



Promotional Effective Analysis

Final Report

2017-July

Key benefits of this projects

OPTIMIZATION AND FORECASTING

Customers can evaluate the promotional activities and gain much more insights for future marketing plan.

And design the best promotional mix and relocate resource allocation to improve ROI.

01

Better Promotional mix

Optimize [promotional mix](#) for different products and region and set up the time and frequency.

02

Better budget allocation

[Allocate the budget](#) in different products, region and promotion channel based on the best promotional mix.

03

Improving ROI

Cancel some [non-effective promotion](#) activities.



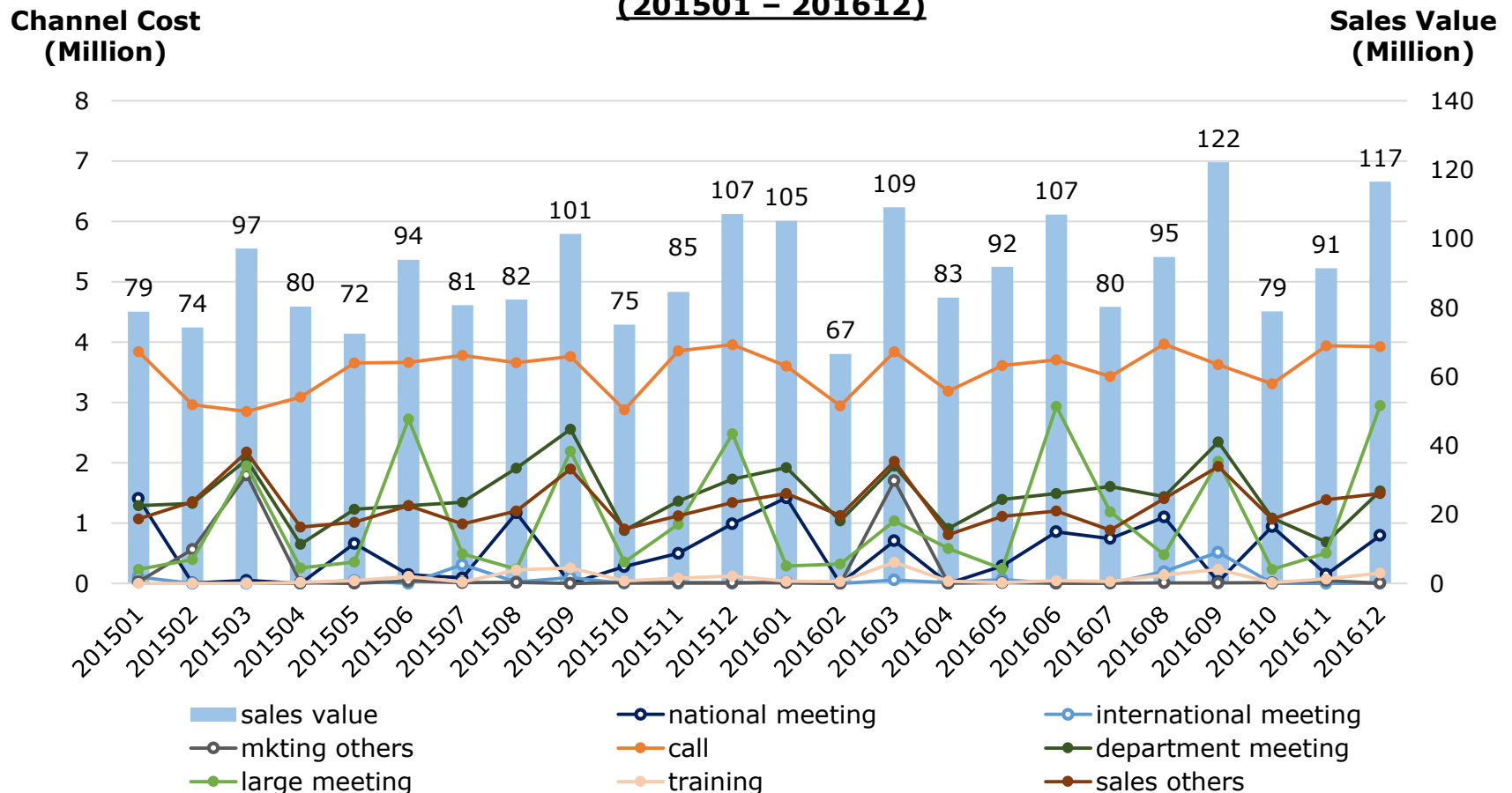
Key terminology for promotion effectiveness analysis

