

# Risk Data Standards



## Establishing Operational Risk Data Standards: The Causative Event Filter

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We are writing in response to several papers that have recently been released on the issue of data standards. Most notable to us was the publication by the Industry Technical Working Group of the IIF, and titled "Response to the RMG Request of 1 Nov 2000 on Data and Definitions."

In principle we agree broadly with many of the Working Group's proposed frameworks, and in particular with its recommendation for an "evolutionary" approach, and desire to balance both quantitative and qualitative methods in the quest to track and identify operational risks. Also the Basle Committee's Risk Management Group (RMG) in its April 2000 discussion of "Other Risks" acknowledges "the ability of banks to quantify OpRisk (operational risk) varies greatly, as does management's confidence in any numbers that are produced." The Risk Management Group in the same document stated that "Qualitative elements play an important role in the allocation of optimum capital for OpRisk."

We sense a general agreement in principle that the application of any operational risk capital recommendations will need to be applied carefully and with a soft touch. It is also recognized that this is not an appropriate situation for an "one size fits all" ruling.

However we appear to disagree in the details. In this case the details involve data standards which in our opinion is quite important within the Operational Risk Management Framework. The practice of good Operational Risk Management involves the collecting, organizing, categorizing, and analyzing of data. Senior level management decision making will eventually be predicated on the availability of *intelligible* data.

Experience has demonstrated to us that working with data can at times be less than glamorous work. Nevertheless, it is important that the underlying data is accurate, carefully indexed, and interpreted/modeled by industry and information experts.

We believe that the ITWG has made a valiant effort at finding the "least painful" method for extracting and distilling operational risk data gleaned from within the data warehouses of various banking operations. In the above mentioned paper the working group states "Collecting by effect is easier." It further elaborates "Effect-based classification is sufficient for measurement, while risk management may require categorization by causes."

It is our opinion that "effect-based classification" is never sufficient, and the broadcasting of recommendations based upon an effects-based scheme will create

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standards that are ultimately unworkable. The most effective approach to the collection of operational risk event driven data is by “causative event factor.”

Collecting the cause of an event (or near-event) provides substantially more information about what happened, and many more possibilities for modeling, than simply collecting and organizing events around “loss types.” The collection of data following an effects-driven methodology closes the door on the very qualitative approach that the RMG predicates in its recent paper on “Other Risks.”

It is the cause that spells out what triggered the event, and where the weaknesses within an organization might lie. It is causal information that provides useful feedback on what steps can be taken to avoid future renditions of the problem. For example, if a bank is fined by a regulatory authority for unauthorized trading, is it not only important to know that the bank was fined, but also that the incident was caused by a trader who surpassed his limits, and was not properly supervised. Of course, at the same time we do not want to diminish the importance of collecting loss type data. It is the lens that we filter our analysis through that is important: the ITWG advocates a “loss effects” filter, while we recommend a “causative events” one.

Why go through all the effort of collecting data, but screen out the less quantifiable, but still important losses, such as reputational risk? In addition, the application of a causative approach carries with it the additional advantage of transforming the unquantifiable into the quantifiable by the use of statistical and actuarial techniques.

From a pure modeling perspective, the gathering of data by effects poses some major problems (i.e. correlations), and limits the type of analysis that can be performed. The very grouping of records by “causative events” states infinitely more quality information and allows for many more modeling, scenario building, and back-testing possibilities than a grouping by type of losses.

As the discipline of operational risk further evolves, scenario-testing approaches will likely be adopted and applied from market risk models. We hope that the industry will move over time from a pure “calculation of operational risk capital” model to a more robust and fully integrated standard approach that promotes early identification and remediation.

The other major issue with modeling is the necessity to create categories that are mutually exclusive. If we assume that an event has one and only one causative factor, and by reading the supporting materials, we recognize the single most important trigger

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behind the event, duplication and double counting are for the most part avoided. Alternatively, if we consider an event through the loss filter, there might be several types of losses recorded. For instance, an event such as occurred in Orange County resulted in a multitude of fines, settlements, and losses on the part of several brokerage firms. It is only by aggregating these losses that the severity of this event can be determined.

The ITWG states that the “boundary lines between effect-based categories are sharper, leading to greater consistency”, but in fact the opposite happens when a group of events are indexed. It is possible to target one causative event, but each record may have several types of losses. The working group also recommends that a single operational risk event that produces multiple losses be allocated according to the effects: “Linking the different effect type for a single event (e.g. Legal Liability & Write-Downs) raises practical issues.” But it is the linking of these effects that provides information on the severity and duration of an event. Counting the effects separately creates modeling problems in terms of the “event base.” After all, we believe the goal is not to find the easiest and least complicated solution, but to find the easiest and least complicated solution that provides the highest degree of quality and integrity for the purpose of monitoring, modeling, mitigating, and interpreting events.

