An Enterprise Approach To Insurance Risk Management
Introduction

Risk management can be defined as activities that are undertaken to reduce exposure to loss. For insurance companies, risk management is of the utmost importance because insurance is the business of risk assumption. There are a myriad of activities involved in insurance risk management, as we will explain, which require both specialized skills and centralized oversight to perform successfully. Given the changes witnessed in the recent past by the insurance industry, as well as changes expected to occur in the future, these activities are beginning, appropriately, to fall under tighter executive management scrutiny and control.

All enterprises today face dynamic changes that are beginning to transform the way business is conducted. The insurance industry, however, is likely facing the most substantial changes of all industries. For example, consider the following:

- The tragic September 11th terrorist attacks and the way those attacks redefined the way insurers view, plan, and price for insurance coverage.
- The probes of New York Attorney General Eliot Spitzer, which resulted in the removal of several very prominent insurance executives.
- The dramatic effects of Hurricanes Katrina and Wilma in 2005 (as well as the general increase in hurricane occurrences over the past fifteen years).
- The consequences of the Sarbanes-Oxley Act of 2002 on an industry whose largest liability (claims reserves) is based on estimates and forecasts.
- Basel II and impending Solvency II regulation.
- Ever increasing competition from the alternative investment community.
- The seemingly growing likelihood of Federal regulation in an industry with a very long history of State regulation.

Highlights

All enterprises today face dynamic changes that are beginning to transform the way business is conducted. The insurance industry, however, is likely facing the most substantial changes of all industries.
This is a great deal of change for an industry that has traditionally been considered rather stable. Thus, the intense current focus on risk management is certainly understandable. Below we discuss many of the risks generated from the insurance business, but first we lay the foundation for this discussion with an overview of value, strategy and risk. We then describe an enterprise approach to insurance risk management before ending with a brief conclusion.

Value, Strategy and Risk

It is the goal of every enterprise to create value for its owners where value is defined as the present value of the expected cash flows to be generated by the enterprise into perpetuity. Absent a competitive advantage—which is something an enterprise does to better or more economically service its customers over time—an enterprise will not be able to continually generate cash in excess of the costs it incurs.³

A business strategy is, essentially, a plan for leveraging a competitive advantage to create value over time. The two key aspects of a business strategy are: (1) the value an enterprise creates for its customers, and (2) the extent to which that value cannot be copied by competition.⁴ Despite the apparent simplicity of these criteria, strategic analysis, strategy formulation and strategic execution can be extremely difficult activities to perform.
In order to create value there are generally a specific number of critical performance activities that must be executed. These activities are known as value drivers because they affect the amount of cash generated from the activities undertaken to execute strategy. There is a risk that the activities undertaken to execute a strategy will not be successful, and as a result value will be destroyed. Executive leadership is charged with the task of optimally executing its strategy to maximize value, and to manage the risks generated by that effort. Below we expand this discussion by identifying insurance company value drivers and the main risks associated with those drivers. Note that our analysis generally pertains to property and casualty insurance companies. This is for analytical purposes only as the approach we present is applicable to all insurance companies, i.e., P&C, life, health, disability, etc.

**Insurance Value and Risk**

Broadly understood, insurance companies create value by selling insurance policies for an amount that is more than the claims costs those policies generate, and thus insurance premium dollars can be considered the first insurance value driver. However, as the late Benjamin Graham observed in 1934, “The underwriting business as such has rarely proved highly profitable. More frequently than not it shows a deficit, which is offset, however, by interest and dividend income.” In other words, investment income is another—and highly important—insurance value driver, as is reinsurance, which is the amount of money insurance companies pay to reinsurance companies for the transfer (or cession) of some or all of the risk insurance companies assume. Another insurance value driver is the amount of money obtained through recovery and collection efforts such as arbitration, subrogation, etc.
The above value drivers all pertain to cash inflows; premium, investment dollars, reinsurance contribution, and recovery dollars all bring cash into an insurance company. The flip-side of these inflows is cash outflows, which also must be optimally managed to create value. The largest insurance cash outflow pertains to claim payments. Another cash outflow is interest and dividend payments to the holders of insurance equity and debt. Next is reinsurance premium, which is paid to reinsurance companies for reinsurance protection. Advisor fees are another cash outflow, and consist of auditor fees, consultant fees, special project fees, etc. Lastly, of course, are tax dollars.

To sum up, we identified value drivers pertaining to insurance cash inflows and outflows. The net effect of these drivers is the amount of cash generated by an insurance company, which is used to estimate the amount of discounted cash expected to be generated over time (i.e., value).

