VIEW POINT

STRATEGIES FOR FIS TO OVERCOME THE REGULATORY REPORTING CHALLENGES

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Overview

Over the past few years, across the globe, financial institutions (FIs) have had to spend significant energy towards transforming their regulatory reporting practices. Yet, despite their sincere efforts in this regard, for many FIs their regulatory reporting function continues to be an Achilles' heel. These FIs have been unable to effectively keep pace with the myriad regulatory reporting mandates.

Refer exhibit 1 for examples of regulatory reporting obligations that concerned FIs have to comply with today.

Regulatory reporting mandates aplenty: Few examples…

BCBS 239	Basel III	Liquidity risk reporting (e.g. CLAR/ LCR/NSFR)	Comprehensive Capital Analysis and Review (CCAR)	Foreign Account Tax Compliance Act (FATCA)	Common Reporting Standards (CRS)
Recovery & Resolution Plan	Markets in Financial Instruments (MiFID) II / MiFIR	FinRep	FR Y-15 (Banking Organization Systemic Risk Report)	FR Y-14 (Capital Assessments and Stress Testing)	FR Y-9C (Consolidated Financial Statements for Bank Holding Companies)
Dodd-Frank	U.S. Fed (FFIEC 101, stress testing reports, call reports etc.)	U.S. SEC (N-PORT & N-CEN reporting)	Packaged Retail and Insurance-based Investment Products Regulation (PRIIPs)	Securities Financing Transactions Regulation (SFTR)	European Market Infrastructure Regulation (EMIR)
CoRep	Alternative Investment Fund Managers Directive (AIFMD)	CFO Attestation requirements	IFRS 9 & IFRS 16	EBA's Additional Liquidity Monitoring Matrix (ALMM) reporting	Suspicious Activity Reports (SARs)/Suspicious Transaction Reports (STRs)
AnaCredit	FMIA (FinfraG)	EU Regulation on Wholesale Energy Market Integrity and Transparency (REMIT)	Market Abuse Regulation (MAR)	10-K, 10-Q, FR2416 (weekly report of assets and liabilities for large banks)	Current expected credit losses (CECL)

Exhibit 1 – Examples of regulatory reporting mandates for FIs

Regulatory onslaught, process deficiencies, data shortcomings, technology constraints, and governance issues are amongst the key factors that have been contributing to FIs' regulatory reporting related challenges. So, what can FIs do to overcome these challenges and transform their regulatory reporting function? This white paper provides key strategies in this regard.

Overcoming regulatory reporting challenges: Key strategies for FIs

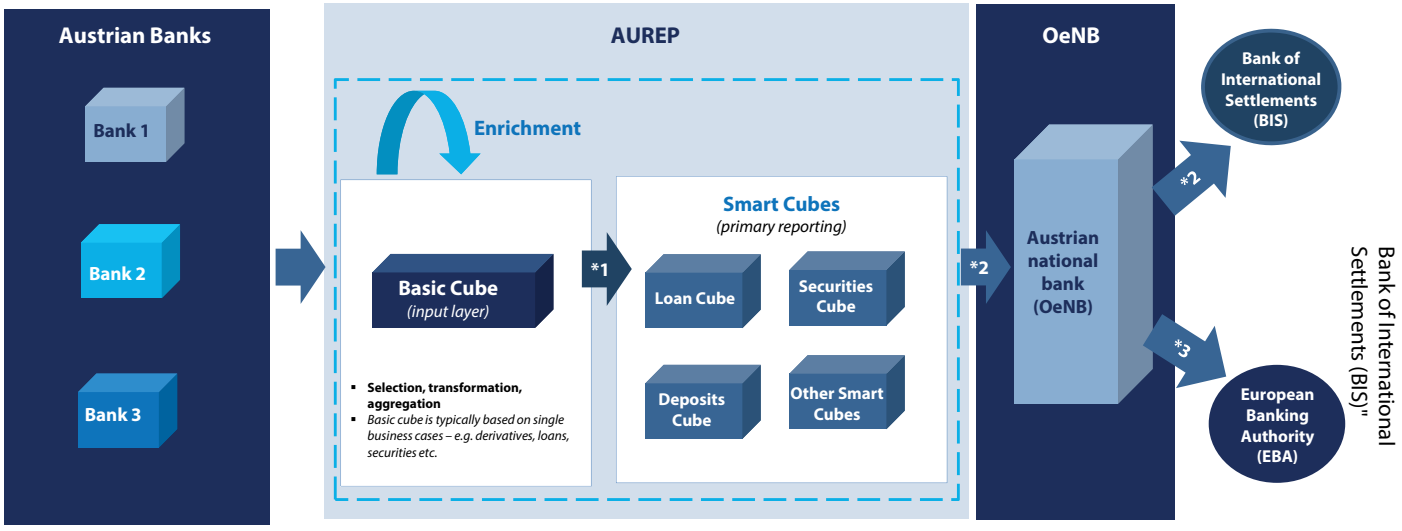
1. **Optimal collaboration:** Wherever required, FIs should proactively collaborate with the industry bodies – including regulators – at both the national and international level. They should for example influence and help regulators in: a) understanding FIs' regulatory reporting pain points, b) identifying ways to alleviate these pain points, c) helping maximize the overall regulatory reporting process efficiency and effectiveness, and d) enabling international compatibility, consistency and comparability of regulatory reports across the various regulations.

