Personally Speaking

Personal Lines Section Quarterly

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CPCU SOCIETY

From the Corner of the Chair

by Clyde "Clint" Gillespie, CPCU

As the chairman of the Personal Lines Section I want to welcome you to "your" section, and your first newsletter. The Personal Lines Section is the newest section in the CPCU Society and was approved for "Pilot Status" at the Annual Meeting in San Diego last year.

At the Annual Meeting in 1997, I found myself wanting to become a more active member in the Society, but was hard pressed to find an area that truly served both my needs and interest. As you know most of the other sections and the Annual Meeting are more commercial oriented. So "feeling the spirit of Texas" I dropped a note in the suggestion box asking the Society to consider a section devoted to personal lines. Upon my return to Philadelphia, John Kelly, CPCU, sections manager, of the CPCU Society, contacted me and offered to help get the section started.

The project began in earnest in January 1998 and was approved in October, which is a record setting time for the formation and approval of a section. Many people worked hard to accomplish this goal and I would be remiss if I did not take a moment to acknowledge their contributions. My thanks to John Kelly, CPCU, and Greg Deimling, CPCU.

The committee is here to serve your needs and respond to your ideas. But without your input and support the section will simply not be successful. Please consider writing articles for the newsletter, conducting symposia in your area, and sending us your innovative and great ideas. Together we can make the Personal Lines Section the fastest growing and most useful section in the CPCU Society. Please take note of the committee members listed below, and contact them with your ideas and requests. We need two more members and would like representation from all parts of the country. As you can see, we need some of you western folk. If you would like to serve, give me a call at (215) 864-7671, or e-mail to cgille6345@aol.com.

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We want to offer our 57 current members and our prospective members "value added" reasons for being part of the Personal Lines Section. We must be willing to explore new horizons and be able to provide information and solutions for the problems our society will be facing in the twenty-first century. Some of the issues we are working on include:

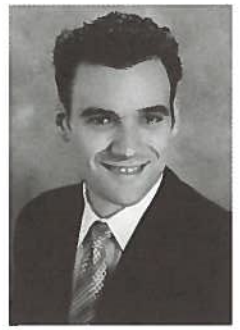
- AIDS
- teen drivers/graduated driving laws
- aggressive driving/road rage
- school violence
- aging population and older drivers
- credit scoring
- privacy issues
- pay at the pump options

I am very interested in hearing your comments and suggestions on where you believe we need to go and recommendations on how to get there. Please e-mail to cgille6345@aol.com. Thanks again for becoming a member of the Personal Lines Section. The committee and I look forward to working with each of you in the coming months. ■

Data-Driven Underwriting

by Darryl Siry

Editor's Note
This article originally appeared in the Information Technology Section's IT, *Volume 5 No. 1.*



In an effort to spare the reader any undue suspense, let me get the buzzwords out of the way up front. Data warehousing. Data mining. Expert systems. Artificial intelligence. OLAP. Neural Nets.

I'm sure that you have heard most of these words before. They are becoming the modern day "Total Quality Management" and "Process Re-engineering," promising untold benefits to those who believed. If you weren't around for the TQM and re-engineering revolution you can pick up any of Scott Adams' "Dilbert" books and read all about them.

You see, a great deal of companies undertook vast, expensive efforts to re-engineer themselves or manage "total quality." Executed properly, these concepts could be powerful. The reality is that very few companies ever saw any return from their efforts, except a legacy of clichés and war stories of failed implementation.

Rather than examine the reasons TQM and re-engineering didn't meet expectations in their time, let's examine today's panaceas. I must admit that I am a believer, so my goal is to help the reader get past the buzzwords and fully understand the benefits and challenges of what is at the core of all of these buzzwords: utilizing customer information and analytics to make better decisions.

In this case, the decisions we are trying to improve involve risk selection. Rather than creating yet another buzzword, I prefer to describe this approach using the generic, "data-driven underwriting."

The Role of the Underwriter

Before I demonstrate the benefits of data-driven underwriting, let me offer a simplified framework of underwriting to operate within.

The primary corporate role of the underwriter is risk selection. By exercising good judgment and leveraging experience, an effective underwriter will accept healthy business while shielding the company from unreasonably high exposures. The criteria for risk selection are not always straightforward.

Some Risks Fall into the "Obvious Yes" Category

Usually there are universally accepted rules that govern the classification of these risks. These rules, or guidelines, are usually the result of industry paradigms, tradition, or institutional learning.

