



Antitrust Notice

- The Casualty Actuarial Society is committed to adhering strictly to the letter and spirit of the antitrust laws. Seminars conducted under the auspices of the CAS are designed solely to provide a forum for the expression of various points of view on topics described in the programs or agendas for such meetings.
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- It is the responsibility of all seminar participants to be aware of antitrust regulations, to prevent any written or verbal discussions that appear to violate these laws, and to adhere in every respect to the CAS antitrust compliance policy.

Measuring the Value of Rate Segmentation

CAS Ratemaking and Product Development Seminar

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Sr. VP & Actuary AIU

March 9-11, 2009

Measuring the Value of Rate Segmentation

	No Segmentation		
	A	B	Total
Price	100	100	100
Policies	50	50	100
Premium	5,000	5,000	10,000
Loss Ratio	70%	50%	60%
Expense Ratio	30%	30%	30%
Profit %	0%	20%	10%
Profit \$	0	1,000	1,000

Measuring the Value of Rate Segmentation

	No Segmentation Total	With Segmentation		
		A	B	Total
Price	100	117	83	90
Policies	100	25	100	125
Premium	10,000	2,917	8,333	11,250
Loss Ratio	60%	60%	60%	60%
Expense Ratio	30%	30%	30%	30%
Profit %	10%	10%	10%	10%
Profit \$	1,000	292	833	1,125

Measuring the Value of Rate Segmentation

	No Segment Total	With Segment Total	With Smart Segmentation		
			A	B	Total
Price	100	90	117	90	96
Policies	100	125	25	80	105
Premium	10,000	11,250	2,917	7,200	10,125
Loss Ratio	60%	60%	60%	56%	57%
Expense Ratio	30%	30%	30%	30%	30%
Profit %	10%	10%	10%	14%	13%
Profit \$	1,000	1,125	293	1,040	1,333

Direct Marketing P&L Analysis

Assumptions

Initial Acquisition Expense	\$100,000	Responses	5,000
Conversion Rate	20%	Number of Policies	1,000
Average Premium	\$500	Loss Ratio	60%
Operating Expense Ratio	25%	Retention Ratio	80%

Pol Yr	In Force	Annual			Cumulative			
		Premium	Expense	Loss	Profit	Expense Ratio	Loss Ratio	Combined Ratio
1	1,000	500,000	225,000	300,000	-25,000	45%	60%	105%
2	800	400,000	100,000	240,000	35,000	36%	60%	96%
3	640	320,000	80,000	192,000	83,000	33%	60%	93%
4	512	256,000	64,000	153,600	121,400	32%	60%	92%
5	410	205,000	51,250	123,000	152,150	31%	60%	91%

	<u>5 Year Profit</u>	<u>Policies in force</u>
Loss ratio 55%	\$236,000	410
Retention ratio 85%	\$178,000	523
Conversion ratio 25%	\$215,000	512

Direct Marketing P&L Analysis

Segment	Market distrib.	Loss ratio	Conversion rate	Retention rate	Five year cumulative profit	Policies remaining after five years	Market Targeted
A	10%	40%	20%	75%	\$434,000	317	17.5%
B	10%	45%	25%	85%	\$596,000	653	17.5%
C	10%	50%	25%	90%	\$540,000	821	17.5%
D	10%	55%	10%	60%	\$15,000	65	5.0%
E	10%	60%	20%	85%	\$178,000	523	17.5%
F	10%	60%	15%	75%	\$72,000	238	5.0%
G	10%	65%	15%	80%	\$26,000	307	5.0%
H	10%	70%	30%	85%	\$39,000	783	5.0%
I	10%	75%	20%	65%	-\$100,000	179	5.0%
J	10%	80%	20%	82%	-\$187,000	452	5.0%
	100%	60.0%	20.0%	80.0%	\$152,000	410	100%

Targeted Result 54.0% 21.3% 82.2% \$242,000 484

Direct Marketing P&L Analysis

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Retention ratio 85%	\$178,000	523
Conversion ratio 25%	\$215,000	512
Target Segments A, B, C & E	\$242,000	484