Terminology	Definition
Carryover Rate	Proportion of sales that would be achieved in the following year if all promotion is to stop
Incremental Sales	Sales contribution from different promotions
Response Curve	Response curve is the relationship between channel investment and sales
ROI	ROI measures return relative to expenditure
mROI	<p>mROI measures marginal return per additional unit of spend:</p> <ul style="list-style-type: none">• mROI < 1 means overspending• mROI > 1 means increasing spend will increase profits• mROI = 1 means profits are maximized



Data from different sources were processed and analyzed - Prograf

Prograf monthly channel cost and sales value data (201501 – 201612)

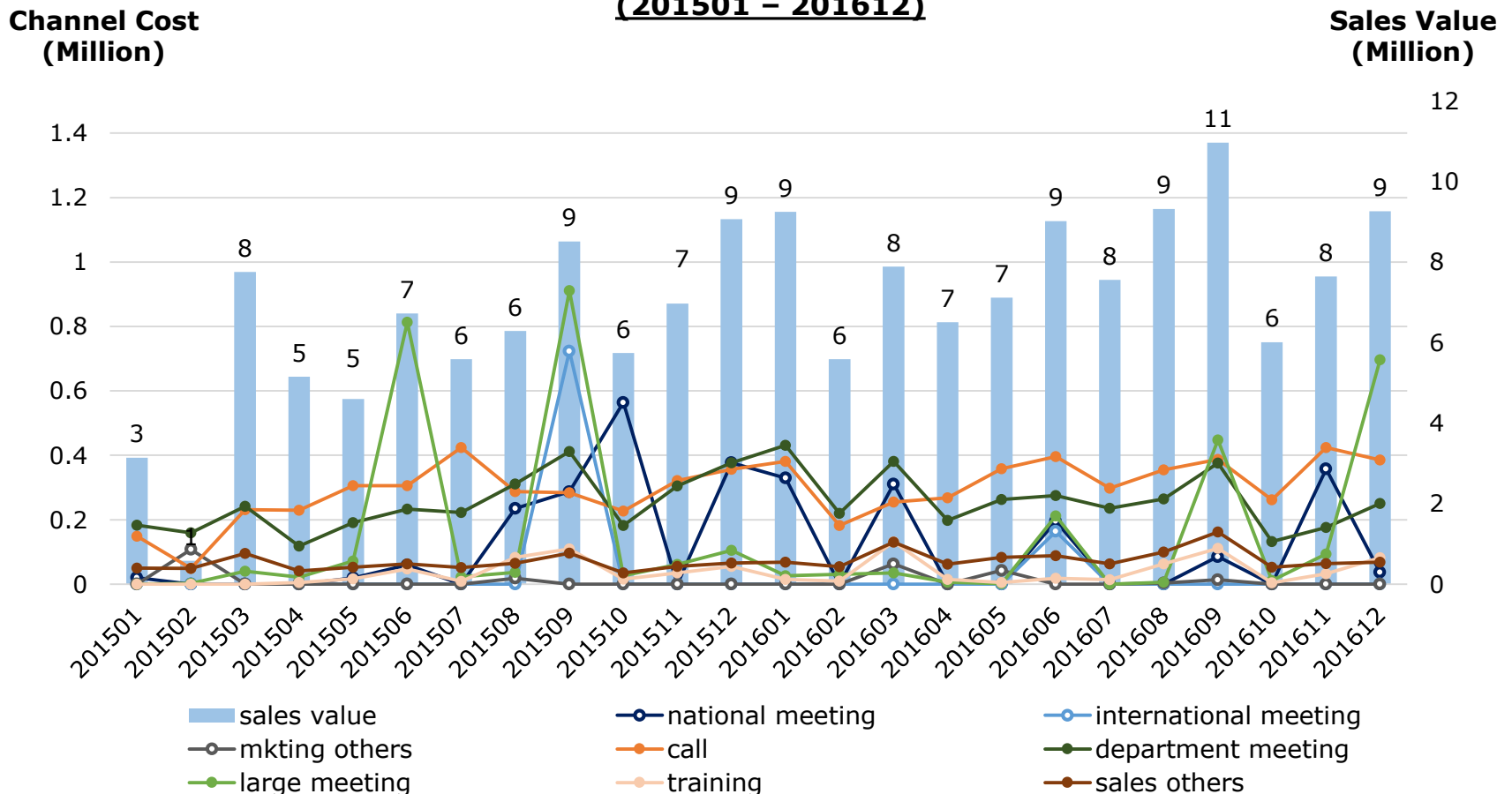


Data from all sources were processed and checked before fitting into model for KPI calculation



Data from different sources were processed and analyzed - Grafalon

