Risk Express

Managing Claims Cost through Data Analytics

In October 2008, Computer Risk Management (CRM) launched Risk2009™ including our new ad hoc reporting module. This uses business intelligence software to provide powerful analytics of the data held in the claims database and potentially third party databases as well. Business Intelligence is an expanding area of software which is being used widely in industry to identify opportunities for cost savings or new areas of new business development. To do that you need to understand the key metrics to track in any given business situation.

What should you track in risk management? In this edition of Risk Express we provide suggestions on the key data and metrics to track to help manage claims and the cost of risk.

"With the right data, trends can be identified ….. providing an early warning system for remedial action."

Financial Data

The most basic report that you produce in this area is the current value of claims for different policy or claim periods. While this analysis is widely used it is also misleading as it does not capture the development of claims over time, both those that we don't yet know about (incurred but not reported) and those that settle for more than their original reserves. What is needed are analyzes that look at each claim period at the same stage of claim development. This requires the underlying database to be able to time-stamp activities so that snapshots of the claims picture can be taken at different points in time. This capability will allow you to produce the following type of reports.

Loss Triangles

The loss triangle analysis is important because it shows the development of each claim year over time. The claims development pattern will indicate how much more development is likely in each claim year. Actuaries can use this information to estimate the ultimate cost of claims in each year. The analysis can be run on a number

Loss Triangles by Category
CUMULATIVE Over the years - Dynamic

FY OCCURRENCE	Claim Coun	2002-2003 Total Payments	2003-2004 Total Payments	2004-2005 Total Payments	2005-2006 Total Payments	2006-2007 Total Payments	2007-2008 Total Payments
2003	1215	1,201,386	2,619,345	3,462,670	3,877,686	4,157,711	4,400,692
2004	1148		1,725,479	4,835,709	6,302,622	7,364,625	8,195,207
2005	1117			1,507,470	3,200,704	4,219,305	4,953,458
2006	1133				1,284,521	2,974,658	4,278,645
2007	1101					1,394,867	3,297,773
2008	1067						1,204,569
Grand Total		1,201,386	4,344,824	9,805,850	14,665,533	20,111,166	26,330,343

of different claim metrics including total incurred claims, payments, average claim amounts and even claim counts. It is not just the financial numbers which will be affected by IBNR. Frequency is also affected by IBNR. Any trending analysis should be done with consistent claims development (e.g. 12 months, 24 months, etc).

Prior year analysis

Many organizations track current year performance against the same period for the prior year. This analysis is also effective for claims, although the prior year's position should be a snapshot from a year ago. For example, an analysis at the end of Q3 2008 might show:

- 2008 year after 9 months of development (as of 9/30/08) versus 2007 after 9 months of development (as of 9/30/07)

- 2007 year after 21 months of development (as of 9/30/08) versus 2006 after 21 months of development (as of 9/30/07)

Cause Code Analysis

Monitoring the cause and types of claims is important in identifying risk control improvements. With the right data, trends can be identified both by the frequency and cost of claims providing any early warning system for remedial action. More in-depth analysis may also be possible looking at the time and day of accidents and the driving conditions at the time.

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- 44.56% Backing-Lot
- 53.22% Struck by #2
- 2.22% Jackknife
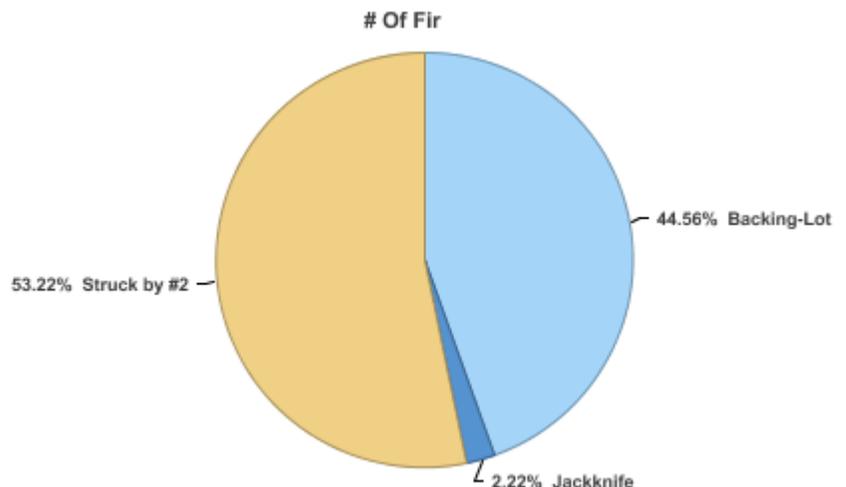
Scorecards

