Broadridge Professional Services

Operational intelligence to drive business transformation





Navigate Regulatory, Operational and Data Challenges

Partner with Broadridge for our industry expertise, experience and solution insights



Unique industry vantage point



Unmatched domain expertise



Proven technology and business process standards



Holistic enterprise-wide approach

PROFESSIONAL SERVICES SNAPSHOT

100+

Companies

We have helped over 100 companies globally transform their businesses and optimize their processes, positioning them for future success

PROFESSIONAL SERVICES FOOTPRINT DEPTH

25

Areas of Expertise

16+

Countries in which we have Assisted Clients

4

Offices Globally and Growing







Empower Your Transformation with Confidence









Analyze	Develop	Implement	Execute
Current Operations	Strategic Plans	Compliance with Industry Initiatives	Project Management
Alternative Technology Solutions	Business Objectives Software Solutions	New Vendor Solutions	Outsourcing Functionality
Account Imbalances	System	Staff Trainings	Outsourcing Services
New Regulatory Requirements	Infrastructures	Broadridge Solution	Consolidating Data
	System Efficiencies	Expertise	Organizing Data
			Managing Data

Broadridge Professional Services Wheelhouse of Expertise

Enterprise Data Solutions

di

Data Governance
Master Data Management
Enhanced MIS Capabilities/Analytics

Operational Transformation

Migration Roadmap Developments Process & Dataflow Optimization Business Architecture and Process Target Operating Model Design

Technology Solutions

Technology Assessments and Roadmap Enterprise Architecture Strategy Buy/Build/Outsource Assessments Interface Design & Development

Communications Transformation

Benchmarking & Insights Digital Transformation Strategy Information Design & Content Development

Finance Transformation Financial Processes & System

Financial Processes & Systems Redesign
Finance Strategy Alignment
Financial Statement Integrity Improvement
Accounting and Regulatory Change Compliance

Customer Experience

Omni Channel Strategy Customer Touchpoint Analysis and Optimization Preference Management

Core Competencies



Staff/Project Augmentation

Program Management Line Role or Project Backfill Test Planning & Execution Interim Leadership

Internal Audit Solutions

Methodology Development Co-sourcing / Outsourcing Quality Assurance and Improvement Program (QAIP)



Regulatory Solutions

Change Management
Regulator Communications & Exam Preparation
Remediation & Reporting

Risk Management

Governance, Risk & Control Frameworks Risk Assessment Methodologies Model Risk Management



Sample Engagements

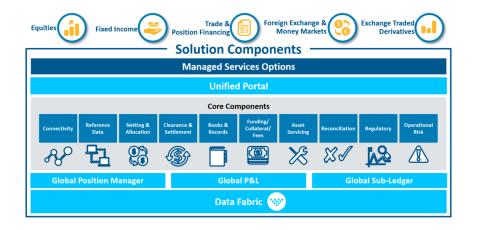




Derivatives System Selection and Process Optimization

Project Profile		
Client	Canadian Pension Plan	
Segment	Asset Management	
Geography	Canada	

Project Themes
Strategic Assessments
Technology Initiatives
Derivatives Front/Back Office Vendor Selection



Context & Objectives Approach Key Activities Client Benefits

- The client needed a derivatives work flow process re-engineering to support more exotic derivative structures.
- Manual solutions were prone to errors and time consuming to manage, administer and price
- The lag on managing this book of business carried business and opportunity risk that required technology investment for better controls and turnaround, especially for pricing.