Grafalon monthly channel cost and sales value data (201501 – 201612)



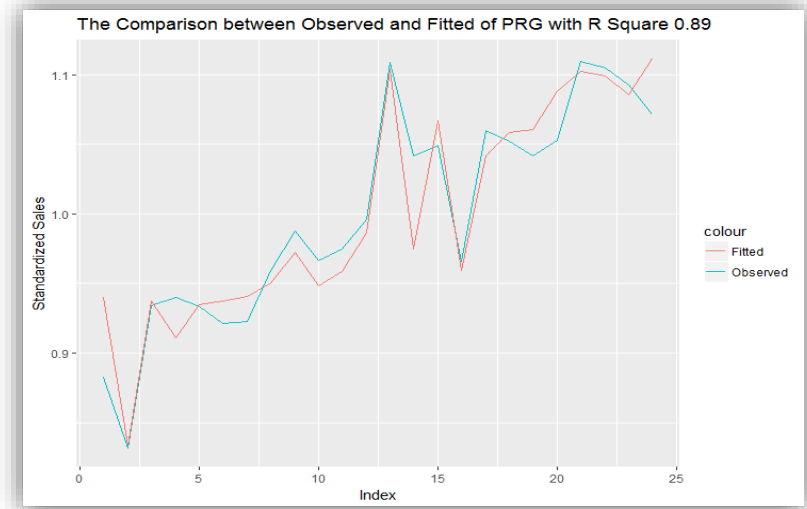
Data from all sources were processed and checked before fitting into model for KPI calculation



Model fit for all models are around 90%

- Hundreds of models with different combination of response curve with retention rate will be fitted to check which one is best fit and best align with business objectives
- Final Modeling result is picked from top fitted model and best business application

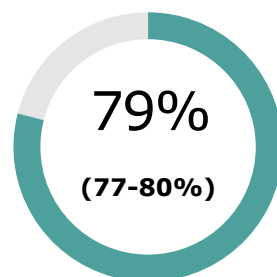
Example for Model Fit



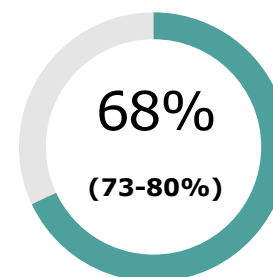
Prograf has carryover rate inline with industry benchmark but Grafalon below

Carryover Rate

Prograf



Grafalon



	Industry Benchmark	Regression Method	Actual Hosp. Analysis	Hospital Ranking
Prograf	75-80%	77%	82%	78%
Grafalon	80-85%	73%	53% ¹	62%

