and finance are using the same underlying datasets.

The market environment is forcing organisations to rethink their decision-making processes regarding agendas, technology investments and resourcing. We have seen more collaborative decision-making among operations, risk, finance and technology, as well as the functions that support them.

Process-driven change is limited by an organisation's capability to think and deliver beyond immediate business or regulatory compliance needs.

In most cases, executives have included representatives from both risk and finance in the approval processes for new products, operational process change efforts and reference data change management.

Technology

Technology investments have been ongoing for a number of years. However, most financial institutions have invested in silo solutions to address specific issues and many changes have been customised for localised data standards. The resulting labyrinth of interfaces is becoming unsustainable for many.

In areas where alignment of risk and finance is progressing through the deployment of joint technology and data stores, it is typically change controls and/or data management processes that are calibrated.

Numerous financial institutions are considering using cloud computing solutions to deliver on-demand capacity and capabilities for some risk and finance activities.

Many organisations, especially those with global footprints, have begun to streamline the number of front-office, finance and risk systems and applications to drive consistency across the organisation. This enables them to simplify data management, computation and reporting delivery toolsets and capabilities.

Recent/upcoming regulations spurring alignment of processes and technology for the risk and finance functions:

IFRS 9/Ind AS 109

The accounting standard materially influences financial statements by delving into the effects on future impairment calculations and providing recommendations on the implementation of forward-looking credit loss models.

BASEL – Pillar II

The Internal Capital Adequacy Assessment Process prescribes risk-sensitive calculation of capital requirements based on capital planning and projections of financial statements.

IFRS 17/Ind AS 117

The accounting standard's emphasis on a more transparent and reconfigured income statement adds more strategic risk to traditional insurance business models.

Counterparty credit risk (CCR)

Standardised approach – CCR, the new way to calculate the CCR exposures associated with over-the-counter (OTC) derivatives, exchange-traded derivatives and long settlement transactions, offers potential capital benefits, but significantly increases data requirements and implementation costs.

Stress testing and scenario analysis

Various regulations require financial institutions to conduct stress testing and scenario analysis which require inputs from both the risk and finance functions.

Our recommendations

This section provides our recommendations on how the CRO and CFO should approach the alignment between risk and finance for each of the four dimensions discussed above.

In our view, the first two dimensions (data management, organisation and governance) should be approached centrally. We do not advocate ignoring individual activities; it is simply our view that these two dimensions be designed and implemented across the organisation.

Data management

Data management comprises all the disciplines related to managing data as a strategic asset. It defines and resolves data sourcing and quality management to make the environment fit for use. This requires a consensus among the CRO, CFO and CDO.

Financial institutions should focus on the following:

- **Data architecture** so that data can be managed across legacy and strategic systems with minimal disruption and loss of integrity.
- **Metadata management** practices so that they can better manage how data is sourced, collected and stored.
- **Data ownership and stewardship** to improve data integrity with the ability to tie data quality issues to incentives and penalties for the originators of information.
- **Consolidate and standardise** to a 'single point of truth' across the risk and finance functions to drive consistent analysis and reporting.
- **Document and manage** data lineage through sourcing, transformations and reporting.
- **Reduce** data replication into downstream data stores.
- **Control** all datasets and versions in an aligned control framework.
- **Standards and definitions** encompassing an agreed-upon set of terminology and language for use for specific risks and finance activities when functions interact with each other.



Organisation and governance

Organisation and governance defines roles and responsibilities within and across the risk and finance groups and any associated committees. It provides the organisational structure that spans the two functions. This requires agreement between the CRO and the CFO.

Achieving efficiency will require new ways of thinking about how a financial institution governs and organises the risk and finance functions.

We recommend the following three-step process:

- **Step 1:** Engage key leaders when designing the alignment of risk and finance. Identify and engage a few credible leaders from each function who are knowledgeable about operations to help develop the organisation and governance model. Establish a working group to guide the effort as it proceeds.
- **Step 2:** Once a working group is established, we propose that the financial institution study organisational options to determine the appropriate organisation and governance model. We propose one of the following two ways: Shared services or rationalised operations; each approach has its own advantages and disadvantages. The working group will need to weigh these before determining which approach is appropriate for the organisation.
- **Step 3:** Regardless of which organisational approach is chosen, we recommend that the CRO and the CFO do the following:
 - Set the tone at the top.
 - Design for efficiency.
 - Design for appropriate independence.
 - Clearly define rights and accountabilities for employees of the risk and finance functions.
 - Clearly define roles, accountabilities, metrics and performance management processes for employees of the shared services group.

Process management

Process management is agreement on business process flows between people, agreement on how people use systems, and agreement on how people do reporting and analysis. Process management should be defined for both expected processes and any processing exceptions. This requires agreement between the CRO, the CFO and operations.