- Gathered needs from interviews with key users and business sponsors
- Prioritized needs based on previous assessment/ industry best practices
- Built mock-up scenarios (with sample data) for vendors to provide demos
- Provided vendor
 recommendations for a
 front-to-back derivatives
 processing system, pros/
 cons based on vendor
 functionality and data
 providers, rating capabilities,
 and opportunities

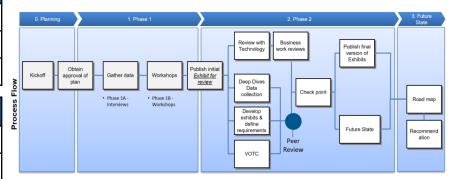
- Analyzed client's current state of 25+ derivative instruments including OTC, listed & pledged
- Optimized work flows for each derivative type and prioritization of which to migrate to a new system
- Ran vendor RFP process with 2,000+ questions, scripted demos and final vendor decision in 120 days
- Implemented the new work flows/vendor integration

- Moved off of Excel as trade book and accounting record
- Full audit-trail with date and time stamp set up for all derivatives in book of business
- More common derivatives types like FX swaps handled (as well as more exotic investments such as dispersion swaps)
- Optimized work flows for each type of derivative established better integration and aligned to overall investment objectives of the firm

Accounting System Strategy

Project Profile		
Client	Canadian Life Insurer	
Segment	Asset Management	
Geography	Canadian Based, Global Rollout	

Project Themes		
Strategic Assessments		
Transformation Management		
Accounting		



Context & Objectives

Approach

Key Activities

- The client needed a strategy for the replacement and upgrade of accounting systems.
- The incumbent system represented legacy technology, chart of accounts and inadequate data detail for the client's business needs going forward
- Many were executing key accounting functions outside the core system since fields did not exist for key data elements required for calculations
- Broadridge worked closely with the client to examine the chart of accounts for change recommendations and deliver a holistic plan for migration to a future state accounting environment.
- Engaging key stakeholders in charge of each subledger enabled a cohesive blueprint for future needs and helped easily identify the challenges with the current work flows across the book of business
- Defined accounting needs that were not supported by the corporate accounting solution and new functionality required (Basel & IFRS)
- Identified current transaction types that required changes in posting methods to accurately capture transactions
- Prepared organization vendor search/selection with ballpark costs/timeframes
- Helped secure business case approval to proceed to vendor search/replacement path

- The pre-planning and migration blueprint set up in the strategy facilitated a smooth transition during implementation, training and conversion
- Chart of accounts set-up in new system offered robust enriched data to manage holdings, positioned the firm to be compliance with IFRS and modern, complex accounting policies

Investment System Architecture

Project Profile		
Client	U.S, Major Global Bank	
Segment	Asset Management	
Geography	US Based, Global Rollout	

Project Themes	
Strategic Assessment	
Global Integration & Platform Uniformity	
Transformation Management	



Context & Objectives Approach Key Activities Client Benefits

- Fragmentation of systems and operational set-up created significant lag in timeliness for reporting
- Variations in capture and treatment of investments, pricing, consolidation created additional challenges for accurate disclosure of holdings, risk profile and compliance reporting
- Areas of concern were trading, analytics/risk management, data management and accounting

- Broadridge worked closely with the client to develop a Target State Investment Architecture covering publicly traded assets.
- The approach included a review of people, processes and systems to provide gap analysis from current operations to target state processes, as well as a migration sequence to assess the organization's ability to remain competitive.
- Defined future process including "passing the book" for 24 hour trading coverage
- Presented the future state architecture to senior management with high-level cost estimates
- Collected and analyzed system solutions for strengths/ weaknesses (including custom systems) and ranked them against target state needs
- Conducted joint analysis and design sessions with the client in business, IT, sales/marketing and operations groups

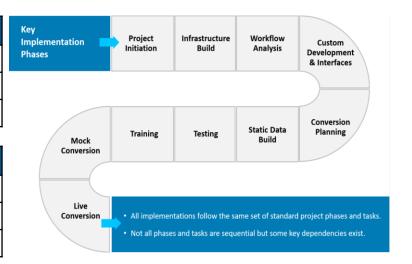
- Migration plan for transformation on phased basis to manage change controls and organization's capacity to change
- Better clarity on lines of business and comparing like-pieces of the business
- More effective monthend turnaround on global financial picture and more confidence in accuracy of the customers



Asset Servicing

Project Profile		
Client	Major Global Bank	
Segment	Institutional, Wealth Management, Prime Brokerage	
Geography	Global	

Project Themes
Strategic Visioning and Assessment
Corporate Actions
Technology and Business Process Transformation



The client needed to transform their existing business model and was looking to define a future state technology and supporting operating model for their global corporate action services.

