

REPORTINC

#### Aggregation

- Automate & optimize data extraction
- Integrate reporting data front-to-back
- Define & develop data layers
- Manage & control data breaks in risk data
- Enhance data through data lineage
- Create master data, define workflow
- Map data with data warehouse models

#### **Data Governance**

- Define data governance
- Prioritize requirements
- Develop data taxonomy
- Create robust IT infrastructure
- Develop Data Dictionary
- Implement Data warehouse
- Automate market & credit risk

#### Reporting

- Develop reporting frameworks based on risk metrics: VaR, counterparty exposure, usability, and frequency of reports
- Create enterprise risk dashboard
- Develop reports, analytics soln

## **BCBS 239 RISK DATA AGGREGATION &**

REPORTING RESPONSE

**Treasury and Capital Markets** 

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AGGREGATION

# WHAT CAN HELP? **BCBS239**

ONERNANCE OVERNANCE A regulatory initiative to help improve strategic planning and capacity to manage risks related to developing new products and services.

#### INTRODUCTION

The BCBS 239 standard introduces a global risk-data aggregation and risk-data reporting framework. Basel Committee on banking supervision in January 2013 released "Principles for effective risk data aggregation and risk reporting" with 14 principles to be complied by the banks under the four broad pillars.

#### **OUR UNDERSTANDING OF REGULATION**

The objective of BCBS 239 is to help banks improve risk data aggregation capabilities by using the 14 principles designed to strengthen the capacity of banks to aggregate risk data and improve reporting practices of risk within institutions. Out of the 14 principles- 3 principles are for supervisors and other 11 principles are for the banks.

The scope of these principles applies on:

- Banks at group level and also on individual entities within the bank group
- Banks' ability to measures all material risk in terms of:
  - ► Market Risk
  - ► Counter-party Credit Risk
  - ► Liquidity Risk
  - Operational Risk
  - ► Internal Risk Management Process
  - And impact on overall Economic Capital and Capital Adequacy through the above said risks
- The main goals being to encourage banks to:
  - Improve the IT infrastructure used for key reporting, including the board of directors and senior management
  - > Improve risk management and decision-making through their institutions and entities
  - Reduce losses from potential weaknesses in the risk management
  - ► Improve the speed of information availability
  - > Improve the quality of strategic planning and capacity to manage risks related to developing new products and services

These objectives shall require organization-wide changes in how banks handle their risk data governance, data flow & lineage and data architecture including the ones on conceptual, logical and physical design level. This will require a broad program definition for data management transformation and would need to be broken down into achievable components. Bank will be required to develop a change management plan for both process changes within the bank and the technology changes, across divisions. The plan once executed successfully shall help banks in increasing operational efficiency, profitability, and competitiveness. Thus banks need a "Risk Data Aggregation and Reporting program" that aims at responding to the new BCBS 239 regulation.



# **IMPLEMENTATION STRATEGY**

Banks need a program to allow a thorough understanding of the existing IT architectural and functional issues of the risk, finance, treasury and collateral management that contribute to reporting. An incremental approach shall suffice with implementation at main branch and then extend to other branches and entities. This program shall impact multiple businesses like:

- Retail & Non-Retail Credit Risk
- Counter-party Credit Risk

One of the program's objectives is to ensure the consistency and quality of the various existing reports at group functions (finance, risk, treasury, and collateral). Information sourced for risk reporting must come from a single, shared source.

**BCBS239 IMPLEMENTATION RESPONSE** 

#### **IMPLEMENTATION FRAMEWORK**

The below section shall provide an overview of a kind of program we believe shall help banks in achieving these goals. This is not a final implementation strategy and may get changed/updated based on the bank's current transformation journey in their various initiatives currently.

#### **RISK DATA AGGREGATION**

**RISK DATA REPORTING** 

ACCURACY & INTEGRITY COMPLETENESS				TIMELY A		TABILITY	ACCUR	ACY	COMPREHENSIV	Έ	
DATA MANAGEMENT		DATA GOVERNANCE		DATA POLICY		DATA STANDARDS		DATA AF	RCHITECTURE	CTURE IT LAN	
Data	Data Sourcing	Filter and Transform		Risk Calculations	Risk Aggregation		Ris	k Reporting	Risk Analyt	tics	
Risk Data Lifecycle	<ul><li>Trade Data</li><li>Reference Data</li><li>Market Data</li></ul>	<ul><li>Convert Feed</li><li>Exception Handling</li><li>Risk Feed</li></ul>		<ul> <li>PVs</li> <li>Sensitivities</li> <li>Others</li> <li>Position Data</li> <li>Approvals</li> </ul>	<ul> <li>Calculate Exposures</li> <li>Portfolio Calculation</li> <li>Rollup and aggregat</li> </ul>		<ul> <li>Risk N</li> <li>Daily</li> <li>Portfo</li> <li>VaR/N</li> </ul>	Measure Weekly types blio Calculations ES/EC	<ul> <li>Commentary</li> <li>V&amp;C</li> <li>Audit and app</li> </ul>	proval	•
Rule	Capture	Filter		Calculations	Aggregation		Rep	oorting Spec	Process		
	BUSINESS FLOW		GLOBAL DATA TAXONOMY			LIVE DATA DICTIONARY		RY	META DATA MANAGEMENT		
Continuous	RISK DATA OWNERSHIP		COMMUNICATION		DATA QUALITY			PROCESS CONTROL			
Watch	RISK MANAGEMENT POLICIES AND STANDARDS										
	DATA GOVERNANCE										

#### Solution components derived from the implementation framework:

Governance framework

- Establish risk committee and understand the scope of reporting and extensive data
- Develop data quality, data policy and data standards