For this dimension, we provide two case studies which highlight the benefits of aligning the risk and finance processes.

Case study 1: Funds transfer pricing and liquidity transfer pricing

Funds transfer pricing (FTP) has been a mature process in most financial institutions and is driven mostly by the finance function. With liquidity and liquidity risk now a primary focus of the business and regulators, it has become increasingly important for banks to manage the balance sheet with greater emphasis on ensuring sufficient liquidity. Alignment of risk and finance enables liquidity transfer pricing, i.e. pricing of liquidity within the FTP framework and producing the subsequent charges and credits for liquidity.

Case study 2: P&L explain and VaR backtesting

P&L explain is a type of report commonly used by traders that attributes or explains the daily fluctuation in the value of a portfolio of trades to the root causes of the changes. Firms that use value at risk (VaR) as a risk management measure are facing growing pressure from internal and external stakeholders to provide estimates of the accuracy of their risk models. Risk finance alignment enables organisations to ensure the accuracy of the risk outputs by backtesting risk models and comparing the daily calculated VaR with financial books and records and the P&L explain process.



Technology

Technology is the collection of computer hardware, software and other tools needed to run the business. It includes technology and data architecture. This requires agreement with the CRO, the CFO and the chief information officer (CIO).

Technology solutions should be agreed upon for the various activities. And while we do not recommend that financial institutions continue to invest in siloed solutions to address specific issues, we do recommend tackling this dimension individually for each activity. We suggest the following steps:

- **Organise risk/finance infrastructure** to align to

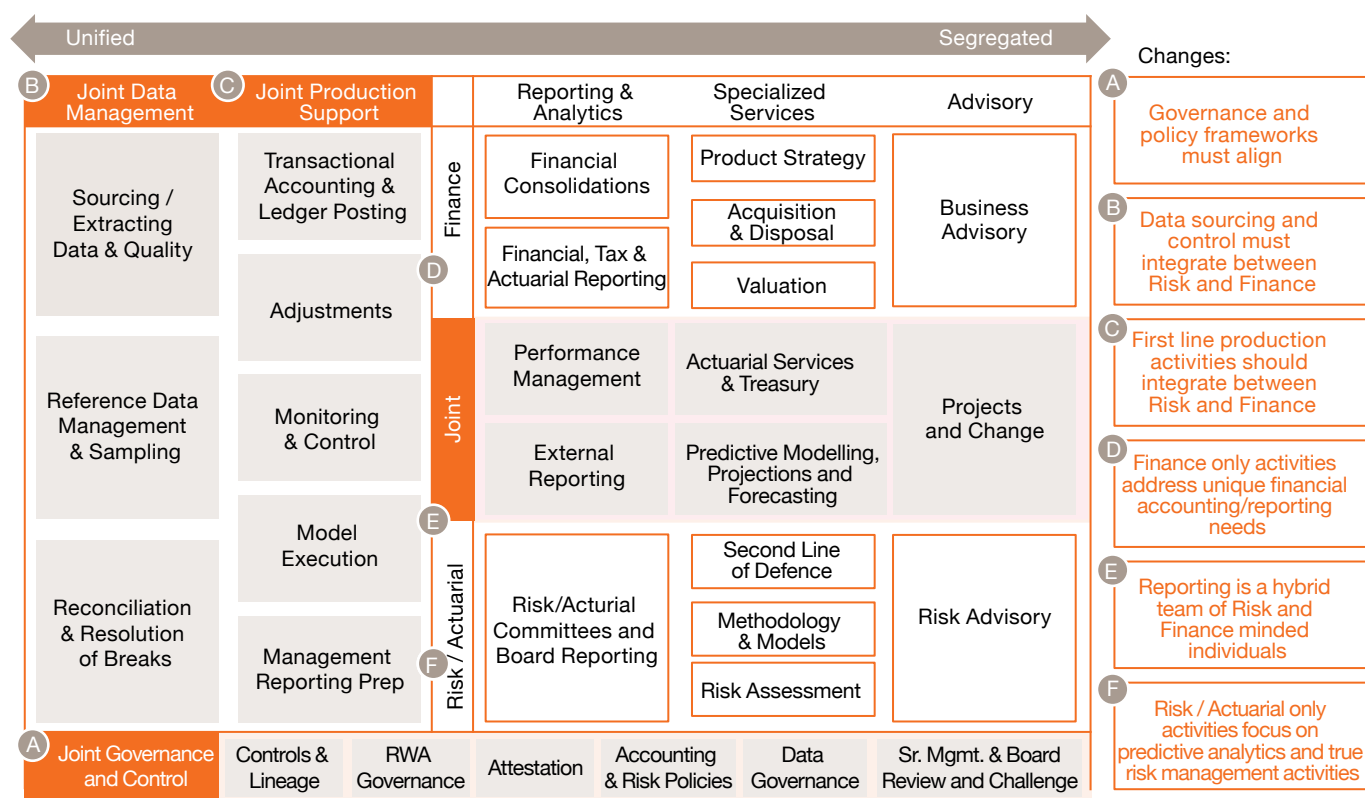
products and instruments rather than businesses or geographies. This will enable more flexible business or entity views of portfolios, not just segments.