The Broadridge team worked closely with the client to:

Approach

- Assess technology for suitability
- Conduct deep-dive visioning and CSA sessions
- Model future technical flows, platforms, interfaces, functional processes, and pain point (operational and technical) resolution

Strategic operating model

Key Activities

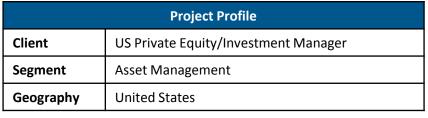
- Integrated technical solution
- · High level requirements
- View on synergies
- Implementation roadmap with interim deliverable approach
- Resource planning
- Breakdown of estimated "cost to implement" and RTB

 Solution fully supports global client servicing needs

- Improved processing efficiency and optimize people & organization structures
- Simplified technical architecture to address commercial objectives
- Remove control gaps / audit points and reduce processing errors and associated losses



Self Clearing Assessment





Strategic Assessments
Clearance and Settlement
Technology Initiatives

The client needed detailed analysis for transitioning ETF, equity, index and equity option market-making businesses from the current fully-disclosed arrangement to a self-clearing model. Our client was looking to: diversify clearing risk; create new fee based revenue opportunity; and regain control over the markets,

product, clients, and the

service it offers.

Context & Objectives

The Broadridge team worked closely with the client to analyze:

Approach

- Capital, funding and margin requirements
- · General industry practices
- Mid and back office processes
- Personnel requirements and costs

 Current state-to-strategic plan

Key Activities

- Level of change to support processes and options to minimize risk
- Capital requirements and funding analysis
- Summary of functional areas affected and resource requirements
- Regulatory steps: FINRA/CMA and FCM
- Estimated clearing corporation VAR
- Clearing and settlement procedures (e.g. WSP)

Estimated financial impact for operations, technology and firm capital

- Full retention of revenue from fee based businesses
- Ability to estimate daily funding
- Full control of product offering
- Client information remains in-house
- Improved control over client portal



T+2 Test Scripts and Planning

Project Profile		
Client	Major Global Bank	
Segment	Capital Markets	
Geography	USA/EMEA/APAC	

Project Themes	
Regulatory and Industry Mandated	
Transformation Management	
Program Management and Execution: Testing	

T+2 Checklist

Have you executed and documented T+2 testing externally? (Examples):			
• DTCC	[] Yes	[] No	Don't Know
• CCMA	[] Yes	[] No	Don't Know
• Client(s)	[] Yes	[] No	Don't Know
• Vendor(s)	[] Yes	[] No	Don't Know
Managed Services	[] Yes	[] No	Don't Know
Have you executed and documented T+2 testing internally? (Examples):			
Front Office Systems	[] Yes	[] No	Don't Know
Middle Office Systems	[] Yes	[] No	Don't Know
Operations Needs	[] Yes	[] No	Don't Know
Client Reports/Portals/Interactions	[] Yes	[] No	Don't Know
Back Office Systems	[] Yes	[] No	Don't Know
Do you have contingency plans & staff in place for September 5 to handle challenges in Canada/US?	[] Yes	[] No	Don't Know
Do you have staff in place for any settlement challenges September 4 with Mexico?	[] Yes	[] No	Don't Know

Context & Objectives In accordance with US industry-mandated initiative T+2, the client needed enhancements in a unique T+2 test environment that connects to the DTC T+2 environment as well as other internally impacted processes and departments.

Broadridge provided full offering suite from test preparation through to test execution, results attestation, and documentation archiving so client retains full transparency and audit trail retrieval ability.