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<table>
<thead>
<tr>
<th>Insurance Strategy</th>
<th>Value Drivers</th>
<th>Risks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash Inflows</td>
<td>Premiums</td>
<td>Cash Inflow Risks</td>
</tr>
<tr>
<td></td>
<td>Investment income</td>
<td>Pricing, Solvency, Customer</td>
</tr>
<tr>
<td></td>
<td>Reinsurance contribution</td>
<td>Credit, Interest rate, Capital</td>
</tr>
<tr>
<td></td>
<td>Recoveries, eg, subrogation, arbitration, etc.</td>
<td>Credit, Operational</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Recovery</td>
</tr>
<tr>
<td>Cash Outflows</td>
<td>Claims</td>
<td>Cash Outflow Risks</td>
</tr>
<tr>
<td></td>
<td>Interest and Dividends</td>
<td>Catastrophe, Reserve, Inflation</td>
</tr>
<tr>
<td></td>
<td>Reinsurance Cession</td>
<td>Solvency, Competitive</td>
</tr>
<tr>
<td></td>
<td>Advisor fees, eg, auditors, consultants, etc.</td>
<td>Selection, Pricing</td>
</tr>
<tr>
<td></td>
<td>Taxes</td>
<td>Oversight, Project</td>
</tr>
</tbody>
</table>

Exhibit One – Insurance Value Drivers And Enterprise Risk
As strategy always drives the activities undertaken to create value we placed Insurance Strategy at the top of our diagram. Next, under the Value Drivers caption, we listed each of the insurance value drivers that were identified above. We now proceed with a discussion of the main risks generated by those drivers.

**Premium Risks**

There are three major risks associated with the collection of insurance premium: (1) pricing or underwriting risk, (2) solvency risk, and (3) customer relationship risk. Pricing or underwriting risk is the risk that the price charged for insurance is not adequate to cover the losses generated by that insurance. Historically, this has proven to be a highly volatile risk across the insurance industry.

Insurance companies essentially price risk based upon statistical analyses of loss distributions per homogenous risk class. Such analyses frequently produce a pure premium loss cost, which is loaded for expenses and profit to derive the rate ultimately used to calculate insurance premium. Pricing or underwriting risk can therefore evolve from a number of areas. For example:

- As past performance is not necessarily indicative of future performance rates calculated from historical data may underestimate the true price of insurance as it develops over time;
- If underwriters are not presented with adequate information they may not be able to definitively determine if a given account falls within a certain class. For example, if an underwriter is presented with an insurance submission without a claims history it will not be possible to determine if that submission is representative of a given class or if it is more volatile than the class. If it is more volatile, then the rate (and hence premium) quoted should be increased accordingly; and
- Accounts with multiple operations (such as many commercial accounts) require a different insurance rate for each class of operation. This requirement presents a risk that underwriters could miscode an account and by so doing underestimate premium, etc.
Collecting premium from the sale of insurance can also generate solvency risk, or the risk that insurance companies will be unable to satisfy the obligations they have assumed. This risk is generally monitored very carefully by insurance regulatory authorities through measures such as Risk Based Capital formulas and the Kenney ratio. One area driving solvency risk that came to the forefront subsequent to the tragic September 11th terrorist attacks is the concept of aggregation of risk. If the accounts an insurance company underwrites are clustered in one area or location, for example, that entire book of business could potentially be affected by a single event. Such a situation is not consistent with the principle of diversification because it can put insurance company solvency at risk from a single event. Hurricanes Katrina and Wilma in 2005 and the devastation they caused to the U.S. Gulf Coast can be considered a dramatic example of this.

Another facet of solvency risk, and one generally unique to the insurance industry, is the risk associated with growth. During the recent “new economy” boom we all witnessed a number of enterprises that were not profitable but grew rapidly in the hopes of making a great deal of money once market share was obtained. Perhaps the greatest example of this was Amazon.com. While this approach can work for some enterprises it simply cannot work for any insurance company, as history has shown. Growth at the expense of profits has spelled doom for many an insurance company. For example, PHICO Insurance Company was placed into receivership by the Pennsylvania Insurance Department on August 16, 2001.

The third risk identified above is customer relationship risk. For example, commercial insurance is procured predominantly through the use of insurance agents or brokers. It is not yet known if technological advances, the effects of probes such as the one conducted by New York Attorney General Eliot Spitzer, etc., will cause the commercial insurance market to evolve into a more direct sales market. If it does, then commercial insurance companies will find themselves competing in a totally new arena where old relationships may no longer be effective.
Investment Risks
Investment income risk generates classic systematic risks such as those emanating from interest rates and the capital markets. However, as many insurance companies have large fixed income holdings there is also an element of credit risk associated with an insurance company’s investment portfolio. In this situation, credit risk is defined as the possibility of an enterprise defaulting on its debt payments.

