

2014 Ratemaking & Product Management Seminar

Product Development Workshop

PART 7:

PRODUCT MONITORING AND RISK MANAGEMENT

Product Monitoring

- Prospective Metrics
- Retrospective Metrics
- Group Discussion

Prospective Metrics

Measure the status of the product before the product change.

- Start with some benchmarks.
- Use standard objective and subjective metrics.
- Develop retrospective monitoring tools in advance.

Monitor your progress.

- Always take a look back and see if your change was successful.
- Use what you learn.
- Refine your tools as new information comes to light.

Prospective Metrics

What are you trying to accomplish?

- Why are you making this product change?
 - Is there a problem that you are trying to address?
 - Is there a specific area you want to target for growth?
 - Should this impact your current book of business?
- What metrics can you use to gauge success?
 - Improved business profile.
 - Customer or agency satisfaction.
 - Image in the market.
 - Growth, Profitability, Retention.
 - Lift.

Subjective Metrics

Customer Metrics

- Customers are satisfied, but not extremely satisfied.
- Most important thing is price.

Agency Feedback

- Company has a niche.
- Company is consistent in the way it does business.

Company image

- Another player in a highly commoditized market.
- Claims service is good.

RPM Insurance Company

Year	Premiums	Loss Ratio	Retention	Hit Ratio	Growth
2008	21,100	67.8%	85.1%	25.2%	3.6%
2009	21,987	68.3%	84.6%	24.4%	4.2%
2010	23,020	69.5%	83.5%	25.8%	4.7%
2011	24,240	71.2%	81.2%	27.4%	5.3%
2012	26,034	74.1%	79.6%	28.3%	7.4%
2013	28,403	77.1%	78.9%	29.6%	9.1%

- Historically good business is deteriorating.
 - Profitability and retention have fallen off.
 - Growth was moderate initially, but now has taken off.
 - Effects are even across class plan.
- Our product appears to be out-of-line with the market.

Quantify Target Impact

Set up goals *before* implementation.

Objective:

	Current	Target	Difference
Loss Ratio	77.1%	72.0%	-5.1%
Retention	78.9%	75.9%	-3.0%
Growth Rate	9.1%	3.0%	-6.1%

Lift (whatever that is).

Subjective:

- Acceptance by agency force and customers.
- Enhance brand identity.

Lift – What is it?

- Measure of the performance of a variable as a predictor:

$$L = \frac{P(\text{obs} = A \mid \text{pred} = A)}{P(\text{obs} = A)}$$
$$= \frac{P(\text{pred} = A \text{ AND } \text{obs} = A)}{P(\text{pred} = A) \times P(\text{obs} = A)}$$

- Has more than one definition in “real life”:

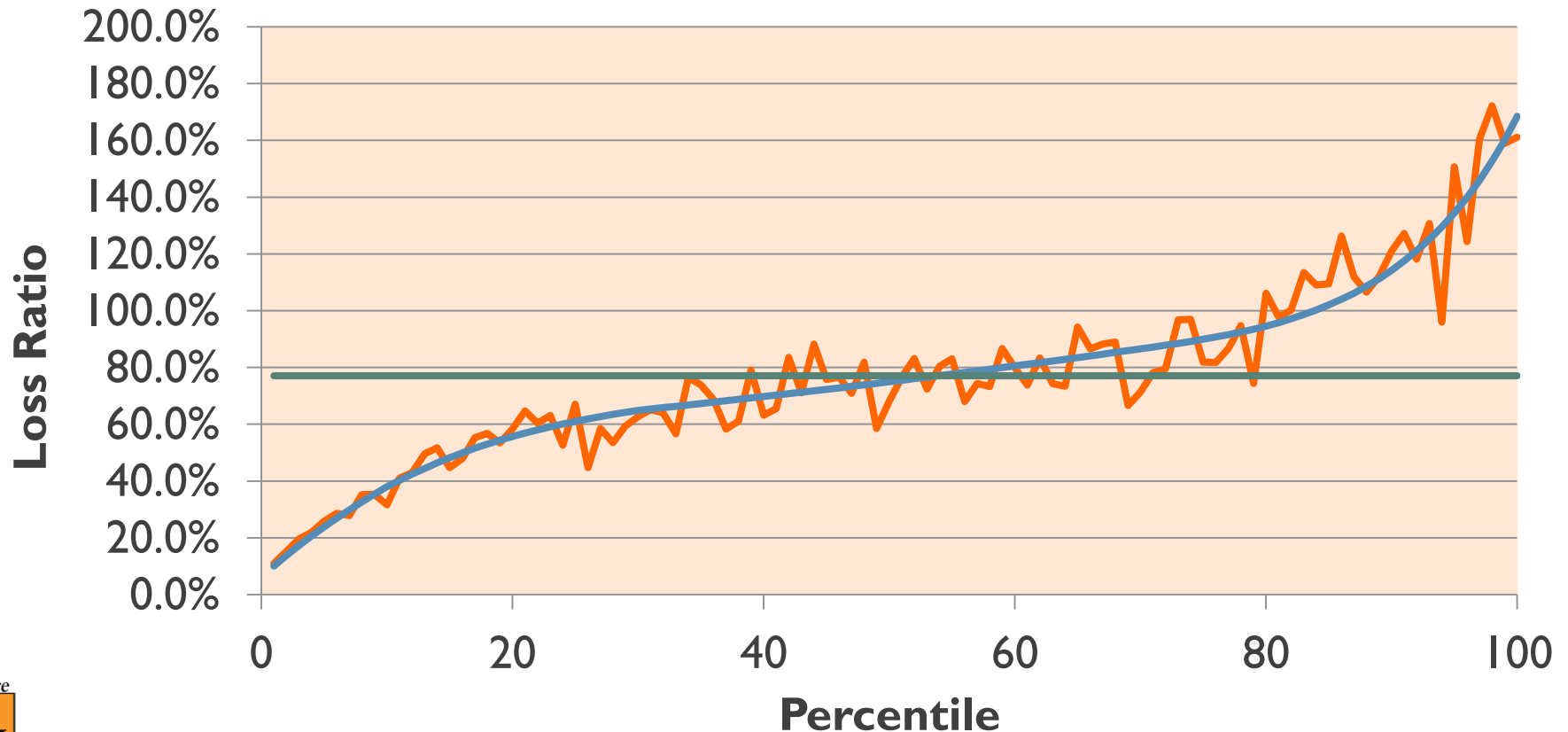
$$L = \frac{\sum_x |r_x - 1| P_x}{\sum_x P_x} \qquad L = \frac{r_{\max} - r_{\min}}{2}$$