An example of such a risk (for preferred auto) would be:

- 45-year old married female
- No children
- No violations or accidents
- Drives a Mercedes sedan

Other Risks Fall into the "Obvious No" Category

There are often hard and fast rules that will cause an underwriter to automatically reject a risk. Some of these rules are industry-wide. Some are the result of an underwriter's personal experience.

An example (for preferred auto) would be:

- 25-year old unmarried male
- two violations and an accident
- Drives a new sportscar
- Out of state license

Inevitably, There Are Risks that Fall into a "Gray" Area, Where the Decision Is Not so Clear

Here is where the real work is done. The best underwriters are able to navigate this gray area very carefully, providing good service and flexibility to the agent and customer, while shielding the carrier from unacceptably high risks (for their given appetite).

A simple example of such a risk would be the married woman above with a youthful (and accident-prone) driver for a son.

Within this simplified framework, data-driven underwriting can benefit underwriting in several ways:

- The validation or substantiation of existing paradigms for both the "Yes" and "No" cases.

Darryl Siry *is an independent management consultant specializing in customer-focused marketing strategies for financial services companies. In his current engagement at a large property and casualty insurer, he is developing a data-driven marketing function in the personal insurance division. Through the implementation of data warehousing, data mining, and relationship marketing techniques, his clients seek to gain a competitive advantage in the rapidly changing insurance marketplace.*

- The invalidation or debunking of existing paradigms that are not substantiated by analysis of data.
- The development of new and better criteria by which a risk should be classified (and preferably that your competitors don't know about).
- Additional decision support tools to assist in navigating the gray area and making the right decision when the case is not clear.

Benefits of Data-Driven Underwriting

Hypothesis Testing

The most straightforward application of data-driven underwriting does not necessarily require new systems or sophisticated "data-mining" techniques. It simply involves the application of analytical rigor and the development of supporting fact for existing underwriting paradigms. Specifically, analysis is performed to see if there are any real differences in loss experience to support the assumption in question.

In practice, most underwriting intuition will hold up to analytical scrutiny. An advantage can still be had by quantifying for the underwriter what had previously only been a red flag. This allows the underwriter to make better decisions when forced to balance many good aspects of a risk with a few red flags.

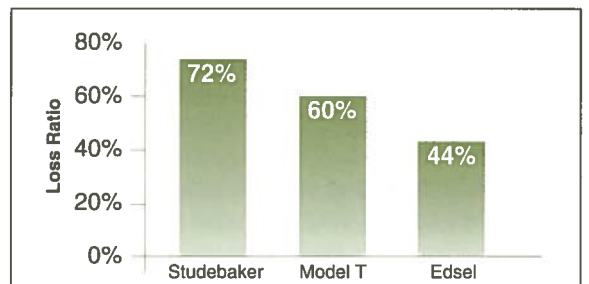


Figure 1: Vehicle Profitability

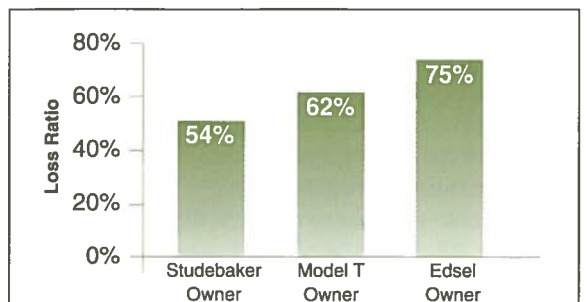


Figure 2: Customer Profitability

Where significant value can be realized is in the *debunking* of unfounded underwriting paradigms. By removing barriers to writing fundamentally good risks, the addition of healthy new business can improve the overall performance of the book.

Customer Information/Reporting

The industry has traditionally taken a product view of its business. Premiums, losses, and expenses have always been managed at the product-line level.

A significant amount of value can be gained simply by analyzing your business at the customer level. As simple as it sounds, legacy systems that were built for transaction processing often fail to provide the customer level linkages that are required. They also fail to capture much of the rich descriptive data that fuels productive data-driven underwriting activities, as the following two examples demonstrate:

Example 1: Customer Linked Systems

The very existence of a customer point of view can lead to better decisions than a product view. Buying behaviors and loss behaviors are often as much a function of the customer as they are of the underlying risk. As such, underwriting decisions should be influenced by customer profitability dynamics as well as risk characteristics.

Figures 1 and 2 demonstrate a hypothetical personal line company's loss experience in its auto line over the last five years. This example, while illustrative, is based on actual experience.

