

Underwriting and Risk Management

By Raj Bhat, Ph.D.

Many insurance companies are focusing on retention as a major tool to combat reductions in revenue. When policyholder retention is in the limelight, there is danger that risk management takes a back seat, resulting in deterioration in long-term financial performance.

Some carriers identify and price risk more effectively than others and achieve better financial and risk management results. One fundamental risk management tenet for insurers is that accurate rating information is the key element in the underwriting process. As we have painfully learned from the mortgage industry, when consumers misrepresent facts and underwriters do not validate information, financial performance suffers and risk increases. The same holds true in the property/casualty auto insurance industry.

Integrity Failures

Americans lead very dynamic lifestyles resulting in frequent changes to data used to rate their auto policies. Every hour there are 254 marriages, 124 divorces, 5,600 changes in residence, 7,100 job changes, 445 new driver's licenses, 163 DUI violations, and 2,800 auto claims. Each of these could potentially change the risk for an auto policy. What was accurate when the policy was initially written may be inaccurate today. Personal auto applicants may misreport rating information, such as annual mileage, usage, garaging location, drivers in the household, and driving history, to avoid high premiums.

Misreported information can have severe adverse consequences when the incorrect data is used by actuaries to develop their rating plans, resulting in weak risk differentiation and risk management failures.

Table 1: Impact of Poor Risk Differentiation on Book of Business

Time Period		1	2				3				
Policy	Real Cost (Risk)	Your price and portfolio premium	Competitor's Price	Policy Status	Your price and portfolio premium	Your cost	Your New Price based on your cost	Competitor's Price	Policy Status	Your price and portfolio premium	Your cost
A	\$1,000	\$1,260	\$1,050	Lose to competition							
B	\$1,200	\$1,260	\$1,260	Retain	\$1,260	\$1,200	\$1,300	\$1,260	Lose to competition		
C	\$1,400	\$1,260	\$1,470	Retain	\$1,260	\$1,400	\$1,300	\$1,470	Retain	\$1,300	\$1,400
Total	\$3,600	\$3,780			\$2,520	\$2,600	\$2,600			\$1,300	\$1,400
Scenario		No differentiation in risk; each policy is charged \$1,260; there is no competition; book is made up of policies A, B, and C.	Competitor can differentiate risk and prices risk based on cost. Policy 'A' is lost to competition. B and C remain with premiums of \$2,520 and costs of \$2,600.				Price is increased to cover costs but there is still no differentiation in risk resulting in price of \$1,300 for each policy. Policy 'B' is lost to competition. Policy C remains with premium of \$1,300 and costs of \$1,400.				

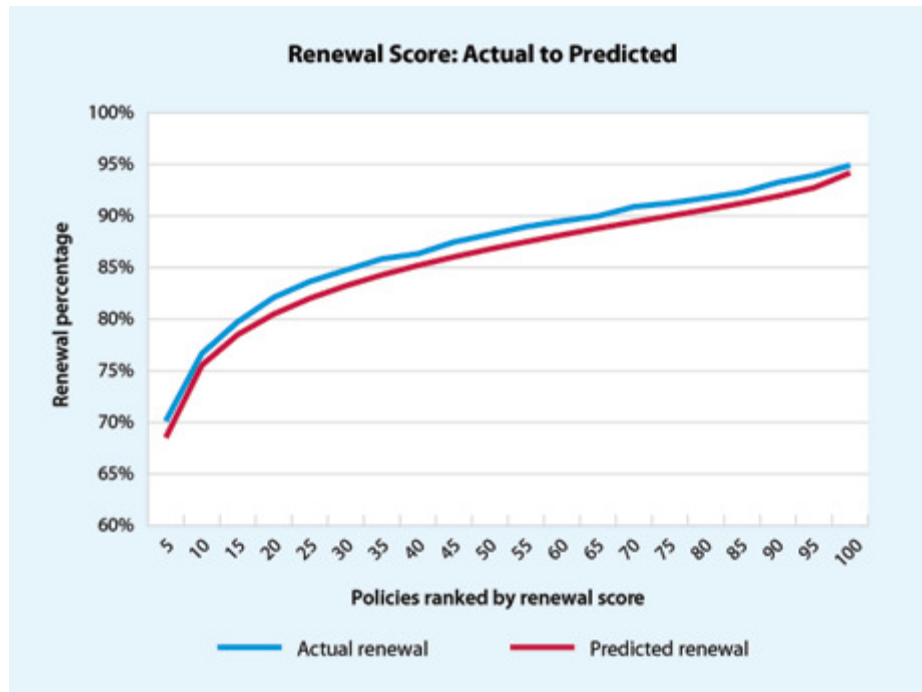
Risk Differentiation

A good rating plan and underwriting process should differentiate risk and correctly price that risk so that on average more money is collected than paid out. A company's ability to differentiate risk — and its underwriting processes to measure risk — must be equal to or better than its competitors to avoid adverse selection.