Reinsurance Contribution Risks
Credit risk can also be a factor with respect to reinsurance contribution. If a reinsurance company is either slow to pay its claims contributions or unable to make such payments, the effects on insurance company performance (and hence value) could be significant. This risk received a great deal of public attention in 2003 due to comments made by Berkshire Hathaway Chairman Warren Buffett in one of his popular letters to shareholders. However, there is another facet to this risk that has not received publicity: errors made by insurance companies with respect to reinsurance record keeping, billing, and accounting. For example, we have observed instances where insurance companies have not pursued reinsurance contribution they were owed because of inadequate record keeping, processes and/or staffing. As the amount of contribution owed could be substantial, it is critical to the value of an insurance enterprise that this risk be carefully managed.

Recovery Risks
The next risk, which is the final one listed on the cash inflows diagram above, is recovery risk. Insurance companies are essentially in the business of assuming risk and paying out claims generated from that risk. Receiving money from other parties on claims is therefore not something that occurs regularly, but it does occur often enough to warrant that insurance companies should manage the risk of not optimizing such opportunities.
The intent of managing each of the risks discussed above is to maximize the cash inflows of an insurance company. Below, we identify and discuss the risks an insurance company must manage to mitigate its cash outflows.

**Claim Risks**

The largest insurance cash outflow is claim payments, which generally produces three types of risks: (1) catastrophe risk, (2) reserve risk, and (3) inflation risk.

A *catastrophe* in this context is an extreme event that is not expected or foreseen beforehand. Such events can cause a substantial amount of damage and because they are not foreseen there is a risk they are not adequately priced. There is also a risk that catastrophes will not be managed effectively by claims’ departments once they occur, which can be significant as catastrophes occur more frequently than many may realize.

The next risk associated with claim payments is reserve risk, which is the possibility that an insurance company's estimates of claim payments will be inadequate to cover claims when they are paid in the future. This risk can be substantial as it was, for instance, in 2003 when it was estimated that the insurance industry was under-reserved by approximately $30 billion.

The third and final risk associated with claims payments is inflation risk. There are two types of inflation that pose a risk to the adequacy of insurance reserves: price inflation and *social inflation*, which can be defined as an increase in insurance claim costs due to higher jury verdicts, increased arbitration awards, aggressive regulatory action, adverse case law development, etc. Each of these forms of inflation puts at risk the adequacy of the current dollars reserved to pay claims in the future, and thus each must be effectively managed.
Interest and Dividend Risks

The next risk identified in EXHIBIT ONE above was associated with interest and dividend payments. Because insurance underwriting can be considered a form of debt, insurance companies typically utilize traditional forms of debt (e.g., banks loans, bond issuance, etc.) conservatively. The same holds true with respect to dividend payments; such payments are frequently conservative as they are monitored by insurance regulators and compared/contrasted with the dividend payments of similar enterprises. Note that if an insurer approaches debt or dividend payments aggressively it could generate solvency concerns, which is what occurred for example at Reliance Insurance Company.

Reliance used debt very aggressively, and had a very liberal dividend policy until May 29, 2001 when it was placed into rehabilitation by the Pennsylvania Insurance Department. It became the largest insurance company failure in United States history. Reliance had problems in addition to an aggressive capital structure and liberal dividend policy, of course, but these factors did increase that enterprise's solvency risk.

While the risk of paying too much in dividends is fairly obvious, paying too little in dividends could also be considered risky. Enterprises compete every day on the market for both customers and investors. Investors will only allocate capital to an investment if the return they expect to receive compensates them for the investment's estimated risk. Dividends payments are a component of the investment return—at times a significant component—and as such a competitive risk could arise if an insurance company’s dividend policy is more conservative than the investment community feels it should be.
Reinsurance Cession Risks

The next risk pertains to reinsurance selection. Choosing reinsurance poses many of the same issues that choosing insurance poses, e.g., what type of reinsurance—treaty or facultative—should be purchased? From which reinsurance company should the reinsurance coverage be purchased? What level of risk should the insurance company retain? Properly addressing all such questions is crucial if an insurance company is to purchase the correct type of reinsurance.

Selecting the right type of reinsurance is only the first step, however. Because reinsurance coverage can be considered a commodity product it is essential that it is priced reasonably. This is important, for if an insurance company pays too much for reinsurance it will transfer value to its reinsurer. Conversely, if it pays too little the insurance company could face substantially higher reinsurance prices in the future. Significantly, this risk also applies to reinsurance companies that retrocede some of their risk to retrocessionaires.

Advisor Risks

The next risk pertains to advisor fees involving auditor services, projects involving consultants, etc. Advisors are frequently hired to perform specialized functions outside of an insurance company’s immediate skill set, and as such there is a risk those specialized functions will not be managed optimally from both a content and a cost perspective. Specifically, there is a risk an insurance company is incapable of optimally overseeing its advisors, which could generate either too much or too little in fees. The risk of not paying enough in fees arises when advisory services are scaled down to the point below the actual needs threshold.