- **Reduce the number of systems used** in both risk and finance to eliminate redundancy and drive cost savings.
- **Integrate platforms** to reduce manual reconciliation between systems, increase automation, speed up analysis and drive cost savings.
- **Take advantage of big data solutions** to optimise the large amount of information available for analysis.

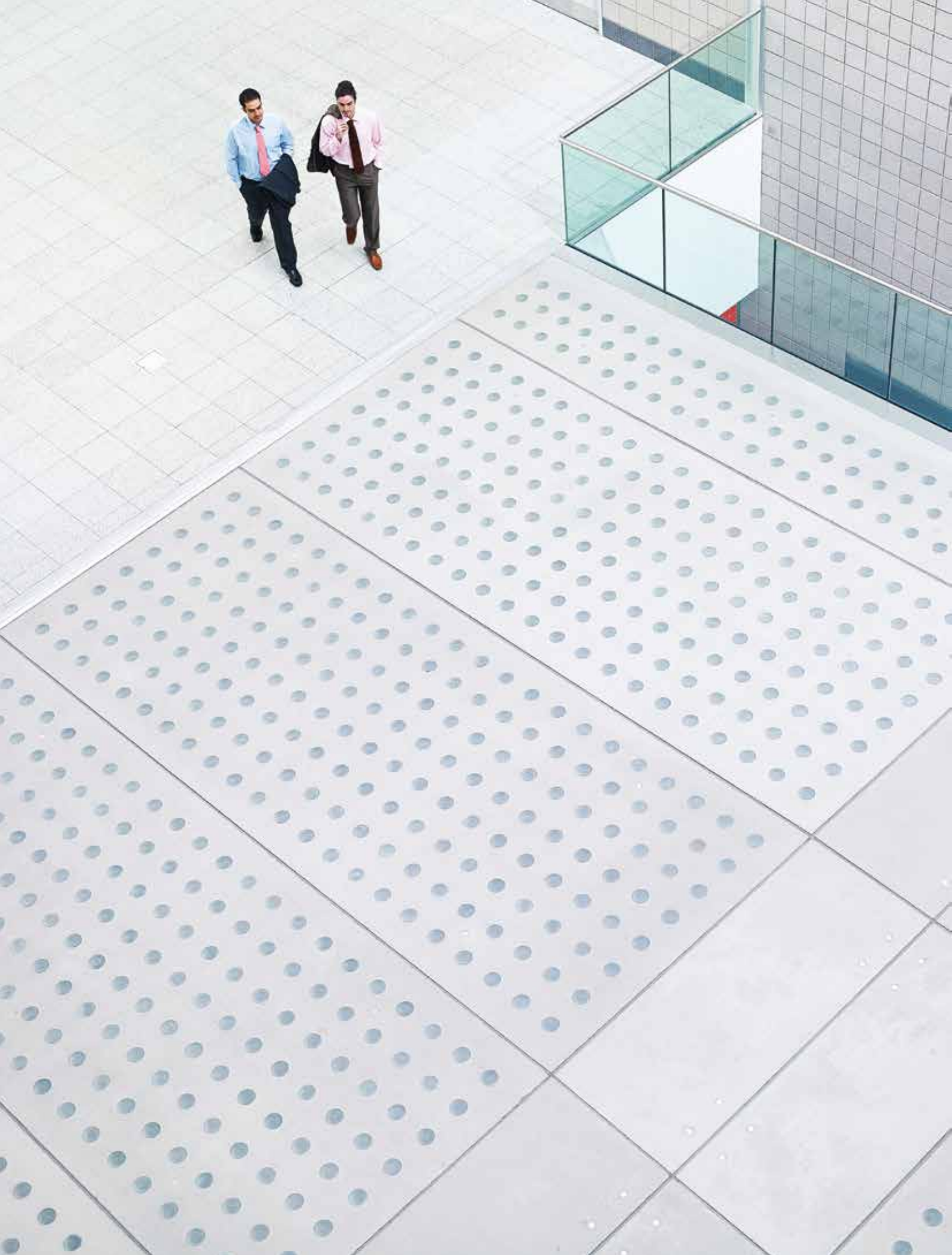
Illustrative alignment of risk and finance functions

Figure 4 shows our aligned recommended risk and finance model. The boxes shaded in grey indicate the areas that are more conducive for standardisation across functions. In many cases, these also warrant significant organisational changes such as dual operating lines into both risk and finance, or centralisation of a shared services facility.