In Figure 1, you can see that the Studebaker has exhibited a relatively high loss ratio for this company. This data might lead this company to stop writing Studebakers or surcharge them.

Figure 2 shows the same car types, but this time we are looking at the profitability of the customer across all product lines (home, life, scheduled personal property, umbrella, etc.). As you can see, it would have been a mistake to decline coverage for the customer who drove the Studebaker. In fact, developing programs to attract that customer might be the better strategy, since that customer tends to be cross sold more often and tends to be profitable in other lines.

Example 2: New Dimensions of Data

Having access to pieces of information that your competitors either cannot get or do not

Continued on page 4

Data-Driven Underwriting

Continued from page 3

know the value of can also result in an advantage in the marketplace.

Let's take the example of occupation, which is rarely captured in front-end systems or passed downstream to any operational stores or systems of record.

Recalling our prior example of the risk that fell into the "obvious no" category, our hypothetical insurance company decides to analyze that paradigm using new occupational data. Through a basic analysis segmenting its auto customer base, it finds that while on average sportscars driven by young men are unprofitable, those driven by engineers and doctors are profitable, while those driven by bankers and salesmen are terrible risks.

Simply through the inclusion of an additional dimension of analysis, and subject to the usual actuarial standards, our insurance company has a distinct competitive advantage that it can realize through the implementation of new underwriting guidelines concerning sportscars.

Discovery of Relationships in Existing Data

The previous examples dealt with guided analysis. In both cases hypotheses are tested by analysis of the data, and the results are implemented through the development or alteration of guidelines or rules.

To extend beyond basic hypothesis testing, one can utilize any one of a number of unguided, exploratory analytical techniques. This process, which comprises a wide array of statistical and analytical techniques, is often referred to as "data-mining" or alternatively "knowledge discovery."

The basic premise of these discovery techniques is that by allowing the data to drive the hypotheses, we are not limiting the scope of our analysis with our pre-existing biases. This often leads to the discovery of patterns that are not immediately intuitive, which can be utilized to an insurer's advantage in the marketplace.

Another premise is that there are simply too many hypotheses to test effectively through standard techniques. While not a requirement, most "data-mining" techniques involve the automated discovery of patterns in data. This is particularly true, for example, when your database consists of hundreds of descriptive fields and you would like to test every two-way interaction. The thousands of hypotheses would occupy an entire department's resources for a great deal of time. Today's powerful desktops can crunch that same data in minutes or hours.

The Importance of Rich Descriptive Data

What many vendors and pundits fail to stress is the importance of a rich supply of descriptive data to feed these analyses. By "rich" I am referring to both quality (applicability of descriptors) and quantity (number of descriptors). Without this data, which is often found lacking in transaction processing legacy systems, the effectiveness of these techniques is curtailed.

Think of these techniques as the engine that churns out insights that lead to a competitive advantage. Think of your data as the fuel that feeds this engine. If your data is not clean enough or rich enough, even the most advanced engine will not run properly. In fact, the more sophisticated knowledge engines often have a greater requirement for cleaner and richer data.

It's not for lack of foresight that this challenge is often overlooked; it is simply easier to sell (to a client or to senior management) cutting-edge techniques than a dull and lengthy data-warehousing, data-enhancement, or data collection effort.

When all is said and done, however, the most important component of a successful data-driven underwriting effort is a broad and rich customer dataset. While this seems simple enough, it presents some unique IT challenges.

IT Challenges

For an IT Department accustomed to the tightly defined and relatively static business requirements related to policy processing, billing, and reporting, data-driven underwriting presents the following challenges.

Broad and Changing Data Requirements

For most systems development projects, the designers of the database often pose the question, "What are the specific data required to meet the business requirements?"

Unfortunately, the answer is usually "Give me all of it, I'll decide later, and I reserve the right to change my mind six months down the road."

Because of the exploratory nature of data-mining, every data field may prove valuable down the line in predicting something. You just don't know ahead of time. This uncertainty leads to several database design issues, including fat data marts and the need for structures that are flexible enough to accommodate changing business requirements with minimal downtime.

Flexible, Ad-Hoc Access to Data

The iterative nature of exploratory data analysis requires the analyst to be able to generate datasets and modify or amend old queries within very short timeframes.