Advisor risks extend into specific projects; as insurance companies are not in the project management business there is a risk that the projects they undertake will not be optimally managed.
Tax Risks
In addition to taxes on property and income, insurance companies are frequently charged a premium tax. Because insurance is regulated at the state level, it is crucial that insurance companies comply with all tax regulations, for the repercussions of not doing so can be substantial. Similarly, because the insurance industry is so heavily taxed it is imperative that its tax planning is sufficiently comprehensive to ensure it is not paying more in taxes than it should be paying.

Cross Discipline Risks
There are also risks that extend across an insurance company into a variety of disciplines. We identified four such risks in EXHIBIT ONE above: (1) foreign exchange risk, (2) regulatory risk, (3) human resource risk, and (4) franchise risk. Beginning with foreign exchange risk, if an insurance company underwrites policies, adjusts claims, reinsures risk or invests in securities outside of its domiciled country it faces uncertainty with respect to the value of the rate of foreign exchange.

Regulatory risk is the risk insurance regulators will curtail or take control of insurance operations based on the regulators' perception an insurance company is not able to meet its obligations to its policyholders. Regulatory risk in this context frequently results from a confluence of factors such as the erosion of investment portfolio value, unprofitable underwriting, inefficient claims handling, etc. The cases of Reliance and PHICO cited earlier are extreme examples of what can happen when regulatory risk is not appropriately managed. However, it must be remembered that regulatory risk can also generate costs from regulatory audits, responding to regulatory inquires, etc., which like all costs must be managed efficiently if value is to be created.
Human resource risk is a significant risk that every enterprise must optimally manage. It is critically important that enterprises retain their top performing employees and discipline (or dismiss) their poorest performing employees. Enterprises that choose not to manage this risk, and by so doing choose to “manage to the mean,” risk both losing their best people and retaining their worst, which is not in any way consistent with creating value.

The final risk identified in EXHIBIT ONE above is the risk to the franchise itself. By franchise we mean any enterprise generating a return in excess of the opportunity cost of capital. This risk essentially brings us back to where our analysis began, i.e., creating value by increasing the amount of cash generated by an enterprise. In this context, a franchise is simply an enterprise generating cash the present value of which is greater than the reproduction costs of the enterprise’s assets. Therefore, for purposes here franchise risk can be defined as any factor (or confluence of factors) that impedes an enterprise’s cash generation (i.e., that destroys value).

Much has been written about each of the above value drivers and risks in both the insurance and finance literature. However, such writings frequently focus on only one value driver or risk. This concentration makes sense in the context of a research project, but in the practice of insurance each of the value drivers and risks interact daily. This interaction frequently results in outcomes and dynamics that are generally neither captured nor considered in formal research projects. Consider, for example, the following scenario.
Risk in Insurance

Assume an insurance company underwrites two primary commercial general liability (CGL) policies and two excess CGL liability policies for Widget Manufacturing, Inc. (“Widget”) Each primary policy offers a $1 million limit of liability, and expense payments are not included in those limits of liability. Each excess policy offers a $10 million limit of liability. The effective dates of the policies are 1/1/20X1 – 1/1/20X2 and 1/1/20X2 – 1/1/20X3, respectively. For simplicity, assume treaty reinsurance on a 50% pro-rata basis. Assume further that Widget manufactures a key product included in automobile axles. While Widget has not experienced any claims to date there is a risk that if one occurs, it could be catastrophic.

Assume now that from 10/1/20X1 to 3/1/20X2 Widget produces a number of defective products (for a variety of unintentional reasons), which in turn cause a number of catastrophic accidents in the United States. By catastrophic we are referring to accidents involving multiple fatalities, multiple cases of quadriplegia, paraplegia, etc. After the last accident on 3/1/20X1, Widget issues a nationwide product recall notice. Several weeks later, a national law firm publicizes that it has set up a task force to pursue a class action lawsuit against Widget.

As the claims start being reported to Widget’s insurance company its claims department quickly becomes overwhelmed by the sheer size and scope of the losses. It therefore retains a law firm to advise it throughout the duration of the claims. The law firm’s responsibilities involve coordinating Widget’s many defense counsel (all of whom are being paid by the insurance company), as well as helping to establish reserves on the claims, etc.
To further complicate issues, assume the insurance company receives a notice from its reinsurance company indicating that the reinsurance company will not honor the reinsurance contract because of an allegedly ambiguous clause contained within the contract. In-house lawyers for the insurance company vigorously contest the reinsurance company’s contractual interpretation, but the reinsurer refuses to move off of its position. Therefore, the insurance company decides to retain another law firm in anticipation of reinsurance-based litigation.

