



Gary Cokins
CPIM, is a strategist with SAS. He is an internationally recognized expert, speaker and author in advanced cost

management and performance improvement systems. Following receipt of an industrial engineering degree from Cornell University in 1971 and an MBA from Northwestern University Kellogg Graduate School of Management, Gary began his career as a financial controller and operations manager with FMC Corporation. He served fifteen years as a consultant with Deloitte & Touche, KPMG Peat Marwick, and finally with Electronic Data Systems (EDS) where he headed their Cost Management Consulting Services.



Peyman Mestchian
BEng, MSc, MBA, FIRM is Head of the Risk Intelligence Practice for SAS EMEA.

He has over 15 years experience in risk management, having previously worked as director of the Business Risk Consulting Practice at Ernst & Young, where he led numerous board-level consulting assignments on enterprisewide risk management. He is a Fellow of the Institute of Risk Management and holds an MBA from the London Business School.

Risk-Based Performance Management – Making it Work

By Peyman Mestchian, SAS EMEA and Gary Cokins, SAS International

Performance management is now more correctly being defined as a much broader umbrella concept of integrated methodologies – much broader than its previously misconceived narrow definition as simply being better strategy, financial budgeting, and control. What could possibly be an even broader definition? Our belief is performance management is only part – but a crucial, integral part – of how an organization realizes its strategy to maximize its value to stakeholders. This means that performance management must be encompassed by a broader overarching concept – intelligent risk management.

Risk-based performance management has been evolving for a number of years in the financial services industry. However it has attained a new focus and urgency as a result of the regulatory mandates of the Basel II Capital Accord. By better aligning banking risks and their management with regulatory capital requirements, Basel II provides a new incentive for banks to renew their efforts in this area, by developing a capital planning approach that integrates regulatory and economic capital models into an overall framework.

Why risk-based performance management?

Risk governance awareness from government legislation, such as Sarbanes Oxley and Basel II is clearly on the minds of all executives. Accountability and responsibility can no longer be evaded. However, risk-based performance management allows firms to move beyond compliance and derive real business value from their compliance initiatives.

Risk management is not about minimizing an organization's risk exposure. Quite the contrary, it is all about exploiting risk for maximum competitive advantage. A risky business strategy always carries the highest premium prices. Once risk-return profiles and risk-adjusted performances are comparable across business lines, and measurable for the entity as a whole, firms can address two key objectives:

- Specify risk profile to debt-holders
- Generate value for shareholders

Risk can be defined in terms of unexpected losses. Expected losses are changes in values that can be derived or anticipated from data currently available, while unexpected losses are potential deviations from the expected losses or, indeed, gains.

In the banking sector, there are three main types of risk:

- **Market Risk** – Unexpected fluctuations in market values (e.g. equities, commodity prices, interest rates)
- **Credit Risk** – Unexpected amounts of loan-defaults (e.g. due to a national economic crisis)
- **Operational Risk** – Unexpected internal or external loss events due to people, process or technology failures (e.g. due to fraudulent activities by staff)

Many observers view operational risk as the key lever for enterprise risk management (ERM), where organizations can match their risk exposure to their risk appetite. This is where they can wager the big bets. These include the potential benefits from risks taken and from missed opportunities of risks not taken. Should we enter a market we are not now participating in? Should we offer an innovative product or service-line while unsure of the size of the market or competitor reactions? How much should we rely on technology to automate a process? But organizations need to first measure their operational risk exposure and appetite, in order to manage it.

A Risk-based Performance Management Framework

The premise is to link risk performance to business performance. As it is popularly described in the media, performance management, whether defined narrowly or ideally more broadly, does not currently embrace risk governance. It needs to. The figure below illustrates how risk management and performance management combine to achieve the ultimate mission of any organization: to maximize stakeholder value.

The four step sequence includes direction setting from the executive leadership – “Where do we want to go?” – as well as the use of a compass and navigation system to answer the questions “How will we get there?” and “How well are we doing trying to get there?”

1) Risk Management – Here the executives stand back, identify and assess the market and environment, a process that includes the identification of their key risk indicators (KRIs). Formulating KRIs is essential to understand the root causes of risk. They include a predictive capability, so that by continuously monitoring variances between expected against re-forecasted KRIs, the organization can react before rather than after a future event occurs. Firms need to utilise a combination of qualitative and quantitative techniques.

