



SOCIETY OF ACTUARIES

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# Risk Management

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“The integration of risk management within strategy development provides organizations with a broader set of options resulting in significant competitive advantage.”

quantification is directionally sound and has to be a means to a bigger end as opposed to an end itself.

The results from the quantitative analysis are illustrated in the chart below.

	Loss T1	Loss T2	Loss Portfolio	Summation	Portfolio Effect
	(1)	(2)	(3)	(4)=(1)+(2)	(5)=(4)-(3)
Expected	\$368,744	\$239,819	\$608,563		
50% Perc	\$210,646	\$138,674	\$438,867	\$349,320	\$(89,547)
55% Perc	\$264,889	\$172,586	\$510,659	\$437,475	\$(73,184)
60% Perc	\$325,056	\$208,745	\$588,114	\$533,801	\$(54,312)
65% Perc	\$388,256	\$249,302	\$679,699	\$637,558	\$(42,141)
70% Perc	\$461,293	\$297,227	\$777,975	\$758,520	\$(19,455)
75% Perc	\$547,657	\$351,646	\$884,244	\$899,303	\$15,060
80% Perc	\$645,489	\$418,336	\$1,021,314	\$1,063,825	\$42,511
85% Perc	\$773,931	\$504,180	\$1,198,691	\$1,278,111	\$79,420
90% Perc	\$955,857	\$618,070	\$1,474,463	\$1,573,927	\$99,464
95% Perc	\$1,387,446	\$900,506	\$1,902,220	\$2,287,952	\$385,732
99% Perc	\$2,147,919	\$1,447,883	\$2,935,786	\$3,595,802	\$660,016
99.865% Perc	\$3,060,328	\$2,215,524	\$4,080,463	\$5,275,851	\$1,195,389
99.9% Perc	\$3,095,163	\$2,308,212	\$4,157,372	\$5,403,375	\$1,246,003

Note: the correlation between Loss T1 and Loss T2 is assumed to be 0.5.

Based on the results of the quantification exercise the following key insights were derived and formed the basis for key strategic decisions.

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KEY INSIGHTS AND DECISIONS	IMPACT
Incorporating expected and a portion of unexpected losses in the pricing of the product.	Improved profitability of the product without sacrificing market share. Market dynamics were considered in the final pricing. However the key outcome was implementation of risk based pricing.
Fact and analysis based decision to retain risk at 95 percent confidence level; in this case the aggregate annual retention was set at \$2,000,000 which was well within the organization's risk tolerance level as opposed to \$500,000 in the past.	The higher risk retention levels resulted in 25 percent relief in insurance premium. Also minimized the "dollars traded" with the underwriter for lower level retention. The results from the analysis were also instrumental in negotiating reinsurance premiums.
Credible and defensible capital allocation to the business units.	Capital associated with retained risk was attributed to the appropriate business unit resulting in a more reflective measure of risk adjusted return on capital.
Understanding of underlying key risk drivers associated with various products, processes and channels.	Ability to meaningfully manage risks resulting in a significant decrease in loss experience resulting in reduction of expenses and capital consumption.
Development of Key Risk Indicators (KRI) as a result of the above. These KRIs became an integral component of risk monitoring and risk reporting.	Incorporated KRI in the business unit's risk dash board resulting in pro active management of risks.

Since the outcome of the quantification exercise resulted in significant positive impact on the bottom line, a similar analysis was conducted for other products resulting in additional relief in insurance premium. In some cases there was a relief of over 30 percent over a span of multiple years. The analysis also resulted in better understanding of the underlying key risk drivers for respective products. Appropriate mitigating strategies were developed and implemented resulting in additional cost and capital savings. Further analysis was conducted to identify potential correlation between loss types amongst products resulting in additional savings.

**"To derive maximum value from risk management initiatives it is important for organizations to embrace risk management within their culture and not view it as a regulatory imposition."**

In order to derive maximum value from enterprise wide risk management initiatives, organizations must recognize and embrace that risk management has an integral role at all levels and it should be integrated in its culture. The organization should not view risk management only as a regulatory imposition. If the framework is dynamic and robust and is implemented in the context of strategy development and at the operations and execution level, then most of the regulatory requirements would be addressed. In order to have a dynamic and robust risk management framework it is imperative for organizations to also leverage other relevant internal initiatives, such as SOX, internal audits, Basel II, Solvency II, etc. to minimize redundancies and optimize on the efforts.

This case study reflects the significant value derived by the financial institution in integrating risk management upfront during strategy development which resulted in significant cost savings and a competitive advantage. One of the key success factors in this case was the fact that there was a commitment at the senior level of leadership to integrate risk management at the strategy level and also implementation of a structured methodology to implement all the elements of the risk management framework. ♦