Finally, assume that upon receipt and review of documentation on the damages sustained in all the accidents related to the class action the insurance company’s claims department establishes the following preliminary reserves:

<table>
<thead>
<tr>
<th>Policy</th>
<th>Coverage Term</th>
<th>Premium</th>
<th>Indemnity Reserve</th>
<th>Expense Reserve</th>
<th>Legal Advisory Reserve</th>
<th>Reinsurance Legal Reserve</th>
<th>Grand Total Reserve</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 1 - Primary</td>
<td>1/1/20X1 - 1/1/20X2</td>
<td>$80,000</td>
<td>$1,000,000</td>
<td>$1,500,000</td>
<td>$500,000</td>
<td>$250,000</td>
<td>$3,250,000</td>
</tr>
<tr>
<td>Year 1 - Excess</td>
<td>1/1/20X1 - 1/1/20X2</td>
<td>$47,555</td>
<td>$6,000,000</td>
<td></td>
<td></td>
<td></td>
<td>$6,000,000</td>
</tr>
<tr>
<td>Year 2 - Primary</td>
<td>1/1/20X2 - 1/1/20X3</td>
<td>$85,000</td>
<td>$1,000,000</td>
<td>$1,500,000</td>
<td>$500,000</td>
<td>$250,000</td>
<td>$3,250,000</td>
</tr>
<tr>
<td>Year 1 - Excess</td>
<td>1/1/20X2 - 1/1/20X3</td>
<td>$65,000</td>
<td>$6,000,000</td>
<td></td>
<td></td>
<td></td>
<td>$6,000,000</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>$277,555</td>
<td>$14,000,000</td>
<td>$3,000,000</td>
<td>$1,000,000</td>
<td>$500,000</td>
<td>$18,500,000</td>
</tr>
</tbody>
</table>

Notes:

(1) Expense Reserve is an estimate of the fees to be charged by attorneys retained to defend Widget Manufacturing in all of the various lawsuits.
(2) Legal Advisor Reserve is an estimate of the fees to be charged by the attorney retained to advise the insurance company on the management of the claims.
(3) Reinsurance Legal Reserve is an estimate of the fees to be charged from the attorney retained by the insurance company to compel the reinsurance company to abide by the terms of the reinsurance contract.
(4) Grand Total Reserves = Indemnity + Expense + Legal Advisor + Reinsurance Legal

While the above is only an example, we have witnessed similar real life claim scenarios that have generated total expenses at many multiples of the $4,500,000 in expenses (=$3,000,000 expense + $1,000,000 legal advisor + $500,000 reinsurance legal) reflected above.
The risks facing the insurance company in this example include the following:

- The risk its pricing or underwriting does not adequately address the risk profile(s) of some of its accounts.
- This example pertains to only one class action lawsuit, but there could be any number of such actions being managed by the insurance company. Obviously, such claims could pose a risk to solvency if they are not managed effectively.
- The claims described above impose stress not only on the insurance client (Widget) and the insurance company’s claims department, but also on the agent or broker who procured the insurance for the client. Such customer-related relationships could be at risk in volatile situations like this if they are not managed carefully.
- From an asset liability management perspective, the huge cash outlays generated by the catastrophic claims could disrupt the insurer’s investment policy if such outlays are not carefully managed.
- This example could also present a reinsurance operational risk. The reinsurance dispute in question will be resolved (either in or out of litigation) based upon the strength of the documentation supporting the contestants’ arguments. If the insurance company has not optimally collected, filed and tracked documentation to support its position, it will be at risk of losing the dispute.
- Given the nature of the reinsurance dispute in this example, perhaps the insurance company is at risk of not optimally selecting the best reinsurance company to which to transfer or cede its risk?
- From a claims perspective, this example poses both a catastrophic risk (compare for example the total premium of $277,555 to the Grand Total Reserves of $18,500,000), and a reserve risk.
- In our opinion, one of the most significant risks illustrated in this example is the risk associated with not optimally overseeing the retained legal advisors. The amount of legal fees that can be generated by these advisors can be very high. Management of this risk requires careful planning, tight controls and disciplined oversight.
- Finally, if the insurance company does not handle this entire matter efficiently there is a risk that insurance regulators could choose to investigate or audit the company’s handling of it.
We would likely identify many more risks if we were to drill down into the details of claims such as the ones presented above. For example, the human resource risk of alienating top performers during the stress of dealing with the catastrophes, the risk of poor data quality, etc. However, it was never our intent to catalogue all of the risks generated in an insurance transaction; rather, our intent is to identify some major risks. Furthermore, the risks we identified are not, of course, limited to the underwriting of a single account or the handling of a single claim. Insurance companies can perform thousands of activities on a daily basis, each of which is expected to create value, and each of which carries with it the risk of loss or failure. If all such risks are not carefully managed value can be destroyed. If allowed to continue, such value destruction could threaten the viability of the enterprise itself. It is, therefore, to the management of such risks that we now turn.

