

ERM: Integration of Finance and Risk

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Abstract

Financial service firms that launch enterprise risk management (ERM) initiatives often successfully complete the start-up activities including:

- Attaining management/board buy-in
- Appointing a C-level champion
- Defining a common risk language
- Choosing an ERM framework (e.g., COSO, AS NZ 4360, in-house, etc.)
- Beginning risk identification/quantification/priorities/responses.

As they move into the execution phase, however, many insurers and banks find themselves bogged down by the daunting task of integrating enterprise risk activities into their daily operational activities. One of the most crucial areas of integration is in the intersection of the risk activities and strategy/finance functions. The purpose of this paper is to address key aspects of the risk/strategy/finance ERM implementation from both the theoretical and applied perspectives. The topics to be covered are:

- ERM overview including historical perspective
- ERM implementation—focusing on strategy, finance and risk
- Case study.

This paper will focus exclusively on the insurance industry.

1. Historical Drivers: A Synopsis of the Evolution of ERM

1.1 Historical Perspective

The need for U.S. financial service companies to manage risk holistically has accelerated since the first domestic chief risk officer was appointed (Dr. James Lam at Fidelity Investments) in the mid 1990s. The rationale for establishing an enterprise-wide risk management process has been well documented. Moreover, external stakeholders such as the rating agencies (e.g., Standard & Poor's) and state regulators (e.g., Risk Surveillance Framework) are demanding that insurers not only demonstrate the existence of their enterprise risk management (ERM) programs but also prove the effective deployment of such programs.

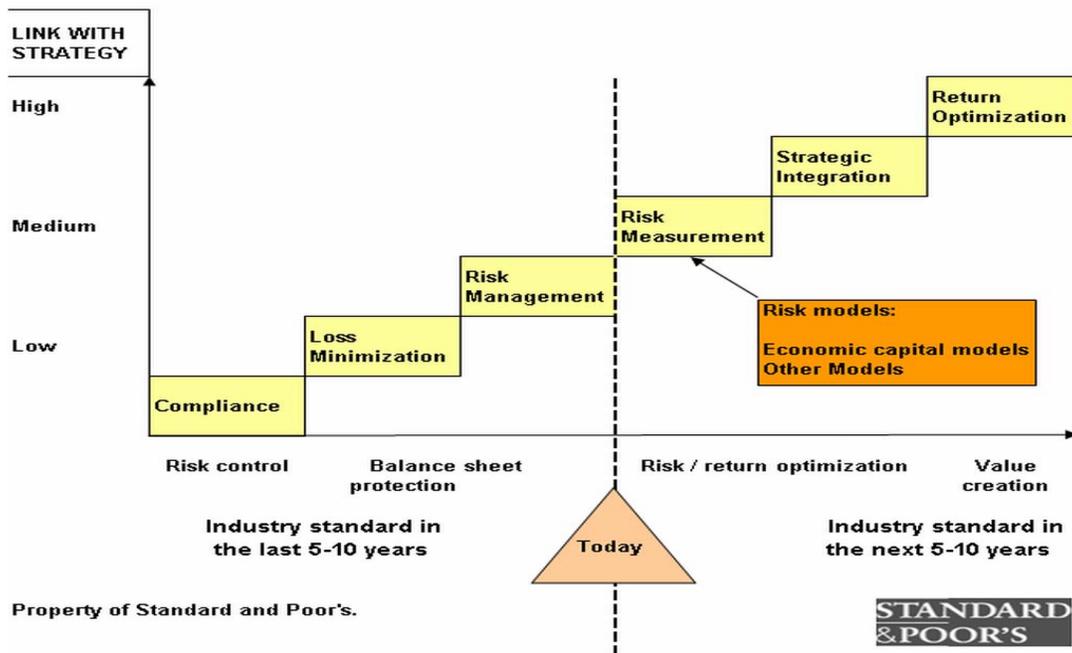
Meanwhile, certain areas of the developed global markets (e.g., Australia, United Kingdom, New Zealand and South Africa) are ahead of the United States in risk management sophistication and have been practicing ERM long before their counterparts in the United States. The business and academic communities of these leading edge ERM markets along with their brethren in the United States have produced strong and broad-based support for the need for ERM. These ERM drivers represent a sample of a broader spectrum of forces pushing insurers of all sizes and lines of business to do ERM.

