External Data for Operational Risk Management

Bank of Japan Workshop
19th March 2008

Loss Data Consortium Services

Risk*Business*

Positioning Statement

➢ Risk*Business* is an advisory services firm:

- Consisting of industry practitioners with many years hands-on risk management experience

- Focussed on operational risk within an enterprise risk environment

- Continuously invests in extending industry initiatives, content, developing the "Toolkit" for Op Risk Practitioners

- Developed and delivers KRI Services for the RMA – including KRI Benchmarking & Monitoring Services

- Developed and deployed a range of ASP solutions for its clients, including a loss data consortium service

- Is not solely in the loss data consortium business itself

Geographic Coverage

➤ Staff located in:

- London (business)
- Birmingham (technical)
- New York (business)
- Toronto (business)
- Zurich (business and analytical)
- Auckland (business)
- Sydney (analytical)
- Hong Kong (business)
- Nicosia (analytical)
- Mumbai (business and technical)

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Background Information

➢ A **sound operational risk management** framework relates not only to a bank's ability to keep records of internal loss data but also to **access to <u>comprehensive and relevant</u> external loss data.**

➢ External loss data has **two forms**:

  ▪ Public loss data, derived from public information by research
  ▪ Pooled or consortium loss data, provided by participants for mutual use

➢ Commercial **public loss data offerings** usually cover high-profile public events often **characterised by high-severity** (e.g. above 1 million USD) and **low-frequency**.

  ▪ Not comprehensive !
  ▪ Often inaccurate !
  ▪ Not necessarily relevant !
  ▪ Usually biased in one way or another !

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Benefits (Uses) of External Loss Data

External loss data can be used for:

➢ **Complementing internal loss data** in business areas or risk categories (e.g. fraud) where internal data are scarce;

➢ **Capital Modelling** – inclusion of data for establishing tail parameters;

➢ **Scenario analysis:**
  - Generating potential events that occurred in peer banks;
  - Reducing subjectivity of scenario loss and frequency values provided by business analysts / process owners in scenario analysis/ RCSA workshops.

➢ **Assessing effectiveness** of internal controls;

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Benefits (Uses) of External Loss Data

External loss data can be used for:

- ➢ **Refining existing key risk indicators** and developing new ones;

- ➢ **Benchmarking** of own loss profile with peer firms;

- ➢ **Risk Management** through provision of valuable analysis and insights derived from scaling; e.g.
  - most frequent/ severe risk category,
  - losses as % of gross income
  - # of $ mm losses per $ Bn of Assets etc.

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Benefits (Uses) of External Loss Data

Table 1:   Losses as % of Gross Income

Q1 07	Q2 07	Q3 07	Q4 07	FY07
0.50%	0.75%	0.80%	0.65%	0.68%
Local Data Consortium				

2004	2005	2006
1.40%	1.30%	1.60%
Global Comparative		

➢ Comparison of local consortium or individual bank data to global comparatives is interesting but also of limited value

Table 2:   Losses as % of Gross Income

Bank A	Bank B	Bank C	Bank D	Bank E
0.44%	0.39%	0.21%	0.59%	0.18%
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Mean	Min	Max
0.36%	0.18%	0.59%
Local Data Consortia		

➢ Comparison of individual bank data with local consortium has direct relevance to local risk management and capital measurement

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Benefits of a Local Consortium

➤ Far **more relevant** that foreign external data

➤ Statistically **more complete** than data derived from public sources.

➤ **Data tends to be more homogeneous**, mainly because of similar business mix, business environment and business volumes.

➤ **Higher data quality** as data is under consortium member's control and governance.

➤ **Can address the specific needs and requirements** of consortium members through local governance:

- Data categorisation issues, anonymity issues, scaling issues,…

➤ **Co-operation can be leveraged** into other spheres

- **pricing** e.g. insurance, then using collective bargaining to secure better cover at lower cost.
- **risk types** e.g. credit risk - PD, LGD, EL etc
- **other industries** e.g. cross industry issues such as electronic fraud

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Lessons Learned – In General…..

➢ **Lessons have been learned the hard way** !

➢ Data quality in the **first few submission cycles is usually poor but it improves significantly** from one cycle to the next cycle;

➢ Use of established Consortiums can help participants **avoid repeating others' past mistakes** and omissions;

➢ **Concerns** around competitive advantage, confidentiality and discoverability **are misleading** tangents;

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Lessons Learned – On Data….

➢ Typical data quality issues include:

- **Not all losses are reported** for a specific risk category and business line; **midrange losses often missing in relation to large losses**. As a results loss volatility is high whereas average loss values are relatively small:
  - A Consortium will ensure that submitted loss rata are exhaustive and statistically complete.

- **Risk category misclassification** issues:
  - A Consortium can provide banks with classification trees (taxonomy) to ensure consistent classification of data (e.g. event type classification trees).