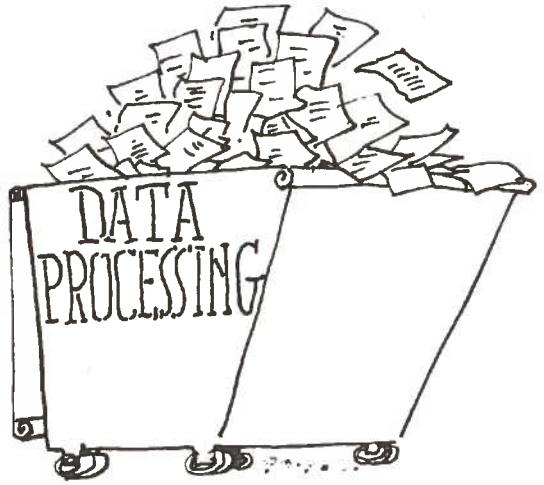
Because each line of inquiry often leads to many new questions and hypotheses that may require new datasets, turnaround times of hours are unacceptable.

This presents some unique challenges. The access tool must be flexible and user-friendly enough and the metadata rich enough to eliminate the need of a business systems analyst to translate the business needs into a COBOL or SQL program. The data mart should be powerful enough to provide real-time response to multiple users simultaneously, rather than the traditional batch processing of submitted jobs.

New Appetite for Data Capture

The increased value placed on additional descriptive data elements creates new and different demands for data capture on front end systems. Systems that were originally designed to capture the bare minimum of fields required to accomplish a task (i.e., processing new business) need to be redesigned to capture additional elements (i.e., occupation) that were previously thought to be unnecessary.

In addition, good statistical analysis requires that the data be standardized. Free form text inputs at the front end introduce a wide variety of spellings, misspellings, and abbreviations that make it difficult to analyze the data properly. Pop-up menus or validation



routines, such as those sold for VIN validation, are some ways of addressing this challenge.

Often, valuable descriptive data that is captured on the front end is eliminated downstream, as the "need" for the data is eliminated. Underwriting information, such as number of fireplaces, may be captured initially for the purposes of underwriting new business, then dropped when that data is passed on to the system of record. Since the downstream process was designed to support actuarial analysis and regulatory reporting, the passing on of such data was eliminated to save space and time. For data-driven underwriting, these downstream processes need to be revisited and redesigned to pass on valuable data.

In conclusion, I have some advice for those who wish to take advantage of the latest and greatest in these "data-mining" techniques (which have applications in other areas of the business, as well). Address the IT implementation issues before you get too deep. Be forewarned that implementation from a business perspective is likely to be the bigger challenge. And most importantly, concentrate on the end results and not on the buzzwords. ■

Excerpts from the First Personal Lines Section Committee Meeting on April 9, 1999, in Chicago, IL

Item #1: Structure of Group

Discussion: Clint Gillespie agreed to accept a three-year appointment as chairman. The recommended number of people on the committee is 12. We would like to fill at least one of the remaining two positions with someone from the West Coast to make sure all regions are represented.

Rather than divide into working sub-committees, the group agreed to spend our first year concentrating on two goals: (1) developing a member base, and (2) creating reasons for members to join. As a pilot group we must attract at least 100 members. The activities we'll focus on are: producing a quality newsletter (all articles should be submitted to Aaron Stein), developing and producing symposia, and general recruitment. This plan was discussed and unanimously approved.

Persons Responsible: Committee
Due Date: Ongoing
Status: Open

Item #2: Symposium—September 29, 1999

Discussion: The Underwriting Section invited us to participate in a full-day symposium to be held at the Allstate facility in Northbrook, Illinois. The morning session will deal with underwriting issues including: road rage, the impact of increased speed limits, GDL, implications of the aging population, implications of SUVs, and GAP coverage. The afternoon session will focus on sales and marketing issues such as selling on the Internet. Additional afternoon may include direct marketing and use of database intelligence in marketing.

Item #3: Future Symposia

Discussion: By the October meeting in Boston, we'll need to select the topic(s) we'd like to sponsor during the San Antonio Annual Meeting in 2000 (to run two hours). The topic(s) must be presented and approved by the 2000 Annual Meeting Seminar Task Force so it is recommended we have more than one in case our first proposal doesn't meet with their approval. Clint has significant background research on teen driving. Some interesting/disturbing facts:

- Sixty percent of teen fatalities are in single car accidents.
- Most kids are driving pre-1990 vehicles that don't meet today's safety standards.

Working in conjunction with local authorities and teen peer groups, Clint is attempting to develop a program to control teen accidents. The group felt this would be a good topic for our first Annual Meeting proposal.