Insurance Enterprise Risk Management

As value is typically estimated on an enterprise-wide basis, a logical argument can be made that the risks generated from the activities expected to create value should also be managed at the enterprise level. In this context, enterprise risk management could be defined as, “the identification and assessment of the collective risks that affect firm value, and the implementation of a firm-wide strategy to manage those risks.” Applied to the insurance business, enterprise risk management is the overall policy of managing the risks generated by the value drivers utilized to execute an insurance strategy.
Managing the risks of an enterprise as complex as an insurance company in a cohesive manner can be a daunting task for a variety of reasons, such as:

- The time-lag (or tail) between when insurance coverage is sold and when claim services are provided can be extremely long. This tail makes insurance a particularly difficult business to manage. Dramatic examples of this can be seen in the handling of claims generated from lead poisoning and exposure to asbestos.

- As indicated above, the insurance industry is regulated at the state level. Needless to say, complying with fifty different sets of state laws and regulations, and fifty different regulators can be complicated.

- There are also a variety of cultural reasons that complicate insurance risk management. For example, there is occasionally a perception by some insurance professionals that the insurance business is strictly an underwriting game. This essentially means that if an insurance company underwrites “the right risks at the right prices,” the other key insurance activities (i.e., investment, claims handling, reinsurance, etc.) “can take care of themselves.” While underwriting, like all sales-related activities, is extremely important insurance value is created across a range of drivers, each of which must be carefully managed if value is to be created and maximized.20

Risk management—like all business-related activities—begins with strategy. After formulating strategy, executives typically establish controls to enable them to execute their strategy by optimally leveraging value drivers and efficiently managing the risks generated by those drivers.21 Such management frequently, and most appropriately, revolves around organizational design, processes, and information.
Regarding insurance organizational design, the insurance business is frequently conducted in a silo structure, which is an organizational configuration wherein each value driver is generally operated independently of the others and, frequently, from the risks generated by those drivers. For example, there can be little (to no) interaction between the underwriting and claims departments of an insurance company. Similarly, there can be very little (if any) interaction between insurance investment personnel and insurance corporate finance personnel.22

Nevertheless, in simpler and less volatile times the silo organizational structure provided a workable framework in which to conduct the business of insurance. In such times the focus of insurance managers was directed on premium growth to take advantage of rising capital market returns and non-claim related cost containment to manage the expense ratio. This focus, and the silo organizational structure that supported it, can be illustrated as follows:

Exhibit Three – Cost Containment Focus

<table>
<thead>
<tr>
<th>Business Management</th>
<th>Acquisitions</th>
<th>Relationship Management</th>
<th>Risk Management</th>
<th>Processing</th>
<th>Claims</th>
<th>Financial Management</th>
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</thead>
<tbody>
<tr>
<td>Business Planning and Budgeting</td>
<td>Premium Growth</td>
<td>Channel Planning</td>
<td>Portfolio Management</td>
<td>Operations Planning</td>
<td>Claims Planning</td>
<td>Investment Planning</td>
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<td>External Reports</td>
<td>Marketing Research</td>
<td>Campaign Management</td>
<td>Actuarial</td>
<td>Operations Control</td>
<td>Loss Event Reserves</td>
<td>Investment Management</td>
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<td>Workflow Mgmt</td>
<td>Customer/Producer Analysis</td>
<td>Channel Management</td>
<td>Audit &amp; Compliance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Facilities Mgmt</td>
<td>Advertising</td>
<td>Contact Services</td>
<td>External Data Gathering</td>
<td>Document Management</td>
<td>Claims Evaluation</td>
<td>Trade Execution</td>
</tr>
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<td>Training</td>
<td>Direct Sales &amp; Cross Sell</td>
<td>Producer Servicing</td>
<td>Risk Rating</td>
<td>Policy Process and Admin</td>
<td>Claims Processing</td>
<td>Cost Accounting</td>
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<tr>
<td>Human Resources Administration</td>
<td>Sales Comp. And Rewards</td>
<td>Referral Support</td>
<td>Loss Control</td>
<td>Renewal App. and Interim Changes</td>
<td>Claims Investigation</td>
<td>General Ledger</td>
</tr>
<tr>
<td>Systems Development &amp; Maintenance</td>
<td>Marketing Campaign</td>
<td>Smart Routing</td>
<td>Reinsurance</td>
<td>Collections</td>
<td>Claims Settlement</td>
<td>Taxes</td>
</tr>
<tr>
<td>Public Relations</td>
<td>New Application Processing</td>
<td>Sales Support</td>
<td>Fraud</td>
<td>Billing</td>
<td>Salvage &amp; Subrogation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Product Directory</td>
<td>Communications</td>
<td>Premium Audit</td>
<td>Payment Processing</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: IBM Global Business Services' Commercial P&C Component Business Model. Light blue fill denotes key managerial focus areas.
The premium growth pursued was generally driven by the expected investment return, i.e., if that return was greater than the corresponding expected underwriting loss—as actuarially determined—then growth was pursued. Containing costs in such efforts would depress the expense ratio, which could be used to offset adverse loss ratio development, if needed. While this explanation is obviously a simplification it does illustrate at a high level how the insurance managerial focus and the organizational design structured to execute it functioned.