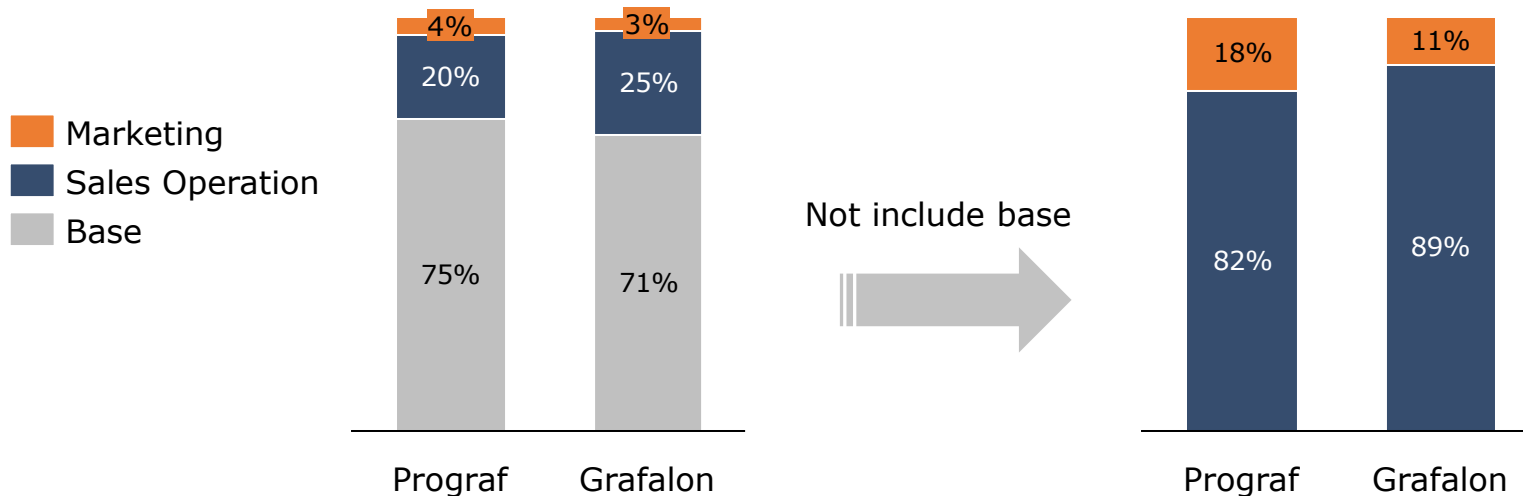
- Prograf has promotions as effective as those for similar product in the market.
- Grafalon is a newly acquired product and its promotion effectiveness needs improvement

1. 5 hospitals with call activities dropped 30% in 2016 were used. This method is not included in final carryover calculation



Prograf has higher sales contribution from marketing promotion activities than other ACN products

Sales Contribution from Marketing and Sales Operation Activities



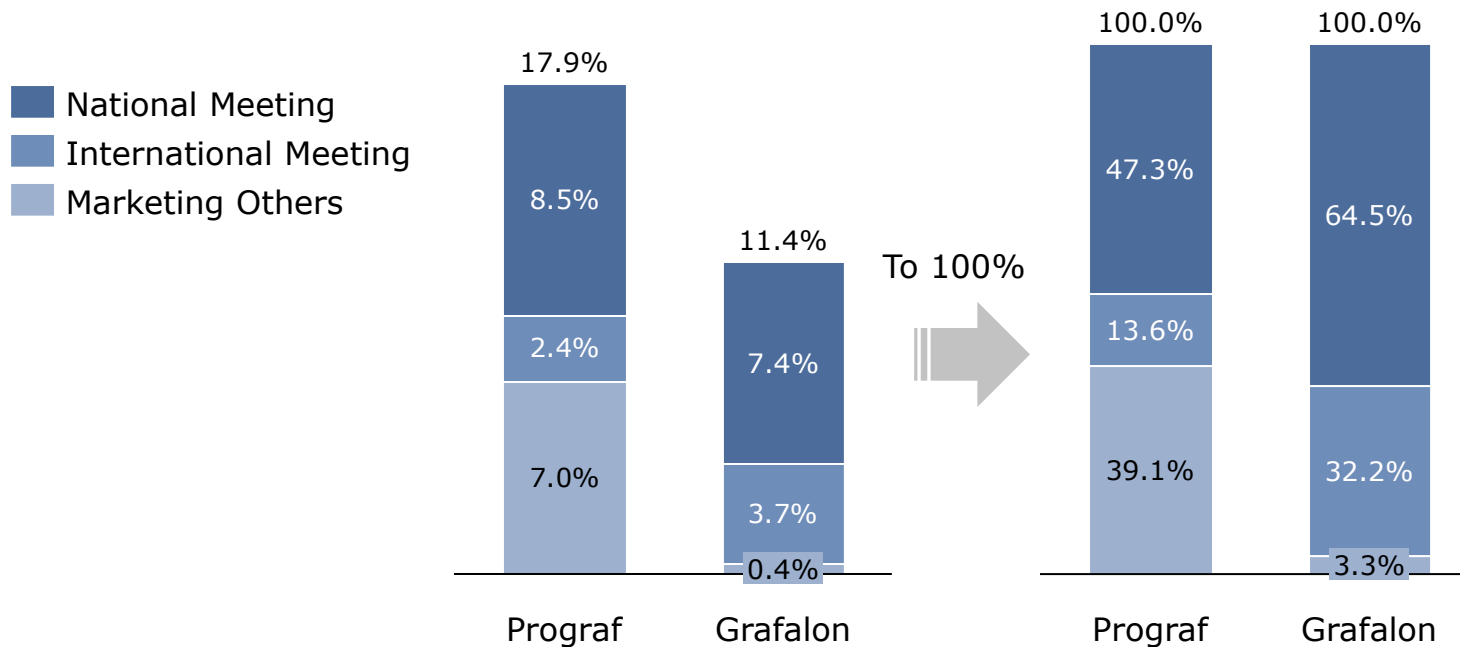
	Marketing cost %	Sales cost %	Marketing cost(RMB)	Sales cost(RMB)
Prograf	9.2%	90.8%	9,045,207	89,381,595
Grafalon	17.1%	82.9%	2,006,447	9,759,244