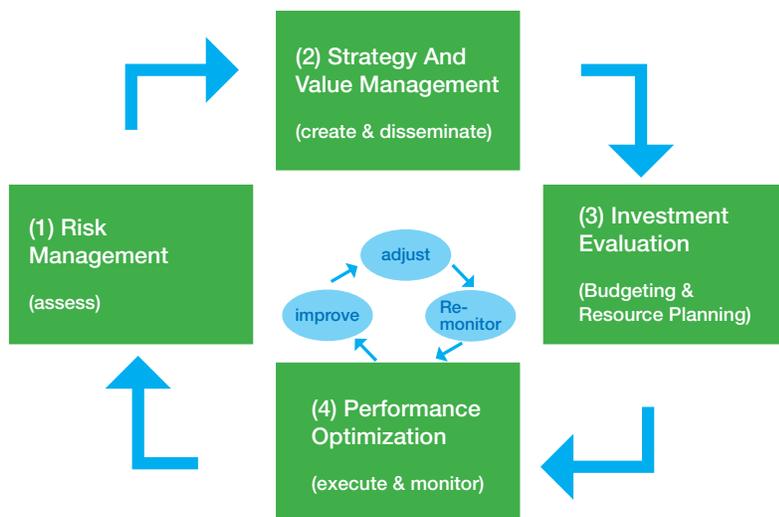
2) Strategy and Value Management – A key component of the portfolio of Performance Management methodologies is formulated here: the organization’s vision, mission, and strategy map. This is how the executive team both communicates to and also involves its managers and employee teams. Based on the strategy map, the organization collectively identifies the vital few and

manageable projects and select core processes to excel at that will help it attain the multiple strategic objectives causally linked in the strategy map. This is also where research and development, plus innovation projects are incubated.

3) Investment Evaluation – Resources, financial or physical, must always be considered as being scarce, so they must be wisely chosen. The capital markets now ultimately judge commercial companies on their future net positive free cash flow. This means that every incremental expense or investment must be viewed as contributing to a project requiring an acceptable return on investment (ROI), including recovering the cost of capital. Spending constraints exist everywhere. That is, customer value and shareholder value are not equivalent and positively correlated, but rather they have trade-offs with an optimum balance that companies strive to attain. This is why the annual budget and the inevitable rolling spending forecasts, typically disconnected from the executive team’s strategy, must be linked to the strategy.

4) Performance Optimization – In this last step, all of the execution components of the Performance Management portfolio of methodologies kick into gear. These include but are not limited to: customer relation management (CRM), enterprise resource planning (ERP), supply chain management, activity-based costing, and Six Sigma/lean management initiatives. The mission-critical projects and select core processes that an enterprise must do well will have already been selected in step 3. Therefore, the balanced scorecard, with its predefined key performance indicators (KPIs) (and KRIs as a subset of the total universe of KPIs), at this stage becomes the mechanism to steer

Risk-Based Performance Management



the organization. The balanced scorecard includes target-versus-actual KPI variance dashboard measures, with drill-down analysis and colour-coded alert signals. Scorecards provide operational and financial performance feedback so that every employee, who is now equipped with a line of sight to how he or she helps to achieve the executives' strategy, can daily answer the fundamental question, "How am I doing on what is important?" The clockwise internal steps – "Improve, Adjust, Re-Monitor" – are how employees collaborate to continuously re-align their work efforts, priorities, and resources to attain the strategic objectives defined in step 2.

The four steps are a continuous cycle, where risk is dynamically re-assessed and strategy subsequently adjusted.

Risk-based performance measures

There has been some debate in recent years about which measures to use for risk-based performance management and what a "good" performance measure is. As ever in this field, the answer to this question is: it depends on what the measure is being used for. For example, is it being used to establish 'safe' but risk sensitive capital requirements, (of greatest importance to bondholders) or is it being used as a tool for internal risk management, i.e., not only control but also optimal resource allocation (of greatest interest to shareholders)? We have listed below some of the most popular measures used today and their application:

- Value at Risk (VaR) – the idea of VaR stems from the question "how much might we lose when things go against us? – The question can be answered in the form "we are X% sure that we will not lose more than \$V over the next N days". \$V is then known as VaR. Regulators generally want to see the value of V when X=99% and N=10 days, while, for internal control purposes, institutions can choose whatever values they feel comfortable with.