- Operational **risk exposures are** likely to **be different across countries or regions:**
  - Hence establishment of 'local' consortia between participants with similar business mix, business environment, and business volumes.

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Lessons Learned – On Data……

➤ Typical data quality issues include:

- Some banks submit data according to their own **internal loss reporting thresholds:**
  - ◆ The Consortium will agree with participating banks on the use of the lowest common reporting threshold possible for data submission purposes.

- **Confidentiality versus Data Usefulness trade-off**
  - ◆ **Event description**: Event type level 2 does not provide adequate information:
    - – Consortiums typically like to use event types level 3 and level 4 that are granular enough, easy to understand, without disclosing event details
  - ◆ **Scaling factors**: Average Gross Income or other averaged scaling factors are of additional value to participants e.g.
    - – scaling to an 'average bank' and to 'your bank'.

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Lessons Learned - From Experience…

➤ Experience tells us:

- **Low level of classification attributes** in data taxonomy – restricts analytical opportunities.

- **Major effort to add further classification** attributes post fact.

- **Over-concern on secrecy and confidentiality** comes at a very high price.

- **Inadequate data quality assurance** – spoilt market image, restricted use.

- Selecting a **non-standard, causal approach** makes data less useful.

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Lessons Learned - From Experience…

➢ Experience suggests:

- ▪ Higher **upfront effort is rewarded** with richer data content;

- ▪ High **functionality can be achieved quickly** (less than 3 months) and reasonably;

- ▪ **Local "cohesiveness" facilitates easier agreement** on taxonomy issues, parameter setting and approach;

- ▪ Offering show allow individual members can **select the level of service** they are prepared to pay for;

- ▪ **Real-time data capture and data pooling** on an additive basis is far more useful than periodic submissions;

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Scaling Broadens Consortium Appeal

➢ The capture of additional "scaling" factors **enables comparative analysis** and **facilitates "benchmark" reporting.**

➢ Collection of scaling factors is **optional**

➢ Enables the **comparison of small and large institutions** on a "like for like" basis.

➢ **Eliminates "size bias" and broadens membership** of Consortium across the whole industry.

➢ **Types of scalers** can include:

- ▪ Gross Income & Total Asset,
- ▪ Headcount, Transaction Volumes
- ▪ Client Accounts etc, etc.

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Loss Data Consortium Service

➢ In response to market demand, Risk*Business* developed its Loss Data Consortium Service:

- A subscription service which delivers a complete LDC "in a box", including all necessary data standards, contracts, etc. to a banking association;

- It facilitates "real-time" on-line data submission, quality assurance, anonymisation, analysis and reporting;

- It is typically deployed as an ASP solution with no set-up costs, no ongoing running costs, but simply an annual subscription;

- It is always provided through a local "facilitator" who owns the local data on behalf of the local market;

- It can also be used to collect credit exposures and credit default data, operational losses "near" misses , and operational exposure data pooling.

Existing Consortia

- Risk*Business* is currently establishing **6 regional or country based consortiums** around the globe.
    - Europe
    - Middle East
    - Southern Africa
    - Asia Pacific
- Across these consortia there are **approximately 200 member participants**
- **Data sharing** between individual consortia or **across all consortia can be facilitated**

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Overview of RBI Offering:

➢ The Loss Data Consortium Service employs the following core principles:

- Data confidentiality through the separation of identifiable data from values used for analysis, with identifiable data encrypted under control of the member

- Data quality, achieved through collaborative taxonomy evolution, submission assessment, analytical assessment and annual attestation

- Data standardisation through the use of deeper levels of classification, a broader set of classification structures and associated tools to facilitate the standardisation of classification