- Prograf has higher sales contribution from marketing. Most of its meeting attendees are either KOL or holds high position in hospitals, which explains high quality of its marketing activities
- As cost is not considered in sales contribution, promotion channels with higher expense tend to have higher sales contribution. However, high contribution does not guarantee high ROI



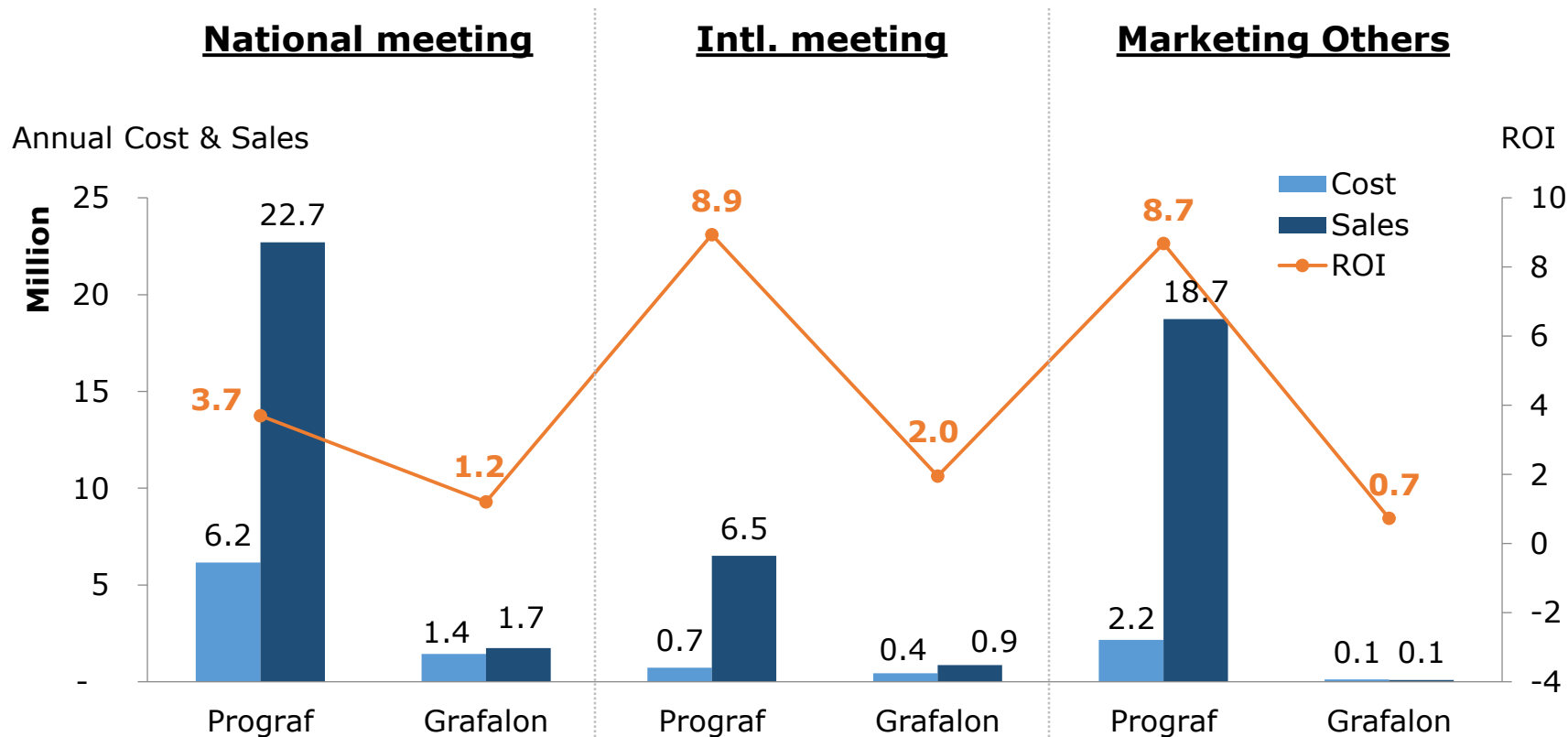
National meeting has the highest contribution among all marketing activities

