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Global financial institutions' data governance: implications of EDM Council data management survey

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Executive Summary

The Basel Committee on Banking Supervision's "Principles for effective risk data aggregation and risk reporting" mandate that data governance regimes be established by not only G-SIBs but also major insurers and major regional financial institutions. A data governance survey of European and American financial institutions has revealed that data lineage mapping is a bottleneck impeding data governance upgrades.

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While the foundational governance is mostly in place, "Data lineage" is still a big task for Western financial institutions

The Basel Committee on Banking Supervision's "Principles for effective risk data aggregation and risk reporting" (BCBS239) mandates that global systemically important banks (G-SIBs)[1] establish data governance regimes by early 2016. In addition to G-SIBs, other major financial institutions, major insurance companies and major regional financial institutions (including D-SIBs[2]) also are expected to be required to upgrade their data governance within the next few years.

Enterprise Data Management Council (EDM Council)[3], a non-profit association dedicated to elevate the practice of data management, released a report[4] on its latest data governance survey of European and American financial institutions in November 2015. An NRI analysis of the survey results found a stagnation of the progress in upgrading data governance at some specific issues even at Western financial institutions. Contrary to the initial assumption that Western financial institutions have made significant advances to Japanese counterparts at almost all aspects of data governance, they are still struggling with some important issues of data governance to upgrade. We found Japanese financial institutions also grappling with the same issues, and this report will analyze the issue of “Data lineage (explained below)” as the most important one. The survey shows that most of the Western financial institutions have constructed their foundational data governance structure by appointing Chief Data Officers (CDOs) and setting up Data Management Office (DMO)[5]. The survey also found most of them have made a good progress on the identification of their Critical Data Elements (CDEs)[6]. With CDEs, they unravel risk process and separate data contents from risk calculation function. Contrary to the progress on the data governance structure and CDEs, most of them encountered major difficulties in mapping out Data lineage.

NOTE

1) Japan's G-SIBs are Mitsubishi UFJ Financial Group, Sumitomo Mitsui Financial Group and Mizuho Financial Group.
2) Domestic systemically important banks. Japan's D-SIBs are Sumitomo Mitsui Trust Holdings, Norinchukin Bank, Daiwa Securities Group and Nomura Holdings.
3) The EDM Council was established in 2005 in New York to elevate the practice of data management within financial institutions. Its members include UK and Canadian financial institutions in addition to top-tier US banks such as JPMorgan Chase, Goldman Sachs and Wells Fargo. The EDM Council has developed and promotes a Data Management Capability Assessment Model (DCAM) and Financial Industry Business Ontology (FIBO). NRI has been an EDM Council member since December 2014 and has translated the DCAM into Japanese.
4) The 2015 Data Management Industry Benchmark Report. Survey respondents included 128 globally active commercial banks, investment banks and asset management companies, not all of which are EDM Council members.
5) Another name for DMO is CDO's Office. A DMO's mission generally encompasses company-wide data management under the CDO's direction.
6) Identifying DCEs involves identifying a financial institution's operationally most important raw data from a management strategy standpoint and ascertaining how the data are used within the financial institution.

Analysis of the root cause behind Western financial institutions' inability to map out data lineage should be highly instructive for Japanese financial institutions as they upgrade their data governance. We deduced the causes behind European and American financial institutions' data lineage mapping difficulties through extensive conversations with Japanese financial institutions and regulators.

Why mapping out data lineage is important

Though perhaps arcane jargon, "data lineage mapping" is the most important part of upgrading data governance. Banks manufacture detailed trade transaction data every time a transaction takes place. These detailed transaction data are processed daily and stored as itemized balance data (e.g., daily account balances, subsidiary ledger balances disaggregated by product) for several management purpose by several organizational division(eg. Marketing management by Sales division, and Financial management by Finance Division). These data are then variously sliced, diced and re-assembled into reports for corporate executives for their management purposes. In other words, the data are repeatedly transformed into the different formats in accord with each of the various purposes for which they are used. The process of identifying the sequential steps in the data transformation as the data pass through IT systems and business operational processes is called "data lineage mapping."

Certain leading financial institutions have designated data lineage mapping as an essential first step in upgrading data governance. Their rationale is that unless data lineage is clearly mapped out, they cannot identify where problems are occurring in complexly interrelated data transformation (data supply-chains) or determine the order in which to rectify the data–related problems.

Western financial institutions are not even 10% of the way through the data lineage mapping process. Most Japanese financial institutions have not even started the process yet. Why have financial institutions not made more progress in mapping data lineage? Through conversations with knowledgeable parties in Japan, we have identified two major root causes of this lack of progress.

Two root causes of lack of progress in mapping data lineage

The first is that preparations for data lineage mapping impose an extremely heavy workload, which seems to be thwarting progress in data lineage mapping.

Such preparations typically includes inventorying a financial institution's important

internal data items and verifying the consistency of operationally equivalent data across multiple product and/or service lines. If this process reveals any definitional inconsistencies between data items that should be defined identically from an operational standpoint, the inconsistencies must be rectified. Their rectification may involve the creation of a data dictionary[7] instead of direct redefinition of data. However, when severe inconsistencies are discovered, such as discrepancies in the code numbers assigned to two sets of data that should be coded identically, the database itself may need to be rebuilt. Such inconsistencies consequently may prove to be an insurmountable obstacle to data lineage mapping.

7) When data definitions differ among organizational units or IT systems, a data dictionary may need to be created to clarify relationships among variously defined data.

When financial institutions undertake data lineage mapping, they must first compile a data inventory and verify corresponding data sets' consistency, and they also need to be prepared for extensive derivative tasks such as creating data dictionaries.

The second root cause of financial institutions' lack of progress in data lineage mapping is insufficient involvement by front-office (e.g. sales and trading) organizations in data governance upgrade projects. In fact, many western financial institutions' front offices have apparently been unwilling to cooperate with data governance upgrades despite top management's efforts to educate front-office personnel on data governance's importance.

Lack of front-office cooperation may be attributable to a couple of factors. Financial institutions' governance policies and standards are developed by data management office in the cooperation with middle- and back-office including risk and finance department and IT department, and those policies and rules are applied to front-office function. Under those policies and rules, front-office organization has to cooperate with data management office to materialize specific data control rules for its business operation. For front-office function, it may be too complex task to materialize the data control rules and apply them to its data operation. In addition, front-office personnel sometimes refuse to buy into data governance because they tend to perceive it is vague how the data control rules contribute to better operating performance. To prevent such inefficiencies, financial institutions should incorporate data governance policies into data control rules and procedures tailored to front-office business processes and performance targets and explain them in front-office vernacular. Given front-office operations' diversity, financial institutions of course need to consider compiling a number of different manuals.

We hope that western financial institutions' experiences discussed above and the insights we have gained from our conversations with Japanese financial institutions will help financial institutions to upgrade their data governance as safely and expeditiously as possible.

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