Figure 4: An improved Risk / Finance operating model aligns much of the basic data assembly and report production activities



Key: Areas more conducive for major standardisation across the two functions



What should firms do next?

There are varying degrees of maturity when it comes to the alignment of risk and finance across the four dimensions. CROs and CFOs can get started by doing a preliminary assessment to understand the current situation in their

organisations. The table presents a matrix for understanding the current degree of alignment between the risk and finance functions.

Evaluation of the current degree of alignment between the risk and finance functions

	Ad hoc	Tactical	Evolving	Partially aligned	Fully aligned
Data management	<ul style="list-style-type: none"> • Duplicate application-specific data • Data is largely managed at the source systems, if at all • Data quality standards and definitions are not agreed upon across risk and finance 	<ul style="list-style-type: none"> • Significant data manipulation and duplication • Standards and definitions are managed in silos throughout functional areas 	<ul style="list-style-type: none"> • A common data structure exists • 'Golden sources' aligned with data management activities • A standards board is established to begin defining risk-/finance-wide standards • Standards for key architecture domains are emerging • Standards are published and used 	<ul style="list-style-type: none"> • 'Single version of truth' • Improved insights and decision-making in silos across the company • The standards board creates and refines standards • Exceptions and deferrals are granted when necessary • Standards are measured and reported for quality conformance and adoption 	<ul style="list-style-type: none"> • Ease in analysing data • Data maintained in consistent structure and language • Adherence to standards and definitions is enforced • Exceptions and deferrals are actively managed • Continuous improvement efforts are in place
Organisation and governance	<ul style="list-style-type: none"> • Risk and finance operate in individual silos; only perform required combined activities 	<ul style="list-style-type: none"> • Informal network of managers with agreed-upon boundaries 	<ul style="list-style-type: none"> • Role definitions are formally defined and published 	<ul style="list-style-type: none"> • Clear definition of vision only partially implemented • Efficient hand-offs between risk and finance 	<ul style="list-style-type: none"> • CRO and CFO seen as guiding forces with aligned support teams • Continuous updating of RACIs⁵ as the organisation and business evolves
Process management	<ul style="list-style-type: none"> • Stand-alone activities with no business alignment 	<ul style="list-style-type: none"> • Some discipline around a sub-set of activities 	<ul style="list-style-type: none"> • Discipline aligned into a small sub-set of activities • Value and benefits of process alignment understood and supported 	<ul style="list-style-type: none"> • Discipline partially aligned in key business activities • Structured process exists for timely remediation of errors and defects 	<ul style="list-style-type: none"> • Discipline is aligned into all key business activities • Business processes have been re-engineered to reduce waste
Technology	<ul style="list-style-type: none"> • No aligned architecture vision or roadmap documentation exists 	<ul style="list-style-type: none"> • Ad hoc reference architecture is created for some specific areas • No standardisation exists for reference architecture across functions 	<ul style="list-style-type: none"> • Reference architecture is drafted to promote standardisation across functions • Compliance with architecture vision is ad hoc 	<ul style="list-style-type: none"> • Both business and technical architecture is regularly reviewed for potential improvements • Adoption of reference architecture components 	<ul style="list-style-type: none"> • All projects attempt to use or refine existing businesses and technical architecture • A centralised, searchable repository exists • Continuous improvement efforts are in place

The second step should be to focus on the array of activities across the risk and finance functions that have potential for alignment and can offer benefits. The third step is to determine the 'target operating model' indicating what the alignment of risk and finance should look like for their organisation. The target operating model should also address the coordination necessary with other functions, such as

IT and operations. This will help implement alignment in a way that advances long-term strategic business goals and promotes compliance with mandated near-term regulatory initiatives.

These steps will provide a strategic advantage to institutions and may help them acquire an upper edge over competitors.

⁵ Responsible, Accountable, Consulted and Informed Chart

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Contacts

Sreedhar Vegesna

Partner and Financial Services Advisory Leader
Email: sreedhar.vegesna@pwc.com

Kuntal Sur

Partner and Financial Risk and Regulation Leader
Email: kuntal.sur@pwc.com

Acknowledgements

Alok Ajmera

Managing Director – US Advisory
Email: alok.ajmera@pwc.com

Kapil H Todi

Associate Director, Financial Risk and Regulation
Email: kapil.todi@pwc.com

Rachana Gathani

Senior Consultant, Financial Risk and Regulation
Email: rachana.gathani@pwc.com

pwc.in

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