Because of the delay in claims development, organizations often don't know how poorly they are performing until it is too late. To develop an early warning system, multiply your budgeted or targeted claims cost for the year against the expected development pattern. This will give you a monthly budget to compare against actual claims costs. If you are above budget you will have time to take remedial actions. Your actuary should be able to provide a monthly development pattern used in calculating the expected claims cost for the year. You may want to set your claims cost target slightly below your budget to allow some buffer between your targeted performance and what is budgeted.

Legend: Target | Claims | Performance against Target (%)
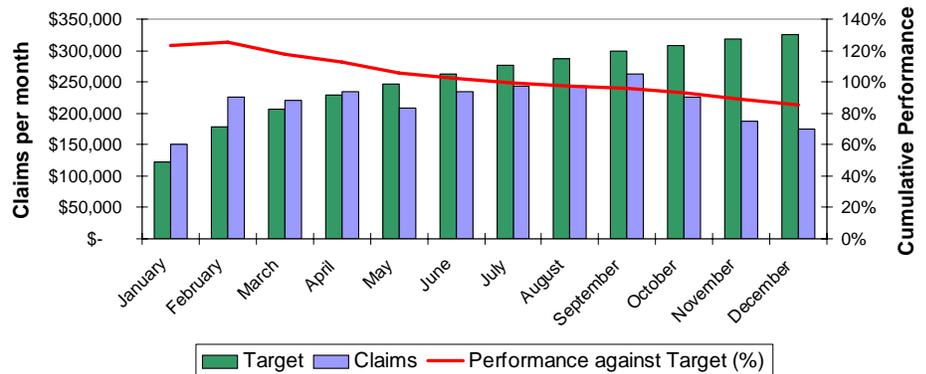
Benchmarking

There is nothing like competitive pressure to drive results. The key for claims costs is to remove any differences in risk characteristics between divisions. That may be a function of both industry and location. Rating guides used in the insurance industry can be useful in determining these risk differences. Guides may be obtained directly from ISO or from your broker or insurer. One way of including a risk adjusted measurement is to set targets for each division. The target is based of a standard measure across all the divisions, e.g. a claims cost per $1M in revenue. The standard target can be adjusted up and down depending on a division's risk characteristics. The benchmark compares how each division is performing relative to its target.

Division Performance
2008 Year-to-Date

	Target	Claims	Performance
Division G	$ 608,352	$ 276,575	45%
Division F	$ 509,996	$ 375,000	74%
Division D	$ 611,995	$ 518,000	85%
Division B	$ 305,998	$ 275,000	90%
Division E	$ 382,497	$ 405,000	106%
Division C	$ 203,998	$ 225,000	110%
Division A	$ 437,139	$ 535,000	122%
Total	$ 3,059,976	$ 2,609,575	85%

Conclusion

Effective risk analysis is dependent on both the reports being used and the data itself. If the data has not been captured then the analysis can not be performed, no matter how good the reporting system is. A well thought out claims system should be designed to follow the claims management process, but with due consideration for the reporting needs on the claims data generated. These needs may not be conflicting. For example, time stamping of claims data is important for audit purposes, but it also provides the necessary data to run the point in time or "as of" analysis needed to ensure apples-to-apples trending analysis.

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CRM supplies software solutions to self-insured entities with a focus in the transportation industry and public sector. Its risk and claims management information system, Risk2006™ uses a unique occurrence based structure to allow users to track the total cost of an occurrence across all claims.

For more information on CRM visit www.riskmanagers.com or contact us at aberry@riskmanagers.com