   FIs can, for example, encourage regulators to upgrade their online reporting portals and enable robust regulatory reporting APIs. Further, they could urge regulators to facilitate secure, standardized, streamlined and automated online data transfer methods (including data formats, APIs and protocols) and which don't impose file size limitations. FIs should also collaborate with regulators and other ecosystem players towards building industry-level regulatory taxonomy that could apply across legislations and countries, and in enabling global data definition and standards harmonization.

   Of course, many such standardization initiatives have already been undertaken over the years – for example, those related to Unique Product Identifier (UPI), Legal Entity Identifier (LEI), universal financial industry message scheme (ISO 20022), and uniform global Unique Transactions Identifier (UTI) for the OTC derivatives. A good example of collaborative endeavor is that of the Banks' Integrated Reporting Dictionary (BIRD). It is a joint undertaking by the European System of Central Banks (ESCB) and the banking industry. BIRD encompasses a set of documentation aimed at providing standardized model for banks to organize their internal data warehouses in an integrated fashion. BIRD is envisaged to provide banks with the latest reference material for assistance in supervisory and statistical reports creation; it would also improve the reported data quality.

   Another impactful example is that of the replacement of form-based reporting data collections with data cubes by regulator in Austria. Refer exhibit 2 for an illustrative view of this approach in Austria. Under this new approach, banks in Austria are required to automatically upload their data into data cubes. The data cubes are managed by Austrian Reporting Services GmbH (AuRep) which acts as the buffer between banks and the supervisory agency. Each bank enables its data in standardized format in series of basic data cubes. The format of these data cubes are prescribed by Austria's national central bank (OeNB), depending upon the bank's business type. AuRep further leverages the data from basic cubes to create Smart Cubes.

   The Smart Cubes, envisaged by OeNB, are multi-dimensional data models; and are designed to meet Austrian banks' various country-specific and international regulatory reporting needs. Specific Smart Cubes cover topics related to banks' specific business-lines – and draw upon data from cash flow, balance sheet, P&L, risk and other systems of the concerned business lines. This new data cube based approach has enabled banks in Austria to massively reduce their efforts spent on regulatory report preparation and formatting. It has also provided the regulator with higher levels of comparability and reconciliation of data across the banks; and enabled timely, more consistent and better quality of data.



*1 – Enriched data selected & allocated to Smart Cubes

*2 – XML formatted data

*3 – XML/XBRL formatted data

Exhibit 2 – New way of reporting by Austrian banks

2. Comprehensive data considerations: Significant overlaps exist between FIs' regulatory reporting data requirements and the data required for their management reporting or for internal processes and controls (such as forecasting and budgeting). Hence, FIs should focus on creating an enterprise-wide reporting and data analytics strategy. For this, they should first gain a thorough understanding of all their reporting data requirements across their compliance, risk, finance and other functions. Heterogeneity of source data should be accounted for while designing the reporting strategy.