Table 1 (above) shows a scenario in which there are three policies — A, B, and C — on a company's books. These three policies have different risk profiles costing \$1,000, \$1,200, and \$1,400. However, since the company cannot differentiate risk, each policy is priced at \$1,260. In time period 1, the company collects premium of \$3,780, incurs \$3,600 in costs, delivers underwriting profits of \$180, and has a combined ratio of 95.2%. If the company's competitor is able to differentiate and price these risks better, then, over a period of time, policies A and B will be lost to the competition. At the end of time period 3, only policy C will remain on the books, with a premium of \$1,300, a cost of \$1,400, and an underwriting loss of \$100. The competitor will have policies A and B with premiums of \$2,310, costs of \$2,200, and an underwriting profit of \$110.

Clearly, inaccurate data results in bad pricing decisions. Poor underwriting results in inadequate risk differentiation and risk management.

Figure 1: Renewal Score



Retention

Retention as a tool to protect the top line without consideration to profitability is a suboptimal strategy. Consider a company that has 100 policies and charges \$1,000 for each policy. Its combined ratio is 100: It collects \$100,000 in premium and total costs are \$100,000. This company's baseline renewal rate is 85%. Assuming no other changes, the company will collect \$85,000 in premium at renewal; expected costs are \$85,000; underwriting profit is still zero.

Through a systematic re-underwriting program, one misrated policy of the 85 policies is identified. If the combined ratio for the misrated policy was 160%¹, the company would have paid \$1,600 in costs. Correcting the error increases premium, and the policy does not renew. The company has 84 policies that renew for \$84,000 in premium, expected costs of \$83,400 (\$85,000 minus \$1,600), and a combined ratio of 99.3% (\$83,400/\$84,000).

The company's retention decreased 1% from 85% to 84%; its profitability improved; combined ratio decreased from 100% to 99.3%. If corporate goals are geared toward retention without regard to profitability, management has less incentive to take action on underpriced policies that may result in lower retention (and probably a lower bonus!).

Risk Management Strategy

To improve operating performance that results in long-term financial success, a company must adopt risk management strategies that address issues in each segment. One approach to implement these strategies is to segment the book by risk of flight and profitability.

Since the company has the policy on its books, it should have enough information to determine its profitability. It is possible to develop scoring models that predict "risk of flight" (inverse of retention). Figure 1 (above) shows actual and predicted retention rates for a retention model based on data from a mix of diverse QPC clients. The "directional fit" of the retention score is extremely good and can be used as an excellent segmentation tool prior to renewal.

Operational processes can be geared to address the core issues in each segment of the business. Table 2 (below) shows the operational and strategic challenges by segment. This strategic differentiation will produce better long-term performance — and a core advantage for the business.

¹ This is based on QPC experience. On average, policies that do not renew as a result of a price increase resulting from fixing incorrect rating data have a combined ratio of 160%.

Table 2: Risk Management Strategies by Segment

Risk of Flight	Strategy for	Profitability		
		High	Medium	Low
High	Relationship	Coddle your customers ... high touch "I would like to help you". Any discounts ? ...cross sell to retain.	High touch ... "Is there anything that I can do for you?"	Touch only if it is possible to move to profitable segment ... otherwise let them leave!
	Underwriting	Review coverages to reduce premium if it improves retention and review rating variables.	Review coverages and rating variables ... improve chances of retention while still being profitable.	Review coverages and rating variables Will changing these move business to profitable segment?
	Actuarial	Is your rating plan overcharging for this segment relative to competition.	Watch	Is your rating plan undercharging for this segment?
Medium	Relationship	Coddle your customers ... high touch "Is there anything that I can do for you?"	Medium touch. Any cross-sell opportunities?	Touch to move to profitable segment.
	Underwriting	Review coverages for needs and rating variables for accuracy.	Review coverages and rating variables.	Review coverages and rating variables Will changing these move business to profitable segment?
	Actuarial	Watch.	Watch	Rating plan may be undercharging for this segment.
Low	Relationship	Coddle your customers ... high touch "Thank you for your business"	Medium touch. Any cross-sell opportunities?	Touch to move to profitable segment.
	Underwriting	Go after this segment	Review coverages and rating variables. Is it possible to improve profitability?	Review coverages and rating variables Will changing these move business to profitable segment?
	Actuarial	Is there no competition in this segment?	Is this segment being undercharged?	Rating plan may be undercharging for this segment.

Summary

For superior financial performance, companies must adopt a risk management strategy that looks at the connections between all aspects of the business. Key requirements for this to succeed are recognition of all risk factors and accurate data collection through an ongoing rating integrity process. Accurate data results in better actuarial and risk analysis, better risk differentiation, better pricing, and better retention and risk management strategies. Short-term focus that looks only at the immediate problem, be it a focus on retention to the exclusion of other fundamentals or saving money by cutting costs on programs that manage data integrity, are just that — short-sighted. Especially with the escalating emphasis on enterprise risk management, a longer-term horizon must be considered. This is easier said than done given the typical compensation structures in existence today. Many insurance companies provide incentives to executives based on managing ratios, such as an underwriting expense ratio or a retention ratio, without regard for profitability. With the advanced analytic and underwriting tools available today, it is possible for any carrier to manage appropriate retention and strong underwriting goals — and significantly improve financial performance.

Dr. Raj Bhat is president of ISO's Quality Planning subsidiary. Quality Planning provides tools and services that help auto insurers identify rating errors, recover lost premium, and minimize future losses.