Approach

Agreed on test approach

Key Activities

- · Compiled testing requirements
- Created test scripts
- Built out of internal infrastructure
- Installed T+2 fixed income and equity test environments
- Regression and user acceptance testing
- Client training
- Provided services for multiple clients
- Attestation protocol

- Central program governance
- Cross organization risk & dependency resolution management

- Test cases with attestation
- Access to highly skilled testing resources and program managers
- Minimizes vendor risk

Liquidity Risk Management

Project Profile		Cash Forecasting	Real-time Connectivity and Payment Flow	Views Positions by Client, Account, or	Funding Proposals	Estimated and Target Balances	
Client	Major Global Bank			Entity			
Segment	Capital Markets	Cash Matching	Real-time Bank Connectivity and Matching	Cash Holds for Funding / Payments	Reconciliation for Balances and Transactions	Cash Flow Matching with Alerts	
Geography	USA, EMEA, APAC	Position Management	Global Real-time View – USER Specific	Intraday Balance Updates and Management	User Defined Views of Debits and Credits	Manage Client Cash Balances	
Project Themes			эрссте	Wanagement	und credits		
Regulatory Report		Payment Controls	Four Eye Control	Exception Processing for non Standardized Processing	Prioritization of Payments	Hold / Releases	
Business and Data Analysis							
Finance and Risk Transformation Management		Reporting	Intraday Liquidity	Total / Value Payments	Regulatory Reporting Capabilities	Customizable	

Context & Objectives Approach Key Activities Client Benefits

The Bank had identified deficiencies in their Liquidity Management process and wanted to create a liquidity framework that would adequately account for the potential risks across multiple dimensions (e.g. Product, Line of Business etc.). The practice of constant risk assessment ensured sufficient liquidity to withstand emerging stress events.

- Performed source systems data analysis and series back-testing.
- Created a Proof of Concept for simulating functionalities required with new enriched liquidity data sets.
- Streamlined calculation of HQLA, and other metrics for LCR reporting
- **Automated Liquidity Risk Reporting & Stress Testing** platform
- Accelerated liquidity management reporting from a monthly process to a daily one
- Built local Stress capability, providing transparency for LCR and NSFR forecasts
- Produced the requirements to meet the demands of BCBS239

- Delivered the components of a reporting and scenario analysis platform supporting intra-day and liquidity risk management
 - capabilities

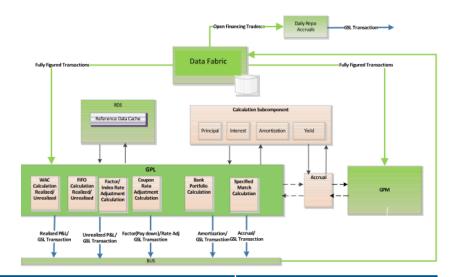
Created reporting capability for daily and on demand funds transfer pricing.



Balance Sheet Substantiation

Project Profile		
Client	Major Global Bank	
Segment	Capital Markets	
Geography	USA, EMEA, APAC	

Project Themes Accounting Control Assessment Accounting and Finance **Transformation Management**



Context & Objectives

The client struggled to streamline a highly fragmented, manually intensive balance sheet substantiation process that exposed the Bank to above-average levels of operational risk. The client was challenged to bring together multiple regional general ledgers under a consistent attestation process that ensured completeness in account ownership and balance approval.

Approach

Broadridge partnered

- with the client to conduct a current state assessment and map out a future state. Partnered with stakeholders globally to ensure a holistic and globally viable solution
- Conducted current state assessment that resulted in a

Key Activities

Implemented project management, functional analysis, and technical design to the project

firm-wide reengineering project

- Resolved the operational risk issues and provided the bank with benefits in three main areas: Control, Services, and Effectiveness
- Managed various projects within a cross-regional program which included teams from the UK, Spain and India

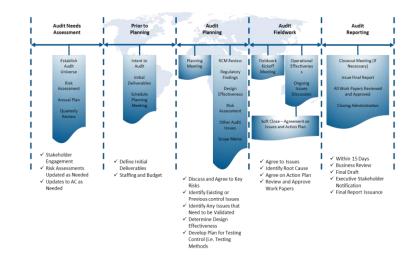
- Streamlined highly fragmented and manually intensive process
- Holistic oversight and management of regional general ledgers
- Creation of consistent attestation process
- Reduced exposure to operational risk