FIs should focus on enabling an overarching data model; and towards ensuring high data quality and integrity across the reporting lifecycle. Common and standard data practices across functions should be enforced – this will help ensure effective and efficient identification, collection and storage of data.

Industry data standards should be leveraged, where appropriate. In addition, proprietary data standards could be leveraged to bridge the gaps, if any. FIs should work towards enabling enterprise-wide integrated data taxonomies and data dictionary; this would comprise information related to metadata, single identifiers usage, data naming conventions (e.g. for accounts, counterparties, legal entities, customers) etc. Importantly, to enhance efficiency and effectiveness, the data processes should be optimally automated. Refer exhibit 3 for some of the key expectations from FIs' data automation.

	Optimally automated data capture, aggregation & reporting	Data is continually enhanced through automated ingestion and mapping	Automated tools that use templates for instantly pulling the required data
	Robust business rules (for slicing & dicing the data, for ensuring data quality, for aggregation, for data classification into specific reporting hierarchy buckets etc.)	Provide both top-level aggregated view & detailed drill-down capabilities	Data quality dashboards
	Automatic data centralization, normalization and harmonization from various silos data sources (e.g. risk, finance) into a centralized and comprehensive golden data source	Automatic metadata tagging as it flows from source systems into the central golden data source	Ensuring data quality in the golden source via centralized editing or updating capabilities
	Robust data security (e.g. cell-level security, cryptography, secure flow of regulatory reports between the FI and the regulators etc.)	Sophisticated user permissions for validation, approval, filing authorization etc.	Clear data audit trail

Exhibit 3 – Key expectations from FIs' data automation

3. Strategic tools leverage: FIs should review their regulatory reporting function holistically and adopt strategic tools. Refer exhibit 4 for some of the key aspects of such a strategic approach.

	• Automated end-to-end reporting platform; integrated regulatory reporting framework & process workflow	• Starting small - where required, enable proof-of-concept leveraging representative sets of regulatory reporting templates
	• Prudent trade-offs assessment and cost-benefit analyses	• Robust compliance, risk, finance and business lines data integration
	• Harnessing of risk and regulatory reporting for strategic planning and decision making purposes	• Leveraging of regulatory reporting data for management and other internal/external reporting (e.g. risk concentration across business units; capital requirements across risk areas; contracts, positions and balances information; total exposure to one client or industry sector or country etc.)
	• Avoiding focus on reporting just at the group level – but also consider the reporting needs of each entity and business units within the FI	• Clearly defined tolerance levels for manual data adjustments – manual adjustments should be exception rather than the norm

Exhibit 4 – Regulatory reporting (key strategic aspects)

As part of this strategic approach, FIs need to move away from their current tactic of focusing on only automating simple discrete regulatory reporting tasks. Instead, they should implement an integrated and automated end-to-end reporting platform that orchestrates the entire regulatory and other reporting processes. Refer exhibit 5 for some of the key characteristics of such a platform