- Global reach through co-operation between serviced facilitators on data sharing
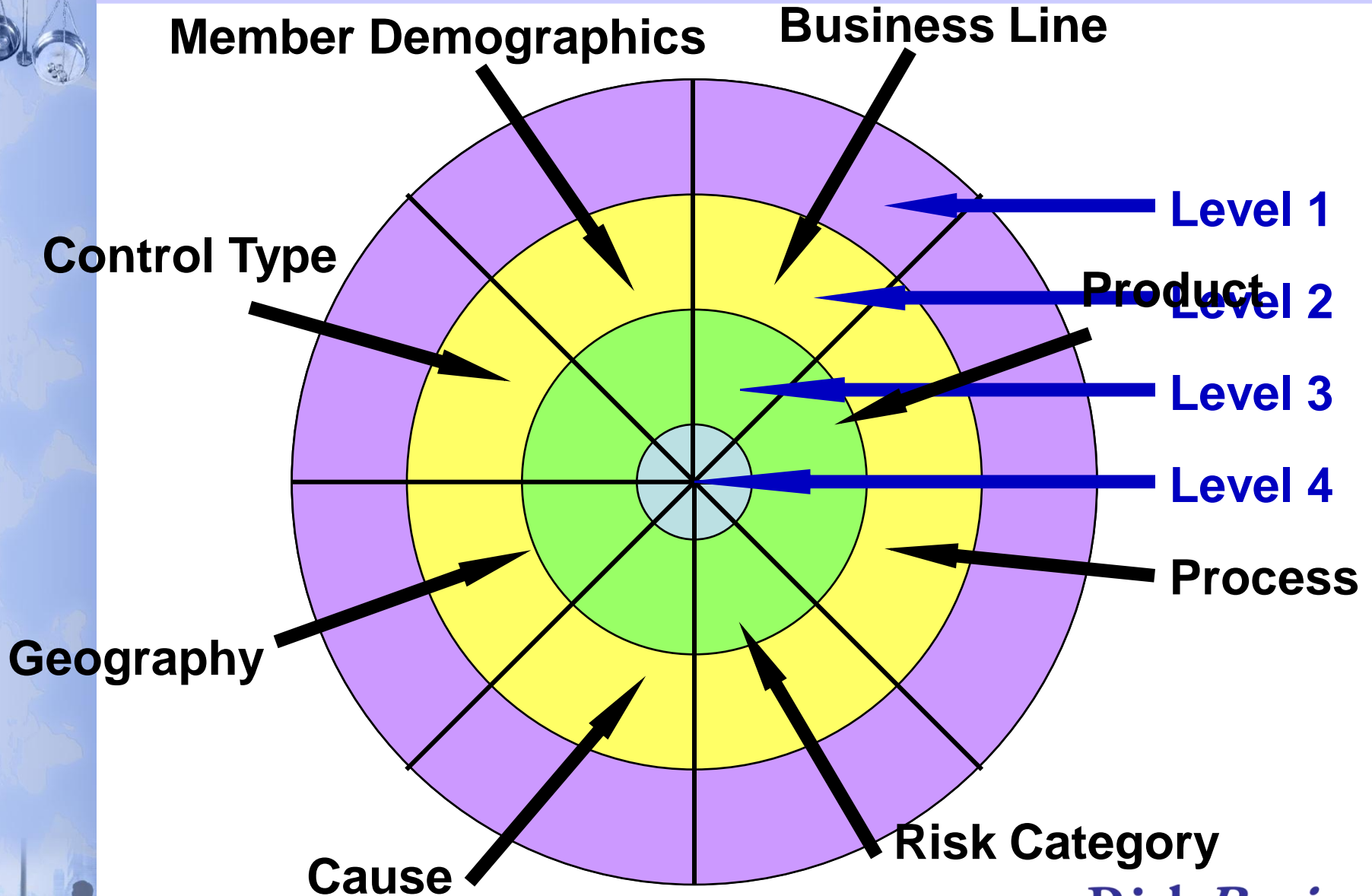
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Highlights of the RBI Offering

➢ The Loss Data Consortium Service:

- An on-line solution supporting periodic data submission or "drip-feed" reporting thus potentially facilitating proactive assessment;

- Parameter driven, allowing enormous flexibility

- Employs an independent Taxonomy for the population of many data fields;

- Has a "User Definable" Taxonomy that can be mapped to industry or regulatory taxonomy

- Is provided with a comprehensive Software Development Kit (SDK) to facilitate members building their own interfaces;

- Includes a sophisticated scaling methodology and filtering capability.

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Highlights of the RBI Offering

➢ The Loss Data Consortium Service:

- Can **facilitate local language** requirements in terms of analytical reporting and data capture;

- **Local Data Ownership** for Consortium appeases issues associated with Data and Regulatory Compliance;

An Extensible Data Model

Member Demographics

Business Line

Control Type

Level 1

Product

Level 2

Level 3

Level 4

Process

Geography

Cause

Risk Category

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Additional Fields offer "Value Add"

➢ **"Added Value"** analysis and reporting for improved risk management can be achieved through the **capture of (optional) additional data fields.**

- Description of Loss Event
  - a short qualitative overview of the nature of the event without compromising confidentiality via online quality assurance review

- Cause of Loss
  - selection from a pre-defined known causes or free form

- Primary Control Type Failure
  e.g. Confirmation Matching Failure, New Customer Checklist etc

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Currency of Event vs Reporting

➢ The Loss Data Consortium Service supports the specification of a **default consortium currency**, as well as **default currencies for each member** and any part of the member organisation

  ▪ These default currencies are only used to pre-populate data fields and can be changed at will

➢ Loss events should be **recorded in actual currency** and are stored in that currency

➢ The application maintains a **complete currency exchange rate database**

➢ For reporting and analysis, the **user may select desired currency** and dates to be used

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Filtering for Reporting Relevance

- The Loss Data Consortium Service provides a **standard set of reports**.

- **Data can be filtered** using user defined filters and the **results downloaded** for member analysis

  - No identifiable data is ever downloaded

  - Parameters control if details may be downloaded or if scaling should be enforced

- An encrypted system linkage table facilitates the Analytical Agent accessing data grouped by member **without knowledge of identity**

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Thank you

➢ Any Questions

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