Internal Audit Methodology Development

Project Profile		
Client	US Commercial Bank	
Segment	Internal Audit	
Geography	North America	

Project Themes		
Audit Methodology		
Board Reporting		
Internal Audit Transformation		

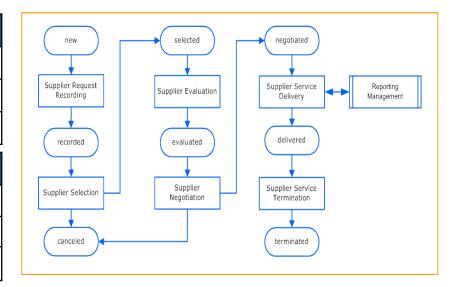


Context & Objectives	Approach	Key Activities	Client Benefits
As the bank grew towards \$10 billion in assets, the Senior Management and the Audit Committee discovered a need to develop and implement a risk based audit methodology. They desired to migrate the methodology from a processes based system to a risk based system. By implementing the new methodology, the Bank was able to align their audit plan to the Bank's evolving risks, audit entities on a more realistic cadence, allocate resources properly, and reduce audit costs.	 Mapped business processes to business units. Created new audit universe Developed Risk Assessment Methodology Risk Assessed each auditable entity Created 3 Year Audit Plan (rolling) Conducted Staffing analysis Developed QAIP Developed Audit Methodology Manual Updated Audit Committee Reporting 	 Entity Level Risk Assessments Business Process Mapping 3 Year Audit Plan with all Auditable Entities Audit Manual Staffing Analysis with resource solutions Quality Assurance Plan New Internal Audit Report New Audit Committee Reports Training for staff and key stakeholders 	 Risk focused Internal Audit process Better equipped to identify and measure risk More flexibility to update Audit Plan quarterly More accurate budgeting knowing staffing requirements Ability to perform Quality Assurance reviews Better Stakeholder and Audit Committee reporting Compliance with IIA Standards

Third Party Oversight Program

Project Profile		
Client	US Mortgage Servicer	
Segment	Third Party Oversight	
Geography	NA	

Project Themes Supplier Due Diligence Contracting Supplier Monitoring and Off-Boarding



Following the financial crisis, considerable vendor risk emerged. In light of that risk and the company's large outsourcing activity, management wanted to ensure they were compliant with the newly issued regulatory bulletin OCC 2013-29. We were engaged to conduct a gap analysis and provide remediation suggestions to improve their third party oversight program. Management also wanted to identify the best vendor management solution for their

Context & Objectives

Broke down the supplier life cycle into five phases: outsourcing strategy, due diligence, contracting, monitoring, and offboarding

Approach

Evaluated each phase to the requirements of the regulatory bulletin

Created detailed assessment of each phase of the life cycle

Key Activities

- Provided suggested remediation steps to cure any gaps
- Provided a high level timeline to demonstrate effort needed to remediate
- Conducted vendor software workshop to help management determine the solution that best fit the banks vendor risk profile

Understood how the

Client Benefits

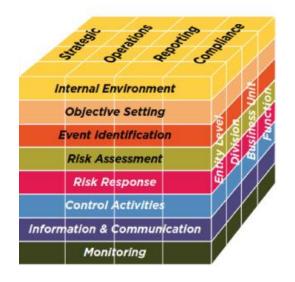
- program complied or didn't comply with the regulatory bulletin Gained perspective on
- level of effort needed to remediate gap findings Identified the best vendor
- management solution for the vendor risk profile of the institution

risk profile.

COSO ERM Implementation

Project Profile		
Client	US Commercial Bank	
Segment Risk Management		
Geography	North America	

Project Themes
Risk Appetite
Risk Assessment
Risk Monitoring



Context & Objectives As the bank approached \$10 billion in asset size, management wanted to implement the COSO ERM framework. The primary objective was improve the Bank's risk management process and function to better identify, measure, monitor, and control the risks within the Bank.