1.2 Slow Adoption of ERM in Insurance Industry

Despite this confluence of drivers, insurers have generally moved slowly first in deciding to move forward with an ERM program and second in how best to develop and implement an ERM process that reflects the unique characteristics and needs of their company.

Insurance companies find that the ERM process is a multi-year journey on which they move through various phases. Thought leaders have posited a variety of frameworks within which to understand this progression. One example is the S&P description of the Evolution of Enterprise Risk Management (Puccia, 2007).

Evolution of Enterprise Risk Management



As this chart shows, over the last five to 10 years the evolution of risk management in the insurance industry has only moved through the early stages of ERM. For years risk management activities of insurers focused on regulatory compliance with the primary objective of risk control. Compliance risk management had little linkage to strategic and financial objectives.

Over time, this compliance-centric mentality led companies to begin to manage risk with the goal of protecting the balance sheet. At this stage, while risk management has a broader footprint across the organization, the goal is minimizing loss within balance sheet silos: assets (investments—e.g., credit risk, market risk, interest rate, currency, etc.) and liabilities (reserves—e.g., casualty, mortality, property, morbidity, etc.).

Within these silos, the discipline of risk management gained momentum and focus within each of these functional areas. While the investment CFA-laden portfolio managers applied the latest investment theories and practices from business schools and Wall Street, the actuaries grew increasingly sophisticated in their analysis of risk within their respective lines of business. Insurers' risk management activities were now more closely aligned with strategic and financial goals but only through the ties that each silo had to the executive suite. Integration is represented by summary management reports prepared by the CFO or COO for the management team and board of directors. In the offices outside of the spacious suites of C-level, cooperation and integration in risk management activities are found only at a small percentage of leading edge firms.

2. ERM Integration

Where does an insurer begin to integrate ERM into all parts of the company—both vertically from the board room down the line to the employee cubicle and horizontally across business units and functional areas? Integration logically starts at the top. Executive management and the board must set the strategy and ensuing high-level objectives for the organization. These corporate objectives must then be translated into the business units and functional operating areas. These mid- and lower-level objectives must support the company's strategy. In order for these components to be in sync, management must clearly and consistently communicate its goals. "If an institution's strategy and objectives are not determined or communicated effectively, the ability to understand or maximize ERM's value is impaired" (Protiviti, 2008).

Once objectives are set, what provides the "glue" for integration across the entity? ERM as a discipline assesses and prioritizes the risks to achieving these objectives, whether they be at the corporate, business unit or functional level. Furthermore, properly executed, ERM will evaluate risks across and up-and-down the company, breaking through traditional silos, particularly the long-standing barriers within insurance companies such as investment vs. underwriting vs. actuarial. Therefore, it is essential to ERM integration to implement the risk assessment, quantification, prioritization and response game plan to encompass the entire enterprise.

The next step in the ERM assimilation process entails tactical planning and risk integration. Business unit and functional heads must take their objectives discussed earlier and "operationalize" them by creating concrete and time-bounded action plans. These action plans should address the pertinent risks identified and evaluated in the earlier ERM phase mentioned above. "Assuming there are action plans in place to help reach a desired state of risk management effectiveness, these need to be incorporated into the firm's tactical plans so they receive proper attention. Incorporation of these activities into the tactical plans directly links risk management to the achievement of strategic objectives" (Protiviti, 2008).

Under the assumption the risk assessment process has been completed and a risk response game plan established at the corporate and unit levels, the insurer must develop risk reporting metrics and tools including such elements as dashboards and key risk indicators. Measuring and monitoring the achievement and effectiveness of the risk response plans are critical. Moreover, companies must continuously assess their risk matrices for internal or external events that might shift the firm's risk profile.