	• Seamlessly integrated, modular, scalable, configurable and flexible solution architecture – that easily adapts to the reporting changes across geographies & jurisdictions	• Optimal automation of the regulatory reporting processes – data acquisition, aggregation, validation, reconciliation, calculations & classifications, adjustments, change approval, and electronic report submission
	• Solution well integrates with all relevant core systems – financial, accounting, core banking, risk, general ledger, compliance, customer information etc.	• Straight-through-processing (STP) capabilities
	• Rules-based platform and rules engine to link, aggregate, validate and calculate all regulatory reporting data; calculation designer for capturing reporting business rules; complex rule sets for automated report scheduling and publication	• Integrated governance environment; robust security and access restrictions
	• Leverages comprehensive and harmonized data via robust centralized data lake/warehouse. Automated linkages between the source systems, static reference data, and the centralized data lake/warehouse	• Unified staging environment – the centralized data lake/ warehouse enables single source of truth. This golden data source is powered by big data analytics, and is automatically populated by data from the various sources
	• Supports regulatory reporting rule interpretation and takes into consideration the broader regulatory mandates (e.g. BCBS 239)	• Robust template designer for bespoke and customized templates; automatically populates the reports through usage of built-in reporting templates
	• Clear and complete audit trail; robust archival / retention capability	• Provision for manual intervention – reconciliation, adjustment, and cross-verification
	• Optimal reuse of data for myriad regulatory reporting (e.g. market risk reporting and financial stability reporting)	• Robust data quality tools – for identification, investigation & resolution of the data quality issues
	• Superlative user-interface – for auditing, data analysis, sign-off, manual interventions, user-specific workflow customization etc.	• Interactive management dashboards (e.g. for measuring the data processing, for monitoring submissions, visualization etc.); supports rapid drill-down of underlying data for ad hoc analysis and reporting
	• Automated controls (e.g. for setting boundaries for ratios, data transmission controls, submittal validation control, data quality control etc.)	• Enables automated regression testing of reports
	• Supports reporting in various formats (PDF, MS Excel, XBRL, XML etc.)	• Wherever feasible, system automatically authenticates and connects to the regulators' system for reports filing as scheduled

Exhibit 5 – End-to-end automated regulatory reporting platform (key characteristics)

Refer exhibit 6 for an illustrative functional architecture of an integrated end-to-end reporting platform

