IT Risk Management: Data Governance

Agenda – Purpose of Presentation

- Define data integrity
- Identify drivers for data governance programs
- Recognize elements of a data governance program
- Describe supervisory expectations for data governance

Data & Data Integrity

Data Examples

- Call Report and other information routinely reported to regulators
- Balance sheet and income statement calculations, such as ALLL
- Problem bank interim reporting
- Valuations (securities, OREO, etc.)
- Due diligence representations for mergers and acquisitions
- Operational metrics, e.g. budget tracking, security metrics, compliance metrics, etc.
- Customer information

Data Integrity Definition

- The **completeness** and **accuracy** of data from entry to reporting
- The **consistency** of data throughout the data management cycle given manual processes
- The **reliability** and **effectiveness** of data for its given business purpose

Data is said to be **corrupt** if errors are introduced into it.

Environmental Factors

- MIS, financial reporting, and overall data quality are being relied upon more heavily by bank management and regulators
- Processing environments are becoming more complex, and manual processes may become more common to bridge gaps
- Some control structures may not be adequate to ensure completeness and accuracy of data
- Legal and regulatory requirements issues may impact the handling of data
- New technologies are driving the use of big data and data analytics for competitive advantage

Big Data and Data Analytics

Term	Definition
Data warehouse	A large store of data accumulated from a wide range of sources in a company and used to guide management decisions. A data warehouse serves as a central repository of integrated data from one or more disparate sources. For example, all Basel II data may be stored in a data warehouse even though it is derived from various systems.
Data mining	Software that examines large amounts of data to discover patterns and filter and retrieve specific information
Hadoop	A software framework that: (1) allows for the storage of data beyond what is possible on any traditional server/database so you can store many large files and (2) analyzes extremely large sets of data by moving the processing software to the data instead of the data to a processing application as you would traditionally do when using Excel
Predictive analytics	Technology that uses data, statistical algorithms, and machine learning techniques to identify the likelihood of future outcomes based on a set of historical data

Business Drivers

- Cost savings
- Faster decision
- New product and service
- Rapid growth of Fintech
- Capital planning/modeling

Importance

All institutions increasingly depend on system-generated information for decision-making and regulatory reporting.

Assumptions by management and examiners that data provided by the institution is always accurate, or lack of understanding of how the data is produced, may lead to significant errors.

As a result of blind confidence in management, audit, systems and/or controls, situations may arise where neither management nor examiners “know what they don’t know.”

Examples of Issues

- Heavy use of manually manipulated data accelerated the failure of a problem institution with no dual control
- Call Report restatements were forced because vendor did not correctly implement reporting changes
- Inaccurate reporting of brokered CDs led to a significant data error reflected in unreliable net non-core funding dependence ratio
- Unexpected loan loss reclassification occurred because data used to calculate Troubled Debt Restructuring (TDR) loans was incompletely captured and recorded on loan system

Key Indicators of Data Integrity Issues

Macroscopic

- **Business events** with potential to significantly change data quality (new business lines, stressed institution, acquisitions/mergers,)
- Other **changes to the business or processing** environment (management/staff turnover, new reporting requirements, system/vendor changes)
- Is the bank subject to **Sarbanes-Oxley**?

Microscopic

- Presence/absence of key policies and procedures
- Large number of general ledgers or upstream systems
- Proliferation of accounts, interfaces between systems, manual touchpoints
- Increases in the number of accounts, journal entries, size of suspense accounts
- Edits or report production outside systems, controls, normative processes, or chain of accountability
- Use of spreadsheets in place of databases
- Unclear accountability for report review

Data Governance Programs

- Established framework for ensuring integrity of data used for regulatory reporting, modeling, and other MIS that directs business decisions. Such programs should consider:
  - Policy and procedures
  - Reporting and escalation
  - Workflow documentation
  - Data traceability practices
  - Accuracy and completeness controls

Board and Management Considerations

- **Speed to market, but at what cost?**

The desire to make decisions at a faster pace may be advantageous to bringing in new business, but there may be a tradeoff to the speed and thoroughness of the credit decision or customer service response.

- **How is the quality of the data ensured?**

Many of the IT elements identified affect data or systems used to house or process data. As more data is collected and used, the integrity, security, and availability of that data grows in importance and requires greater scrutiny by management, audit, and regulatory bodies.

- **What decisions are made with this data?**

Given the immaturity of many data governance programs and the infancy of big data analytics, it is important to understand how the data is governed and the decisions being made with such data.

Supervisory Considerations

- Board and Senior Management Oversight
- Data Infrastructure and Controls
- Report or Data Migration Workflow
- Internal Audit Testing