Finally, once the risk reporting components are established, they need to be integrated with the existing strategic/financial planning and reporting processes. This crucial step in embedding ERM into the fabric of the company, and thereby maximizing value to stakeholders, is often a major stumbling block. Management needs to institutionalize ERM from a finite project to a permanent process that is part of the way that the insurer does business.

The case study that follows gives a live example of how one insurance and investment company approached the integration of a major risk type within the ERM framework, market risk, into the financial planning and reporting process.

3. Case Study: At the Intersection of ERM and Financial Planning: Forecasting the Impact of Market Risk on Earnings Volatility

3.1 Objective

As a part of its expanding enterprise risk management program, a \$25+ billion life insurer and investment company (“Company”) wanted to improve its ability to understand its enterprise-wide exposure to adverse movements in equity markets and further integrate its ERM process into the company’s daily operations. Internally, senior management wanted to factor this downside market risk (equity volatility) into its financial planning and pricing considerations. Externally, company leaders were fielding increasing requests from Wall Street analysts, rating agencies, state insurance regulators and others to articulate the equity sensitivity of its GAAP and statutory results.

With assistance from an ERM consulting firm, together they (“risk team”) developed a deterministic model to enable the Company to forecast and assess risk while evaluating the impact of price swings in equity-sensitive products and holdings. This model was based on a simpler version that the company had created internally. This deterministic model (a set of differential equations which gives a fixed and precisely reproducible result) was designed to provide a “live” prototype that would be the foundation for future development of a more complex, stochastic model.

The final deliverable was a multi-level forecasting model that projected both GAAP and statutory financials to derive GAAP EPS and statutory surplus (equivalent to shareholders’ equity). The planning horizon was one year broken down into full quarterly P&Ls. The risk model enabled the company to input percentage decreases in the equity market from which it calculated changes in EPS and surplus.

This solution incorporated several key characteristics that actually build capability within the company. The model is:

- Capable of easy modification by the company’s risk and finance professionals to accommodate future products.
- Sufficiently flexible to accommodate a wide range and a changing landscape of potential market and policyholder behavioral scenarios.
- Adaptable to take into account GAAP and statutory components to reflect the Company’s evolving tax position.

3.2 Risk Methodology

To complete this enterprise-wide risk project, the methodology addressed several critical issues. First, the team defined the input process as follows:

- Identify key assumptions and equity sensitivity drivers
- Develop risk profiles by equity-sensitive product
- Determine betas (volatility) applicable to each product or source, if available
- Model deferred acquisition cost (DAC) assets and reserves
- Convert raw actuarial data into model inputs.

The second major issue was coordination of the required input from key company functions, including risk management, financial planning, investments, accounting, tax and actuarial. Through collaboration with these various functions, the team uncovered all material aspects of the Company that were sensitive to equity market volatility (e.g., investment management fees, DAC, pension funding, etc.).

The risk team then integrated these market risk data into the financial planning process. GAAP and Statutory financial projections were developed that incorporated the enterprise-wide market sensitivity elements.

3.3 Benefits

This easy-to-use equity risk model (see Appendix) for assessing the impact of movements in the equity markets on the company's financial results delivered the following benefits:

- Informed the forecasting process and strengthened decision-making capabilities in such areas as capital management, asset allocation, product pricing and hedging strategies.
- Provided data that could be used with the stock analyst community, reducing their concerns over the impact of equity price swings on the company's stock price.
- Enabled the company to keep ahead of the evolving demands of the rating agencies (e.g., S&P) and state regulators.
- Allowed the company's Enterprise Risk Management Committee a better tool to track the changing sensitivity of earnings to equity risk.

References

Protiviti. Financial Services Practice. 2008. "Linkages Between Strategy-Setting and Effective ERM Implementation. FS Insights, Financial Services Newsletter 2(7).