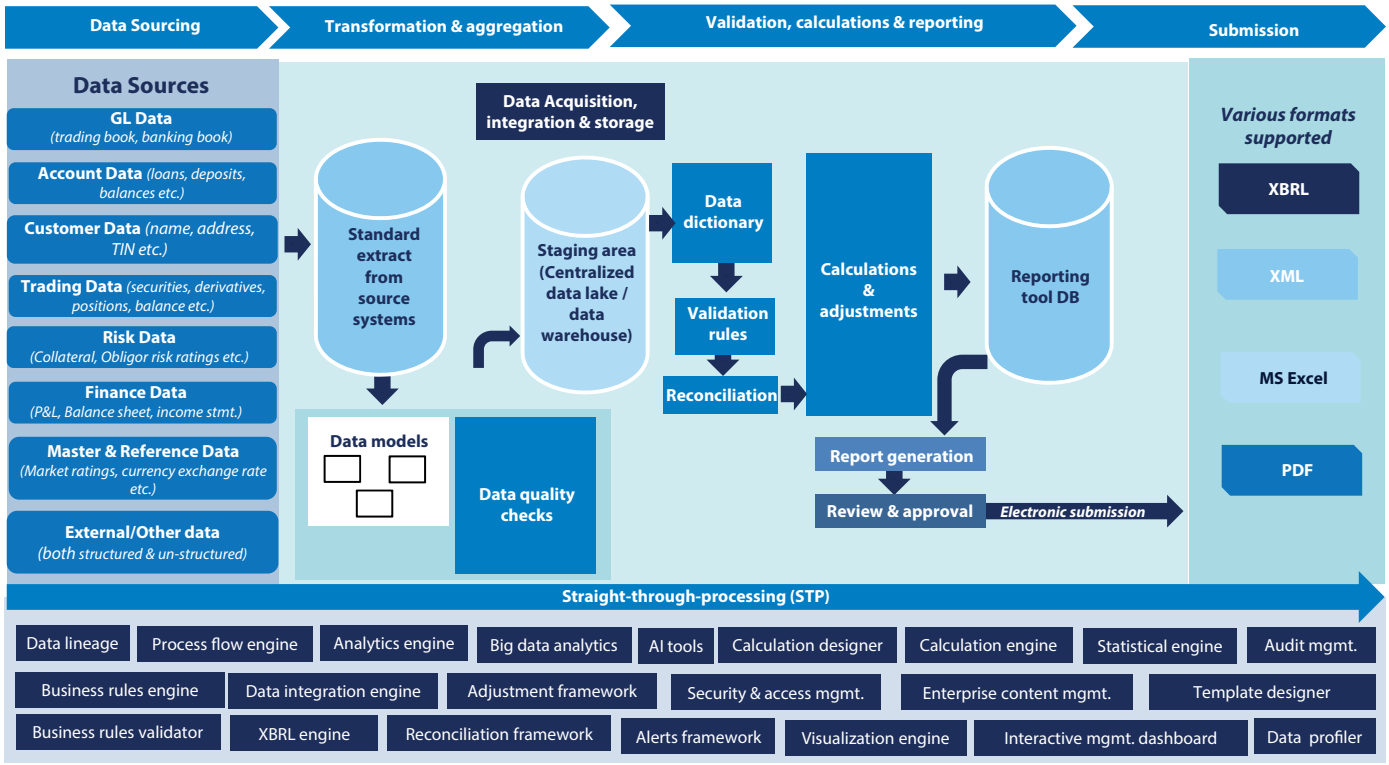


Exhibit 6 – Illustrative functional architecture of integrated end-to-end reporting platform

4. Integrated governance framework: FIs should focus on enabling robust integrated regulatory reporting and data governance framework. Refer exhibit 7 for some of the key characteristic of such an integrated governance framework.

	• Ensures holistic data governance (data profiling, data lineage, data controls (data transmission & processing, dictionary, standards), BCBS 239 compliance, data security & confidentiality, independent data quality assurance etc.)	• Comprehensive reporting management control, accountability, monitoring, transaction testing, validation and audit; ensures adherence to multiple country specific regulatory reporting mandates	• RACI matrices that clearly articulate the ownership, roles, responsibilities, and accountability for data integrity, collection and reporting
	• Enables senior management and cross-functional groups' involvement in reporting review, examination and challenge process	• Unified standard-operating-procedures (SOPs); robust hierarchies, approvals and workflows	• Aids in key indicators identification, risk tolerance levels definition & manual adjustments

Exhibit 7 – Integrated regulatory reporting and data governance framework (key characteristics)

As part of the integrated governance framework, FIs should ensure that ongoing transaction testing programs are prioritized and executed in a timely and effective manner. Transaction testing involves comparing of the reported data back to the underlying source documents (e.g. trade tickets, credit memo, loan contracts, income documentation and other documents that are created at the start of transaction). It aids in the identification and monitoring of misclassified or inaccurate data; and thereby in unearthing of internal control issues. FIs' transaction testing frequency and level need to be commensurate with their reports criticality, impact (e.g. on income statement/ balance sheet), complexity, prevailing control environment, and known data or system deficiencies. FIs should also work towards replacing their existing Access- or Excel-based testing tools with robust automated transaction testing platforms.

Further, in order to bolster their governance processes, FIs can consider appointing a chief data officer (CDO). The CDO would act as a bridge between the FI's compliance, risk, IT, and other related functions. The CDO would be responsible for developing enterprise-wide data management strategy (including on data ownership and change control), enabling robust information sharing approaches across the organization, creating staffing (e.g. data scientists) strategy, and in ensuring reporting teams are aware of the new/evolving reporting mandates.

5. Leverage advanced analytics and artificial intelligence (AI) capabilities: By making use of advanced analytics solutions, FIs would be able to, for example, proactively validate the data fluctuations and unearth anomalies in regulatory reporting. Similarly, lightweight analytical layer would help convert regulatory submissions into comprehensible management dashboards.

In addition to advance analytics capabilities, FIs can consider leveraging AI (machine learning (ML), robotic process automation (RPA), intelligent process automation (IPA) etc.) capabilities as well, where appropriate. FIs can, for example, apply RPA to many of their regulatory reporting processes that involve numerous time consuming, repetitive and rules based activities. RPA – emulates the human execution of repetitive processes via existing UIs; sits alongside the firm's existing IT infrastructure; and enables "virtual workforce" that can be controlled by business operations team. Data sourcing & validation, reconciliation, transformation, adjustments, and report preparation processes are especially good candidates of RPA adoption.