#### Control framework

- Define the scope of risk (Credit, Market, Operational, Liquidity, Material)
- Documentation and updating of data definition through adequate processes
- Develop SLAs across business lines and source systems for data sourcing

#### Process & infrastructure upgrade/change

- Develop repository, data interdependence with different departments, data lineage, data aggregation & risk reports across different hierarchy
- Develop about 20-30 key material risk metrics which covers:
- Overall Risk Economic Capital, Total Capital demand and Core Tier1 ratio
- Credit Risk Expected Loss, Loan Loss provisions, Net Limit, Net Utilization, Rating



Profile, Loss Absorption, Liquidity Risk, Funding matrix, Net Liquidity Position and WSF exposure vs. Limit

- Liquidity Risk LCR/LR
- Market Risk VaR, SVaR

#### IT architecture

- Finalize & develop bank-wise IT Strategy and TOM
- Architect roadmap and develop global data taxonomy

### **RISK DATA MANAGEMENT STRATEGY**

- Strong data-warehousing solution addressing:
  - Risk Management: Enterprise-wide data management solution including data sourcing, data standardization and data aggregation & distribution
  - Compliance: Embedded with pre-built KPI's in respective functions like risk management & compliance
- Improved understanding of 'as-is' processes, governance & control structures and then defining the TOM, which includes process, data and system will make sure a thorough risk aggregation and reporting service with defined risk metrics. It covers:
  - ► Data Governance,
  - ► Master Data Management,
  - ► Meta Data Management,
  - ► Common Taxonomy,
  - Unified Data Sourcing,
  - Data Integrity and Quality
  - ► Data Monitoring
- Banks need to validate the consistency of the data like reference data, T & C's, historic market data, intraday/tick data, spreadsheet data/calculations, derived data/statistics, valuation/sensitivities, entities, positions/ transactions, portfolio/baskets/indices.

- Best practices to be implemented in the risk data flow
  - Defining the Common Data Taxonomy -Defining the functional for each business function in the banks landscape across the branches, businesses and developing a common data taxonomy
  - Data Standardization Rationalization of data from different source systems into single golden source for Reference and market data feed
  - Data Sourcing Rationalization of risk data flow integration front-to-back architecture that extends risk use-cases across the banking and trading books based on the risk classes like equity, FX rates, interest rates and commodity prices
  - Risk Calculations Rationalization -Rationalization and standardization of risk calculators & engines
  - Defining Workflows for PVs and Risk Metrics - Rationalization of consolidated workflows for PnL valuation, risk metrics
  - Risk Data Aggregation & Storage -Aggregating of the risk data including at a portfolio calculation level and stored in a risk data warehouse
  - Risk Data Access Point Utilize risk data access points for distribution of the risk data to different risk data marts such as finance, credit, and liquidity etc.
  - Risk Reporting Streamlining of the risk reporting and visualizations for consolidated risk data reporting & analytics

EHDE

HD







#### BCBS239 IMPLEMENTATION RESPONSE



Existing Risk Function Landscape Analysis	<ul> <li>Perform 'as-is' analys</li> <li>Analyze data-gaps ar</li> <li>Prioritize and recommodiate solutions based on th</li> <li>Analyze risk metrics concentration, funding RWA, RAROC etc.</li> </ul>				
Target Risk Function Landscape Analysis	<ul> <li>Develop target operarisks based on the sc</li> <li>Develop a thorough functions</li> <li>Develop an exhaustrifunctions from front</li> <li>Perform data mappirand develop data line</li> <li>Help bank in analyze our IBM Financial da</li> <li>Based on the Target Big data solution</li> <li>Help automate mark</li> </ul>				
Risk Data Aggregation	<ul> <li>Help banks automate source systems inclu services, data from re non-electronic based</li> <li>Help define and integenrich data by supple</li> <li>Help bank define and through mechanism supplementing, calcu audits.</li> <li>Help manage and co</li> <li>Help enhance data b help of developed da</li> <li>Help in master data of validation including i entities, thus enhance</li> <li>7. Perform data map</li> </ul>				
Risk Data Reporting	<ul> <li>Develop reporting fr terms of key risk mer frequency of reports</li> <li>Help develop consol multiple reporting so</li> <li>Develop risk dashbox</li> </ul>				

- vsis of scenarios covering 11 principles and pain points in the risk landscape mend requirements on technology and process
- the gaps/pain points found is like VaR, counterparty exposures, asset
- ing matrix, expected loss, economic capital, credit risk
- rating model for the risk functions including all material cope study
- and Integrated data taxonomy based on all the risk
- ive data dictionary which is to be utilized by all the risk to back office functions
- ing exercise from upstream to downstream systems neage map
- e and implement data warehousing solution including ata model based solution
- t Operating Model, perform the feasibility study of a

ket risk & credit risk functions

- te and optimize data extraction through multiple uding financial data systems, operational systems or regulatory and compliance processes, as well as other d data sources
- egrate reporting data from front to back-end and lementing reference data into transactional data ad develop data layers which can transform feed of data matching, reconciling, adjusting, correcting, ulating, analyzing and performing data archival and
- ontrol data breaks in the risk data by developing data lineage of risk reports through the lata taxonomy and data dictionary
- creation, process workflow development and
- information about prices/rates, positions and legal
- cing quality and completeness of the data
- pping with the data warehouse models
- ramework based on the reporting requirements in etrics like VaR, Counterparty exposure etc., usability & s
- lidated data reporting & analytics solutions using olutions like cognos, business intelligence etc. pards in tools like Qlik, Tableau etc.

#### TRADEMARK ACKNOWLEDGEMENT

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