Puccia, M. 2007. "The Role of ERM in Ratings." ERM Symposium Presentation, March 30.

Appendix

Case Study: Risk Model Flow Diagram

The following depicts the flow diagram for the entire risk model. The input section on the left and output section on the right are split out and magnified on the two pages that follow.

CLIENT INSURANCE COMPANY - DATA SOURCES AND INPUT					PARSON - EQUITY RISK MODEL & OUTPUT										
Actuarial				Financial Planning & Analysis	Controllers	Investments	Taxes	GAAP					Statutory		Pension
TAS System		Excel Stat	Excel Gaap Unadjusted	Excel Gaap Adjusted				IS			B/S	IS	B/S		
	Rev	Exp	Oper Inc	Taxes	NI	EPS	Equities	Inc Stat	Equities	Surplus					
Term	IS	IS	IS	IS				X	X	X	Calc	Calc	Calc		
Annuity	IS	IS	IS	IS				X	X	X	Calc	Calc	Calc		
UL	IS	IS	IS	IS				X	X	X	Calc	Calc	Calc		
Var UL	IS	IS	IS	IS				X	X	X	Calc	Calc	Calc		
Closed	Equities				Comm Stk							X		X	
					Venture Capital							X		X	
Other Insurance Products	IS	Total GAAP - Residual, Closed Block & GEO						X	X	X	Calc	Calc	Calc		
Statutory Surplus	IS & Surplus				FRBA Stat Model								X	X	
GMOB & DAC Amortization	Actual System Output							X							
Corporate Stat					Venture Capital									X	
					Comm Stk									X	
Corporate GAAP					Venture Capital							X			
					Comm Stk							X			
Mutual Fund Revenue Model						Detail Model - Ind Mutual Fund Level		X							
Mutual Fund Expenses				IS				X							
Pensions	GAAP Stat				Assets & Income			X						Pension Projections	Impact on Contribution
								Input Item							
Taxes						GAAP & Stat Tax Calc			X				X		

Case Study: Risk Model Flow Diagram

This section shows the functional areas across the top and lines of business/financial category vertically along the side.

CLIENT INSURANCE COMPANY - DATA SOURCES AND INPUT										
	Actuarial				Financial Planning & Analysis	Controllers	Investments	Taxes		
	TAS System Stat	Excel Stat	Excel Gaap Unadjusted	Excel Gaap Adjusted						
Term	I/S	I/S	I/S	I/S						
Annuity	I/S	I/S	I/S	I/S						
UL	I/S	I/S	I/S	I/S						
Var UL	I/S	I/S	I/S	I/S						
Closed	Equities				Comm Stk					
					Venture Capital					
Other Insurance Products	I/S	Total GAAP - Residual, Closed Block & GEO								
Statutory Surplus	I/S & Surplus				FP&A Stat Model					
GMDB & DAC Amortization	Actuarial System Output									
Corporate Stat					Venture Capital					
					Comm Stk					
Corporate GAAP					Venture Capital					
					Comm Stk					
Mutual Fund Revenue Model								Detail Model - Ind Mutual Fund Level		
Mutual Fund Expenses					I/S					
Pensions	GAAP Stat					Assets & Income				
Taxes										GAAP & Stat Tax Calc

Case Study: Risk Model Flow Diagram

This section of the model shows the output by financial category.

PARSON - EQUITY RISK MODEL & OUTPUT											
GAAP						Statutory				Pension	
I/S			B/S			I/S		B/S			
Rev	Exp	Oper Inc	Taxes	NII	EPS	Equities	Inc Stat	Equities	Surplus		
X	X	X	Calc	Calc	Calc						
X	X	X	Calc	Calc	Calc						
X	X	X	Calc	Calc	Calc						
X	X	X	Calc	Calc	Calc						
						X		X			
						X		X			
X	X	X	Calc	Calc	Calc						
							X		X		
	X										
								X			
								X			
						X					
						X					
X											
	X										
		X								Pension Projections	Impact on Contribution
	Input Item										
			X								
							X				