Other Topics Discussed Include

- road rage
- the aging population and implications of more senior drivers on auto results
- use of credit reports and credit scoring in underwriting and marketing ■

How Do We Measure "King Distribution"

by Charles A. Bryan, CPCU, FCAS

The next 10 years will be talked about in personal lines as the time period when "distribution is king." Many news articles, symposia, and academic journals talk about how important distribution is and how to get it and keep it. But what is very clear is that the old way of analyzing distribution by assigning companies to a particular distribution system no longer works.

In personal auto, many of the top companies currently are either multi channel or rapidly moving in that direction, or are at least studying the implications internally. Let's take a few examples:

Allstate: Allstate for years has been an exclusive agent company. They have expanded aggressively into the independent agent distribution channel where they are now probably in the top five independent agency distributors. They are experimenting with direct in Germany.

Farmers: Farmers has also been an exclusive agent company for years. It started a direct operation about 18 months ago, emphasizing certain states like Pennsylvania. They have now decided to expand in the East primarily through independent agents.

Nationwide: Nationwide has had a base of exclusive agents but has also operated a direct operation in Oregon since the 1970s. The direct operation primarily operated in West Coast states where Nationwide did not use captive agents. Over the last 18 months Nationwide has become one of the top independent agency companies by its purchase of the former Transamerica group independent agency business, Allied Insurance, and most recently CalFarm. Its direct operations are tar-

Other major carriers such as Hartford and Travelers are already very active in multiple distribution systems.

If we consider the newer channels such as the Internet, the online insurance aggregators are a significant force and complicate the way we think about distribution systems. Companies like Insweb offer the capability to the consumer to access many companies at once. These aggregators are very close to being able to offer a shopping service for consumers who want the lowest price.

The usual source of numbers for comparing distribution systems is A.M. Best. In looking at A.M. Best numbers, you can now only get an approximate answer in comparisons across distribution systems. For example, Progressive is still categorized as an independent agency company, but its substantial growth in direct renders that classification less accurate. Likewise, Nationwide is still categorized as an exclusive agent but it has more than a billion dollars of independent agency premium volume.

It is this author's view that, with the blurring of the distinction between the preferred, standard, and non-standard markets and the push for double-digit growth, companies will continue to move toward multiple distribution systems. And long term (now seem to be within five years), there may be online insurance shopping services such as Insweb that will provide the best match for consumers who input their price requirements, service requirements, and a preferred way of doing business; they will be directed to whatever channel and company fits their requirements.

If we say that distribution is king, we must

Insureds Ask "Like, What's the Score Here?"

by Charles H. "Chuck" Wells, CFP

You may be wondering what reactions people are having to our new personal auto underwriting tool called "scoring" that is being hailed as the best underwriting tool since MVRs.

Joe Six Pack (aka: Bud): Yo, Chuck. Like, how about a rate for my car insurance?

Chuck: OK, but first I have to read you your insurance Miranda rights: "As part of our underwriting process, I have to order a consumer report on you. You have the right to get a copy of this report and this report may be used against you in our underwriting court. If you cannot afford the report, it will be furnished to you without cost. Do you understand your rights as I have explained them to you?"

Bud: Ah, yah, sure. Whatever. I just want the darned rate. What's this consumer report, anyway?

Chuck: It's a program called "scoring" whereby potentially predictive attributes from public records like bankruptcies, credit card and other loan balances, number of credit inquiries, how you pay your bills, and other neat stuff are used to evaluate if you are going to turn in claims against your car insurance. We don't want anyone who might use their policy.

Bud: You insurance people don't make sense. You mean if I have crummy credit, insurance companies think I'm a bum?

Chuck: No, but you will have to pay more for your car insurance because they will think you are irresponsible. And they say they really aren't looking at your credit.

Bud: I don't get it. I haven't had any tickets or accidents, but because of my credit, I will have to pay more. Sounds like a typical insurance company rip-off to get more of my money. They take more of my money so I can't pay my bills and then my credit goes in the can and my premiums go up some more. If I were rich, you wouldn't be doing this to me!

Chuck: They say your income is not taken into account when we get this score.

Bud: Right, so what is my score, anyway?

Chuck: My report says you are "Acceptable."

Bud: What the heck does that mean?

Chuck: I don't know. They won't give me any more information than that. They don't trust us agents. You will have to write to the CIA and see if they will de-classify your report.

Bud: Forget it. I'll just add the car to my girlfriend's policy. ■

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