- Does *not* equate to an increase in profit or a decrease in loss ratio

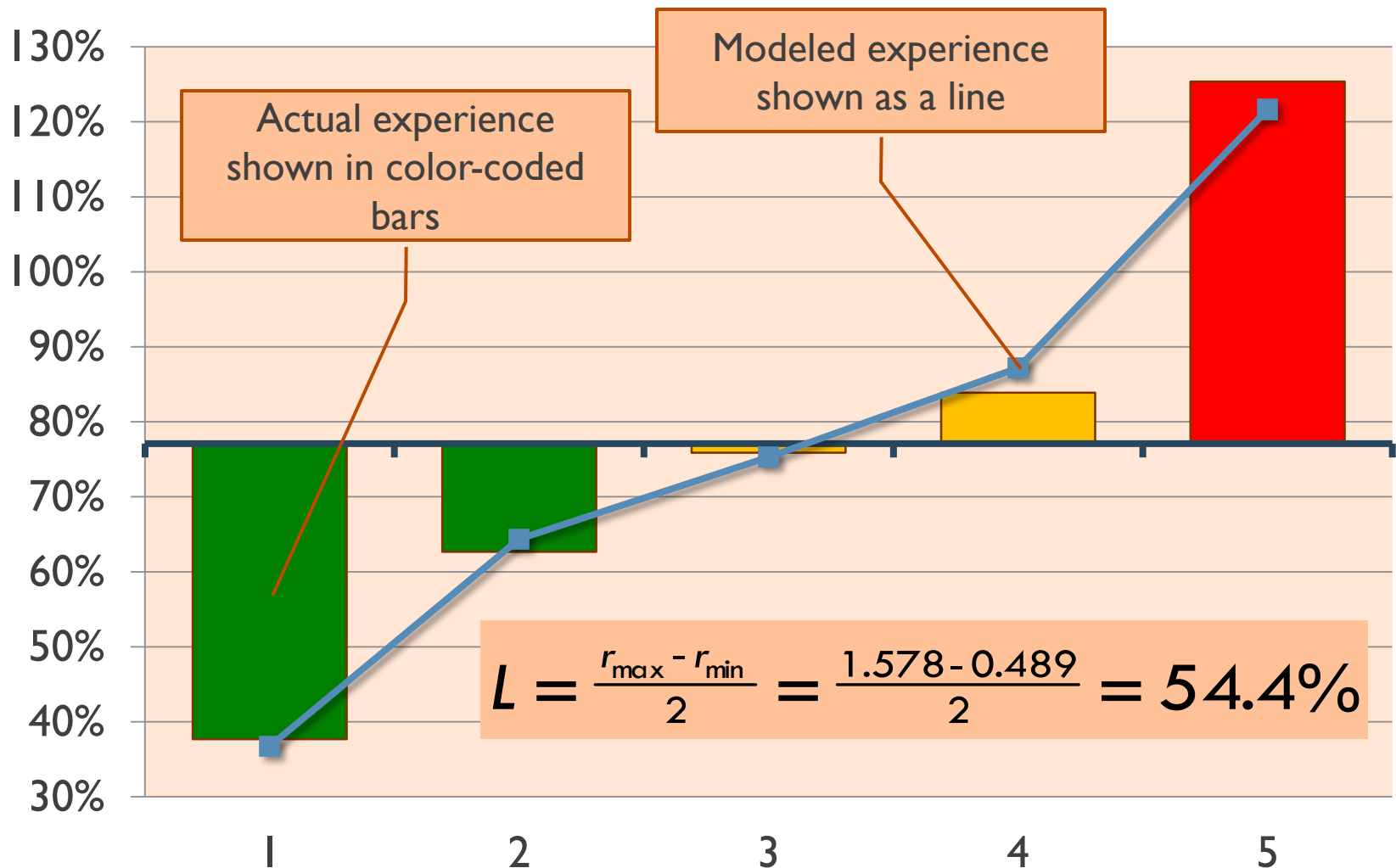
Lift – How is it communicated?