Given the dramatic changes experienced in the recent past by the insurance industry (some of which were discussed above), the implosion of the “new economy” stock market boom, progressive globalization, and quantum leaps in information technology the insurance managerial focus is evolving toward pricing management and overall risk management from premium growth and non-claim cost containment. As a result of this evolution organizational designs are starting to evolve to more strategy-focused structures.

The effects of these evolutions can be illustrated as follows:

Exhibit Four – Pricing and Risk Management Focus

<table>
<thead>
<tr>
<th>Business Management</th>
<th>Acquisitions</th>
<th>Relationship Management</th>
<th>Risk Management</th>
<th>Processing</th>
<th>Claims</th>
<th>Financial Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Planning and Budgeting</td>
<td>Premium Growth</td>
<td>Channel Planning</td>
<td>Portfolio Management</td>
<td>Operations Planning</td>
<td>Claims Planning</td>
<td>Investment Planning</td>
</tr>
<tr>
<td>Marketing Plan</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>External Reports</td>
<td>Marketing Research</td>
<td>Campaign Management</td>
<td>Actuarial</td>
<td>Operations Control</td>
<td>Loss Event Reserves</td>
<td>Investment Management</td>
</tr>
<tr>
<td>Workflow Mgmt</td>
<td>Customer/ Producer Analysts</td>
<td>Channel Management</td>
<td>Audit &amp; Compliance</td>
<td></td>
<td>Claim Litigation</td>
<td>Capital Management</td>
</tr>
<tr>
<td>Facilities Mgmt</td>
<td>Advertising</td>
<td>Contact Services</td>
<td>External Data Gathering</td>
<td>Document Management</td>
<td>Claims Evaluation</td>
<td>Trade Execution</td>
</tr>
<tr>
<td>Training</td>
<td>Direct Sales &amp; Cross Sell</td>
<td>Producer Servicing</td>
<td>Risk Rating</td>
<td>Policy Process and Admin</td>
<td>Claims Processing</td>
<td>Managerial Accounting</td>
</tr>
<tr>
<td>Human Resources Administration</td>
<td>Sales Comp. And Rewards</td>
<td>Referral Support</td>
<td>Loss Control</td>
<td>Renewal App. and Interim Changes</td>
<td>Claims Investigation</td>
<td>General Ledger</td>
</tr>
<tr>
<td>Systems Development &amp; Maintenance</td>
<td>Marketing Campaign</td>
<td>Smart Routing</td>
<td>Reinsurance</td>
<td>Collections</td>
<td>Claims Settlement</td>
<td></td>
</tr>
<tr>
<td>Public Relations</td>
<td>New Application Processing</td>
<td>Sales Support</td>
<td>Fraud</td>
<td>Billing</td>
<td>Salvage &amp; Subrogation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Product Directory</td>
<td>Communications</td>
<td>Premium Audit</td>
<td>Payment Processing</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: IBM Global Business Services’ Commercial P&C Component Business Model. Light blue fill denotes key managerial focus areas.
The diagram highlights the key functions required to support a pricing management and overall risk management focus on insurance operations. Note that the scope of key functions has expanded dramatically from the earlier—and much simpler—diagram presented in EXHIBIT THREE above. This scope expansion reflects the substantial changes that will be required to support the evolving insurance managerial focus over time. Such changes frequently equate to restructuring processes and information technology in a synthesized and cohesive way.\(^{24}\)

In our estimation, one of the most efficient ways to begin such initiatives is through the use of Component Business Modeling (CBM):

"With CBM [insurance leaders] are able to map business strategy to business components, identify key areas of competitive differentiation, and understand where there are opportunities to maximize the cost effectiveness of non-strategic components. Component business modeling provides a framework for viewing the business as a network of individual components. Once processes and organization are dissected into discrete, understandable, and manageable components, the unique building blocks that make up the company can be identified. Viewing these components autonomously helps decision makers cut through historical organizational boundaries that have built up through the years, typically along product, channel, customer, geographical, and informational lines.\(^{25}\)"
Once process flows are documented, the analysis of the risks generated by each process in the context of the value driver it supports can be performed, and an overall insurance enterprise risk management policy can be formulated. The specifics of such a policy can be somewhat detailed, but generally they involve identifying an enterprise’s risks and then strategically assessing ways to manage those risks through operational, capital structure, and/or capital market initiatives.26

For example, the risks associated with underwriting and claims could be managed through corporate-driven procedural and process changes (which perhaps could have helped save PHICO),27 solvency and competitive risks could be addressed through a recapitalization (which likely would have saved Reliance),28 and the risks associated with reinsurance could be managed through the selected use of securitization.29 The intent here is not to present a specific insurance enterprise risk management policy—such policies are inherently firm specific—but rather to illustrate the basic principles under which one would be formulated.