We do agree with the ITWG’s statement that “Effect-based classification of losses may be less subjective.” At times it does take a bit of subjectivity to determine the cause of an event. Often, the cause is clearly stated in the supporting documents – a trader surpassed his limits; a banker laundered money, etc. At other times, additional research and judgement on the part of those who are responsible for categorizing events is required. This harks back to the point made earlier that although data gathering can be unglamorous work it is of vital importance that loss records are categorized expertly and accurately, so that the numbers that are fed into the models are reliable, and consistent.

Although we do not advocate analyzing operational risk loss data points through the loss type filter we would like to propagate a more extensive set of items for this category. The loss types that have been recommended only consist of 6 items, and do not cover indirect losses at all. This precludes the tracking of issues, incidents, and near-losses. The identification of near losses, and issues that have the potential of becoming fully realized losses in the future, are important components of risk management. This leads to the heat-map or dashboard concept where problems can be spotted before they occur and dealt with accordingly. If near miss or pre-loss data is not collected, it is usually lost forever and can be nearly impossible to retrieve later. The tracking of the

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lifecycle of an event provides much more information to the organization than the gathering of dollar realized (or other currency-based) events.

We have additional reservations about the recorded loss date standards being advocated. For instance, it has been recommended that the loss date be entered based on immediate hit of the balance sheet. In actuality, the loss date should be the date the incident occurred – or the closest possible proximity to the event. This provides much more information about the event than the standard recommended by the ITWG. It allows for the consideration of other factors, such as currency declines and market volatility. Market risk and operational risk are often interconnected, and it is our belief that market risk related losses are usually magnified by operational risk control breakdowns. Recording the actual date of an event can reveal a lot of information about the event itself; it can even be used in interesting modeling exercises.

The ITWG is very much in step with many others in the industry acknowledging that it is sometimes difficult to separate market, credit and operational risks from each other. It is our belief that operational risks live beneath the surface of credit and market risks. It will be of outmost importance to establish an enterprise-wide approach to risk management, which includes data collection and adoption of a causative events approach to achieve the high quality standards required by the regulatory authorities.

We have attached a brief sampling of our keyword tables, and would be willing to share the complete tables at a future date. Of course we would also welcome the opportunity to discuss this issue in more depth with you.

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### Abbreviated Causative Event Factors Table (with one sample category for each risk class)

**People Risk** (The risk of a loss intentionally or unintentionally caused by an employee ---- i.e. employee error, employee misdeeds -- or involving employees, such as in the area of employment disputes. This risk class covers internal organizational problems and losses.)

- **Record Keeping Related Fraud**

- Destroying records
- Concealing records
- Falsifying records
- Counterfeiting/forgery
- Improper record keeping
- Misuse of important information
- Non-disclosure of sensitive issues
- Deceptive advertising
- Concealing losses/problem assets
- Inflating revenue/profits
- Fraudulent misrepresentation

**Relationship Risk** (Losses caused to a firm and generated through the relationship or contact that a firm has with its clients, shareholders, third parties, or regulator – we.e., reimbursements to clients, penalties paid, sales practices.)

- **Sales Related Fraud**

- Churning
- High pressure sales tactics
- Sales misrepresentation
- Suitability rules

**Process Risk** (Risks related to the execution and maintenance of transactions, and the various aspects of running a business, including products and services.)

- **Execution Risk**

- Inadequate/problematical transaction completion
- Inadequate/problematical transaction settlement
- Inadequate/problematical transaction execution
- Poor documentation
- Lack of proper due diligence

**Technology Risk** (The risk of loss caused by a piracy, theft, failure, breakdown or other disruption in technology, data or information; also includes technology that fails to meet business needs.)

- **Systems Related Losses**

- Systems failure
- System hacking
- Inadequate systems
- System maintenance

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**External Risks** (The risk of loss due to damage to physical property or assets from natural or non-natural causes. This category also includes the risk caused by actions of external parties, such as in the perpetration of fraud, or in the case of regulators, the promulgation of change that would alter the firm's ability to continue operating in certain markets.)

- **Non-Natural Disasters**
  - Unclassified non-natural disaster
  - Arson
  - Bomb threat
  - Explosion
  - Fire (non-natural disaster)
  - Power shortage
  - Telecom shortage
  - Terrorism
  - Plane crash
  - Shipwreck