Value at Risk (VaR), has become a very popular risk measure since the introduction of new regulations (Basle 1996 Amendment, CAD2). It is accepted by the regulator for calculating minimum capital charges.

Also in this context, Return on VaR (RoVaR) can be defined as:

$$\text{RoVaR} = \text{expected return/VaR}$$

For non-normally distributed assets, RoVaR has the advantage of concentrating on the size of the downside risks

- Risk-adjusted Profitability (RAP) = Profit / Risk Capital' - this can be used to measure the performance of individuals. To give an example:

	Profit	Notional	Volatility	Risk Capital	RAP
FX Trader	10	100	12%	28	36%
Bond Trader	10	200	4%	19	54%

In this example each trader has made the same profit, but the bond trader has used the risk capital more efficiently.

- Economic Value Added (EVA) – looks at the creation of value in excess of the required return on capital (or hurdle rate).

$$\text{EVA} = \text{profit} - (\text{capital} \times \text{hurdle-rate})$$

- Risk-adjusted return on capital (RAROC) - is defined as EVA/capital

There are in fact, many other risk-based performance measures used in the financial services industry, but these are not always clearly defined, for example:

- ROA: Return on assets
- ROC: Return on Capital
- RORAA: Return on risk adjusted assets
- RAROA: Risk adjusted return on assets
- RORAC: Return on risk adjusted capital

Increasingly, such measures are used for a number of business applications, for example:

- Ranking and deal profitability
- Pricing of risky assets and deals
- Capital allocation decisions
- Compensation schemes

From theory to practice

The information needed to drive the risk-based measures and KRIs already

exists in most organizations. The challenge is getting the data out of a variety of

operational, financial and risk databases. Furthermore, this data needs to be manipulated and presented effectively. Figure 2 is a sample topology for such a "risk dashboard". It rests on manual and automated data inputs and generates views of a common pool of information, according to the requirements of the various end-users: senior executives, risk managers and BU managers.

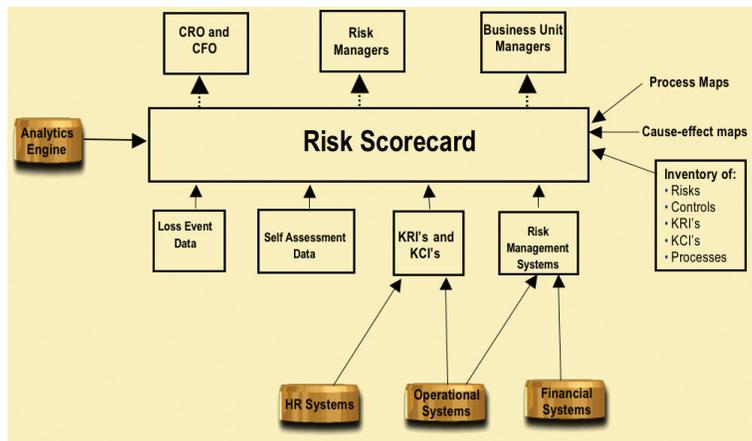


Figure 2: Topology of a “Risk Dashboard”

A “risk dashboard” should enable the firm to manage risk and performance metrics to maximise value for the entire enterprise, while addressing the specific requirements of individuals and groups. A lot of attention needs to be given to the ergonomic representation of KRI information. But most financial institutions are already familiar with the presentation of KPIs in balanced scorecards and process maps. The lessons learned should be applied to risk management, leading to a seamless integration of risk data and business performance data.

At the senior level, this should support the firm’s overall understanding of its corporate performance – e.g. “if we accept this level of operational risk, what is the likely impact on financial and non-financial KPIs?”

Conclusion

Risk-based performance management enables firms to identify business lines and business opportunities that create shareholder value – as well as those that destroy or will destroy shareholder value. A focus on these approaches and measures can help a firm optimise its incentive systems, to ensure compatibility and alignment of business strategy with the business-unit management. Such a focus can also drive improvement in data collection and use. It can thus improve knowledge and awareness of risk and risk management throughout the organisation.

Risk-based performance management will inevitably be the overarching integration of methodologies. Advances in information technologies, business intelligence, and analytical software will enable this vision.