As we have stressed, risk is generated from activities undertaken to execute a business strategy, in insurance companies and elsewhere. Therefore, managing both strategy and risk at the enterprise level should enable executives to better coordinate activities and initiatives to maximize value creation over time. Such coordination requires, however, the ability, “to synthesize separate findings into a coherent whole,” which is something that can now be facilitated through the use of advances in information technology.
Utilizing synthesized managerial information in conjunction with a strategy-focused organizational design, mapped processes, and overall enterprise risk management policy could enable insurance executives to more effectively manage the risks generated by the activities undertaken to execute an insurance strategy. In the context of our framework, this can be illustrated as follows:

The diagram below inserts value creation and enterprise risk management policy into the diagram presented in EXHIBIT ONE, and by so doing links value creation, strategy, and risk management across the insurance enterprise. Such linkage facilitates a value-based approach to the insurance business through the cohesive management of value drivers, and the risks generated by those drivers over time.

Exhibit Five – Insurance Value, Strategy and Risk
Conclusion

In this paper, we reviewed risk management and highlighted its importance in the risk assumption business of insurance, especially in light of all the changes experienced in the insurance industry in the recent past. Next, we identified the drivers of insurance value and some of the risks generated by those drivers.

From an organizational design perspective, the insurance business is frequently conducted in a silo structure. Such a structure provided a workable framework in earlier (and simpler) times in which to sell and service insurance policies. However, given the changes experienced by the insurance industry the silo structure is giving way to newer, more strategy-focused structures. This evolution, and the changes driving it, presents entrepreneurial opportunities with respect to the analysis and management of insurance value and risk.

We showed how an enterprise approach to risk management could be utilized by linking value creation, insurance strategy, and overall risk management policy. Such a policy involves assessing insurance risks at the strategic level and discerning ways to manage those risks through operational, capital structure, and/or capital market initiatives.

Finally, we showed how advances in information technology could help facilitate an enterprise approach to insurance risk management. Such an approach should help insurance executives to better maximize cash inflows and better manage cash outflows, which should lead to a greater level of value creation over time. And such value creation is the goal of every enterprise, insurance and non-insurance alike.
Endnotes

1See for example George Pohle, et al., The Specialized Enterprise — A fundamental redesign of firms and industries, IBM Institute for Business Value, 2005.

2This has been coming since 1996. See for example Sebastian Szendzielorz and Mark Griffiths, Catastrophe Insurance Exposure & Hedging: Structure & Issues, Thunderbird case services #E06-00-0023, 2000.

3See Bruce Greenwald and Judd Hahn, Competition Demystified (NY: Portfolio, 2005) for an interesting (and practical) analysis on competitive advantage.


6Clearly defining homogeneous risk classes is a critically important activity—frequently performed by underwriters and actuaries—and one beyond the scope of this paper.

7This can be a substantial risk that can be managed through underwriting controls systems, the particulars of which are beyond the scope of this paper.


10The general formulation of insurance rates can include an enterprise-wide factor that is designed to broadly price for the effects of catastrophes across an insurance company’s risk portfolio. The specifics of catastrophe pricing is beyond the scope of this paper.


14See for example the comments of famed money manager John Neff in his autobiography, John Neff on Investing (NY: Wiley, 1999).


16See for example, Laura DeMars, Finders Keepers - Turnover is expensive. Lowering it doesn’t have to be, CFO.com, February 15, 2006.

17This terminology is based on Bruce Greenwald, et al., Value-Investing (NY: Wiley, 2001). Financial theory long ago proved the equivalence between the discounted cash flow and economic profit (or residual income) based valuation methodologies.

18The management of this risk in the context of the insurance strategy, and related underwriting policy, is a topic worthy of future research.


For further information on control systems see Robert Simons, Levers of Control (Boston, MA: HBS Press, 1995).

Issues with silo structures and risk management extend beyond the insurance industry. See for example, Joanne Sammer, Measuring the Cost of Risk, Business Finance, March 2006, pp. 49-52.

This follows a general trend. See for example Robert S. Kaplan and David P. Norton, The Strategy-Focused Organization (Boston, MA: HBS Press, 2001), and Pohle, et al. (2005), which was cited above.

"The ability to synthesize separate findings into a coherent whole seems far more critical than the ability to generate information from different perspectives." Jamshid Gharajedaghi, Systems Thinking (Boston, MA: Butterworth Heinemann, 1999), p. xv.


For more information see Meulbroek (2002), which was cited above.


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