Refer exhibit 8 for some of the key benefits of AI usage in regulatory reporting

	• Aids standardization, streamlining & optimization of the regulatory reporting processes; improves regulatory reporting speed, efficiency, effectiveness, and productivity	• Speedy implementation - RPA can be quickly deployed without the need for significant IT infrastructure changes	• Massive reduction in error rates (through automation of repetitive manual activities); aid in data quality testing and reporting accuracy improvements
	• Allow skilled human resources to be redeployed for more value-add tasks	• Helps ensure reporting consistency within tolerance limits	• Self-learning capabilities of ML aid in generation of custom regulatory reports
	• Proactively identifies reporting issues and apply remedial solutions based upon self-learning	• Enable sophisticated data analysis, visualization, dashboards and insights generation	• AI can intelligently scan through public and government websites for any new / changed regulatory reporting mandates; and alert the concerned teams on the new requirements
	• Data mining algorithms that leverage ML and Natural Language Processing (NLP) capabilities aid in speedy analysis of huge volumes of unstructured data	• Cognitive Intelligence (CI) and Natural Language Generation (NLG) based solution aid in regulatory report review and analysis	• RPA can aid in sourcing, aggregation, transformation, cleansing & merging of data from various systems (e.g. risk, finance, business lines etc.); and can also aid in performing variance analysis and reconciliations
	• RPA can help combine complex & structured reporting templates and produce relevant regulatory reports	• Existing manual tasks can be executed on 24x7 schedule by using RPA	• RPA enables substantial cost reduction – through manual effort reduction

Exhibit 8 – Benefits of AI usage in regulatory reporting

6. Leverage regulatory-reporting-as-a-service model: FIs need to judiciously make build versus buy decision with regards to their regulatory reporting solution implementation. In many cases – especially for the smaller FIs – usage of internal IT and business staff to build/ enhance in-house reporting platform and keeping these up-to-date (vis-à-vis the ever-evolving regulatory mandates) can be quite costly. For such FIs, it would be prudent to instead leverage hosted regulatory-reporting-as-a-service model offered by leading service providers.

The regulatory-reporting-as-a-service model entails the co-sourcing or outsourcing of regulatory reporting obligations; and the centralization of end-to-end reporting responsibilities & processes. By leveraging this cloud based model from leading service provider, FIs can mitigate their challenges related to managing, building, enhancing and monitoring their regulatory reporting infrastructure. Refer exhibit 9 for some of the key benefits of such a model for FIs.

	• Huge efficiency gains and cost reduction by leveraging the shared service platform; increased scalability and flexibility	• Dedicated and highly competent service provider staff provide end-to-end support to the entire regulatory reporting lifecycle	• Enables optimal automation, industrialization and standardization of regulatory reporting processes
	• Reporting risk minimization; stringent SLA & KPIs apply	• Enables systematic validation of reports; and ongoing data quality improvements	• Enhanced reporting accuracy, transparency and process improvements
	• Proactively keeps track of regulatory reporting guidelines changes, thereby reducing the risks for FIs ng	• Provides pre-built reporting templates with configurable rules	• Effective and faster operationalization of adjustments & reconciliations
	• Fast delivery of ad-hoc reporting requests from regulators	• Enables complete reporting audit trail	• Ensures robust data privacy, security & integrity
	• Robust regulatory reporting dashboards	• Real-time analytics capabilities	• Robust disaster recovery capabilities

Exhibit 9 – Key benefits of regulatory-reporting-as-a-service model for FIs

Conclusion

FIs need to adopt new approaches to overcome the myriad regulatory reporting challenges that they continue to grapple with. By taking a holistic and strategic approach, and leveraging the recommendations outlined in this white paper, FIs can transform their existing error prone regulatory reporting function into one that is highly effective and efficient, and which adds immense business value as well.

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