Identified current risk

processes within the Bank Conducted a gap analysis

Approach

- with current processes and the 8 elements of COSO FRM
- Developed an action plan to remediate those gaps
- Identified the three lines of defense
- Mapped all business processes back to each business unit
- Conducted Risk Assessments on each business process

Risk Appetite Statement

Deliverables

- Written ERM Program
- Roles and Responsibilities for each line of defense
- Enterprise wide Risk **Assessment Methodology**
- Risk assessments with Inherent and Residual risk scores for each business process
- Key Risk Indicators and Key Performance Indicators
- Risk Management Committee development and reporting

- Improved ability to identify, measure, and monitor risk
- Better Board and Committee reporting
- Better demonstrate to regulators an effective risk management program
- Common taxonomy for risk discussions
- Risk focused culture



Credit Risk Management Audit

Project Profile		
Client	International Foreign Branch	
Segment	Internal Audit	
Geography	North America	

Project Themes	
Credit Risk Monitoring	
Key Risk Indicators	
Key Performance Indicators	

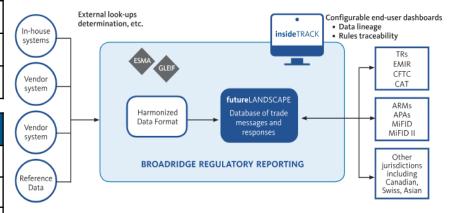


Context & Objectives	Approach	Key Activities	Client Benefits
Engaged to conduct an audit of the Credit Risk Management (CRM) Department. The objective of the audit was to provide a level of assurance on the process, risks, and controls that allow the CRM Department to effectively monitor and manage the credit risk within the Bank.	 Risk-based approach Reviewed the current process, risks, and control matrix Conducted risk assessments to determine the risks with the highest residual score Developed scope Conducted and documented design effectiveness testing Conducted and documented operational effectiveness testing Provided report to Chief Auditor 	 Updated Risk Control Matrix Updated risk assessments Control Testing documentation Meetings with stakeholders Issues and management action plans Complete audit report with supported opinion on level of assurance 	 Level of assurance the CRM Department properly monitored and managed the credit risk profile Understood the issues that were raised Ability to monitor remediation efforts Ability to report to the Audit Committee with confidence the level of assurance on the control environment with this area

Regulatory Reporting Audit

Project Profile		
Client	International Foreign Branch	
Segment	Internal Audit	
Geography	North America	

Project Themes
Report Mapping
Process Mapping
Regulatory Report Submission Verification



Engaged to conduct an audit of the Regulatory Reporting Department. The objective of the audit was to provide a level of assurance the Department's progress implementing the FR 2052a reporting requirements.

Context & Objectives

Approach

- Risk-based approach
 Identified the processes implemented to conduct reporting
- Conducted risk assessments to determine the risks with the highest residual score
- Developed scope
- Conducted and documented design effectiveness testing
- Conducted and documented operational effectiveness testing
- Provided report to Chief Auditor

Updated Risk Control Matrix

Key Activities

- Updated risk assessments
- Control Testing documentation
- Meetings with stakeholders
- Issues and management action plans
- Complete audit report with supported opinion on level of assurance

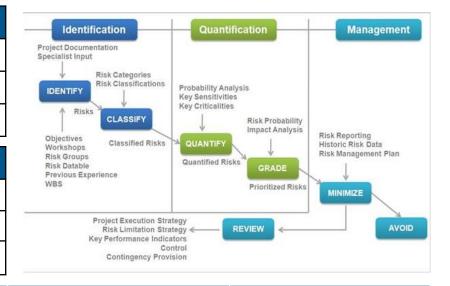
- Level of assurance the Regulatory Reporting Department was properly filing the FR 2052a Report
- Understood any outstanding gaps
- Ability to monitor remediation efforts
 - Ability to report to the Audit Committee with confidence the level of assurance on the control environment with this area



Model Risk Management

Project Profile		
Client	Global Investment Bank	
Segment	Capital Markets	
Geography	North America	

Project Themes
Model Governance
Regulatory Change Management
Risk Transformation Management



Context & Objectives The Bank received adverse regulatory feedback that they did not have an appropriate model governance framework in place, despite heavy reliance on pricing, risk and capital models in the day-to-day operation of their business lines.