- Usually displayed in a “lift chart”

— Actual — Predicted — Average



Lift – A different way to display



Value of Lift

	Tier 1	Tier 2	Tier 3	Tier 4	Tier 5	Total
Current Rating Plan						
1. Expiring Premium	5,677	5,684	5,682	5,679	5,680	28,403
2. Rate Change	+5.5%	+5.5%	+5.5%	+5.5%	+5.5%	
3. Quoted Renew Premium	5,992	5,999	5,996	5,993	5,995	29,975
4. Expected Retention	64.0%	73.4%	77.5%	82.1%	97.3%	
5. New Business Quotes	3,694	3,694	3,694	3,694	3,694	18,469
6. Hit Ratio	5.6%	13.8%	25.3%	40.0%	63.4%	
7. Expected Premiums	4,042	4,912	5,578	6,399	8,173	29,104
8. Expected Losses	1,406	2,996	3,979	5,286	9,420	23,088
9. Expected Loss Ratio	34.8%	61.0%	71.3%	82.6%	115.3%	79.3%

+5.5% Rate change doesn't reduce loss ratio!

Value of Lift

	Tier 1	Tier 2	Tier 3	Tier 4	Tier 5	Total
Proposed Rating Plan						
1. Expiring Premium	5,677	5,684	5,682	5,679	5,680	28,403
2. Rate Change	-26.6%	+0.0%	+4.6%	+12.9%	+43.1%	
3. Quoted Renew Premium	4,170	5,686	5,941	6,411	8,129	30,337
4. Expected Retention	80.0%	76.5%	78.1%	77.4%	70.6%	
5. New Business Quotes	2,571	3,501	3,660	3,951	5,009	18,691
6. Hit Ratio	16.3%	17.4%	20.5%	22.3%	22.9%	
7. Expected Premiums	3,756	4,961	5,389	5,845	6,888	26,838
8. Expected Losses	1,878	3,192	3,880	4,513	5,855	19,318
9. Expected Loss Ratio	50.0%	64.4%	72.0%	77.2%	85.0%	72.0%

Value of Lift: Getting rate where you need it.

Value of Lift

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4. Projected Losses	1,878	3,192	3,880	4,513	5,855	19,318
Impact of Implementation						
5. Premium Change	-286	49	-189	-554	-1,285	-2,266
6. Change in Losses	471	196	-99	-772	-3,565	-3,769
7. Value of Lift	-758	-147	-90	218	2,281	1,504

Six months later...

After implementation, review your results.

Review Subjective Impact

- Acceptance by agency force and customers.
 - No longer the company we were.
 - We missed our niche.
 - No longer perceived as having stable business practices.
 - Disruption has been generated by new rating plan.
 - Some agents say they are more competitive in certain areas.
- Enhance brand identity as a writer of preferred risks.
 - Concern that we have abandoned our market.
 - Sharp increases have driven away most price sensitive business.

Quantify Objective Impact

Goals:

	Initial	Target	Predicted	Actual	Variance
Loss Ratio	77.1%	72.0%	72.0%	73.1%	+1.1%
Retention	78.9%	75.9%	75.9%	78.4%	+2.5%
Growth Rate	9.1%	3.0%	-7.8%	-2.3%	-5.3%

- Is variance within acceptable range?
 - Missed significantly on growth target.
- Are there any extenuating circumstances?
 - What is the market doing?
 - Have we changed underwriting criteria?
- How can we tweak our plan to improve our results?

Product Monitoring

Objective Metrics

- Should be reviewed regularly
- Subject to market conditions
- Can change rapidly

Subjective Metrics

- Must be solicited to get multiple viewpoints
 - Often one-sided
 - Can be contradictory
- Shouldn't be dismissed out-of-hand
- Can be just as important as objective metrics

Group Discussion

What kind of things do you do to monitor your performance?

Group Discussion

How would you explain the idea of lift to management?

Group Discussion

What if the subjective feedback is positive, but the objective is negative.

What about the opposite?

Group Discussion

What resources are available for gathering the information you need to monitor your product?