



Measuring OpRisk

Summary

In an attempt to emulate other risk disciplines, ORM has repeatedly tried to come up with some kind of generally applicable measure for OpRisk. This newsletter proposes such a measure that can be used throughout the bank for any business unit, department or area. It is a measure that relies on an up-to-date risk register, risk evaluation and an accurate overview of action plans.

Dear reader,

Day-to-day operational risk management has two programmes that deliver quantitative measurements, KRIs and Loss information. There are, however, significant arguments against the use of that data for a general scoring mechanism. Not all business processes lend themselves to KRIs, and some of the largest risks (such as fraud, lawsuits, mis-selling or regulatory transgressions) are notoriously elusive and are nearly impossible to capture in KRIs. And while loss data provides an excellent insight into past risks it is hardly forward looking and could even be a contra-indication of future risk.

ORM Scoring

The basis for the ORM scoring must be simplicity, applicability and relevance. The measurement needs to be simple enough so as not to require additional data gathering beyond the existing ORM programme. Applicability refers to the requirement that a score must be computable for any business unit or department as well as at the overall bank level and, indeed, the group level. Relevance here refers to the fact that the score must tell us about the risk going forward, i.e. it should take into account what is being done about the risk and should reflect progress as well as deterioration wherever applicable. That means that the traditional use of Impact*Likelihood matrices do not suffice. Although purporting to measure both inherent and residual risk, they should be set off against actions and risk appetite in order to make proper use of them in scoring.

ORM Risk Score

The risk score we present here is not a calibrated ordinal scale but a relative scale which indicates the level of risk at a specific moment in time within a unit. It is therefore best used within that unit, not to compare between units. Scores run up to a maximum of 100, where a higher score implies a higher risk exposure. A score of 60 for unit A at time T and a score of 50 for the same unit A at time T+1 implies that the risk profile for unit A has improved over time.

We start by noting the taking the Impact*Likelihood tables¹ that are commonly used in risk assessments for ORM to ascertain the priority of the risk. For each risk, we also need to know whether the current risk and control level is Accepted, or whether it requires some Improvement.

Risk scoring itself is quite a simple measure.

¹ This method works for any Impact*Likelihood approach, whether the measure is numerical, categorical, in terms of High/Medium/Low, using a 5*5 or 7*5 or indeed any X*Y matrix. The only requirement is that it leads to some one-dimensional prioritisation of risks in terms of "importance".



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$$[1] \quad RiskScore = 100 \cdot \left\{ \frac{\sum_{i=1}^N Ranking_i \cdot RiskStatement_i}{N \cdot Max} \right\}, \text{ where}$$

- N = Number of risks in the risk register
- Ranking_i = The priority ranking associated with a Risk *i* (see sample table below)
- Risk Statement_i = {0.1;1}
The value of 1 is given if any of the causes/controls linked to Risk *i* carries the statement *Improve*. Only if all associated causes/controls linked to risk *i* carry the statement *Accept* is the value 0.1
- Max = The highest value in the priority list (in the example below, 20)

We need to apply a transformation table to the priorities of the risk matrix to turn them into values. The exact values do not greatly matter here but the range should be such that the highest priority clearly dominates. Values of 1, 2, 3, 4, and 5 would thus not do justice to the intensity of the higher risks.

Priority Ranking	Common colour coding	Suggested Value
Insignificant	Light green/Not coloured	1
Low	Green	2
Medium	Amber	5
High	Red	10
Ultra	Dark Red	20

The formula [1] returns a value below 100, effectively scoring all risks that have an outstanding action against them at tenfold their priority weight. The higher the score, which is dependent on the priority levels of the risks and their associated action status, the riskier the unit is.

Note that the risk score does not decrease as fewer risks are identified. Rather, the risk score decreases as the priority of risks decreases or as risks attain the status of *Accept*, i.e. when the risks and controls are deemed such that no further action is required. Risk levels increase when actions are still outstanding to mitigate the risk, as reflected in the Risk Statement.

ORM Action Score

The next score type is an ORM Action scoring, which uses the number of planned and ongoing actions. The formula used to compute this score for a section of the bank is again very simple calculation with a maximum outcome of 100 points

$$[2] \quad ActionScore = 100 \cdot \left\{ \frac{\sum_{j=1}^M ActionStatus_j}{M \cdot Max} \right\}, \text{ where}$$



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- M = Number of Actions defined in the Action grid
Action Status_j = The value of the action *j* (see sample table below)
Max = The highest value in the Action Status table (in this example 20)

Here, we need to assign values to the status of the actions. Again, the values themselves do not really matter, but an action that has not started yet does not reduce risk at all. To do justice to the range of options, a table such as the one below is suggested:

Action Status	Value
Not Yet Started	20
On Hold	10
Closed / Terminated	10
Open	5
Closed / Completed	1

This part of the scoring returns a value based on the progress of all outstanding actions. Note that not all actions result from a specified risk in the risk register. Some actions cover multiple risks, even some risks that have been given the status *Accept* in the risk register. In order to give all actions their due, they will be treated as a combined set of actions that, when completed, improve the quality of the bank's operational risk level. As such, they are assumed to reduce risk upon reaching the *Closed / Completed* status. Actions that have not yet started are assumed not to reduce risk and thus carry the highest weight in terms of risk. Open actions are given the benefit of the doubt and are on the lower scale between *Not Yet Started* and *Closed / Completed*. Actions that are *On Hold* or that are closed without completion (i.e. *Closed / Terminated*) are considered to only half as effective as completed actions.

Conclusion

Scoring the progress of OpRisk requires data elements any bank should be able to deliver. From the risk register, we need the list of accepted and non-accepted risks with their severities. From the overview of actions, we need the list of agreed actions and their status. Using this information to compute a reliable ORM score will elevate the data regarding risks, controls and actions from mere lists to validated measurements that can be discussed at ExCo level, can be used in an AMA approach and that help provide transparency across the bank.