Understand regulatory expectations according to the size and scope of the bank's activities

Approach

- Performed a current state vs. future state gap analysis
- Created a proposed organization structure and prioritized implementation plan, including socialization and management buy-in Executed the

implementation plan

- Working group and committee set-up
 - Organization structure, reporting lines, policies, procedures and process workflows
 - Firm-wide model inventory.

Key Activities

- Model development, validation and rating standards.
- Management and board reporting on model risk

Enhanced control over the development and usage of models across the bank

- Ability to meet regulatory requirements in a repeatable and sustainable manner
- Ability to measure, monitor and communicate the extent of model risk throughout the bank

Volcker Rule Implementation

Project Profile		1. Policies and Procedu	1. Policies and Procedures		3. Management Framework	
Client	Foreign Banking Organizations	and limits prohibited trac	Documents, describes, monitors and limits prohibited trading activities and investments by banking entity to ensure that all of 4. Independent Testing The effectiveness of the compliance		Clear responsibility and accountability should be established for compliance with the rule including management	
Segment	Capital Markets					
Geography	US, EU, APAC				6. Record Retention Ensures that sufficient records are kept,	
	Project Themes	program should be audited by managers, and other appropriate		minimum of 5 years, to demonstrate compliance with the rule and the banking entity must promptly provide it to the regulator upon request.		
		th sufficient scale, a panel of 7 quantings and reported to the relevant regula				
Regulatory Change Management		Requirements from qu				
Compliance		Documentation describ	describe the scope and nature of the firm's sovered fund activities. The requirements			

Context & Objectives

The Volcker Rule prohibits banks from engaging in certain trading and funds activities, with compliance requirements staggered according to the size and scope of the banks' activities. Banks were required to proactively prove compliance with the Rule

Approach

- Performed a regulatory impact assessment, including desk definition and activity analysis Prepared a detailed
- implementation plan and timeline.
- Created and establish compliance program framework, including policies and procedures, training, CEO attestation framework
- Independent testing support
- Implemented metrics reporting capability

Key Activities

- Regulatory impact assessment / gap analysis
- **Detailed implementation** plan
- Compliance program framework, written policies and procedures
- CEO attestation framework
- Training materials for front office and compliance professionals
- Metrics reports submitted to regulators
 - Independent testing plans

Ability to demonstrate Volcker Rule compliance

Client Benefits

Enhanced understanding of business activities across the banks.

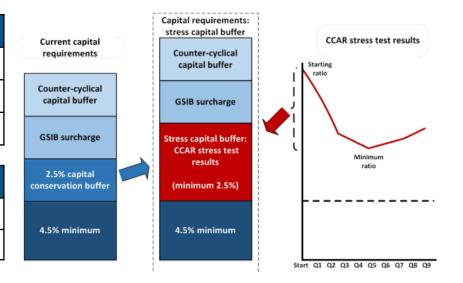
to regulatory agencies

Enhanced understanding of Volcker Rule requirements across the banks.

Comprehensive Capital Analysis and Review

Project Profile				
Client	Global Clearance & Custody Bank			
Segment	Capital Markets			
Geography	North America			

Project Themes
Regulatory Change Management
CCAR



Context & Objectives Approach Key Activities Client Benefits In preparation for the annual Leveraged Fed guidance, Detailed gap analysis Identification of **Dodd-Frank Act Stress Test** supervisory range of potential issues in Prioritized (DFAST) and Comprehensive practice and peer advance of the recommendations for Capital Adequacy and Review institution practices regulatory examination improvement (CCAR) process, the bank Compared the bank's Preparation of bank Project plan and discussion requested a review of their executives for likely program against deck to address gaps (to be CCAR program. supervisory guidance and areas of regulatory focus shared with regulators) and feedback; executive observed peer practices. Prepared gap analysis, understanding of "what including assessment of to expect" criticality of findings. Preparation of bank narratives to be shared with regulators