Incremental Sales Contribution from Different Promotion Activities - Marketing



Expense Share (among total expense)	National Meeting	International Meeting	Marketing Others
Prograf	6.3%	0.7%	2.2%
Grafalon	12.2%	3.8%	1.1%

Most marketing channels for Prograf and Grafalon have ROI greater than 1

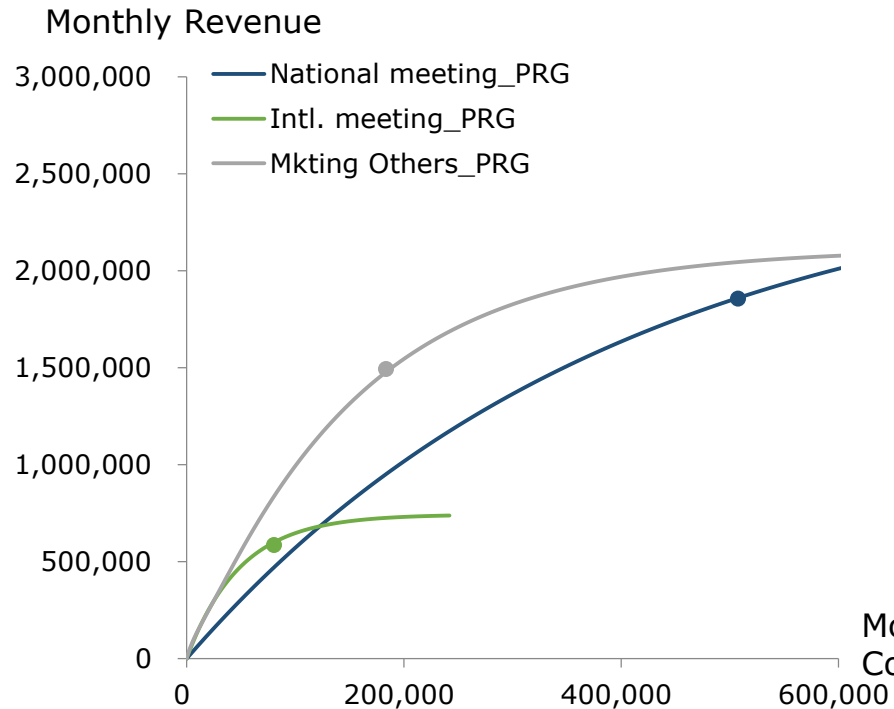


- International meeting is a promotion method with high return where both two products have ROI greater than 2

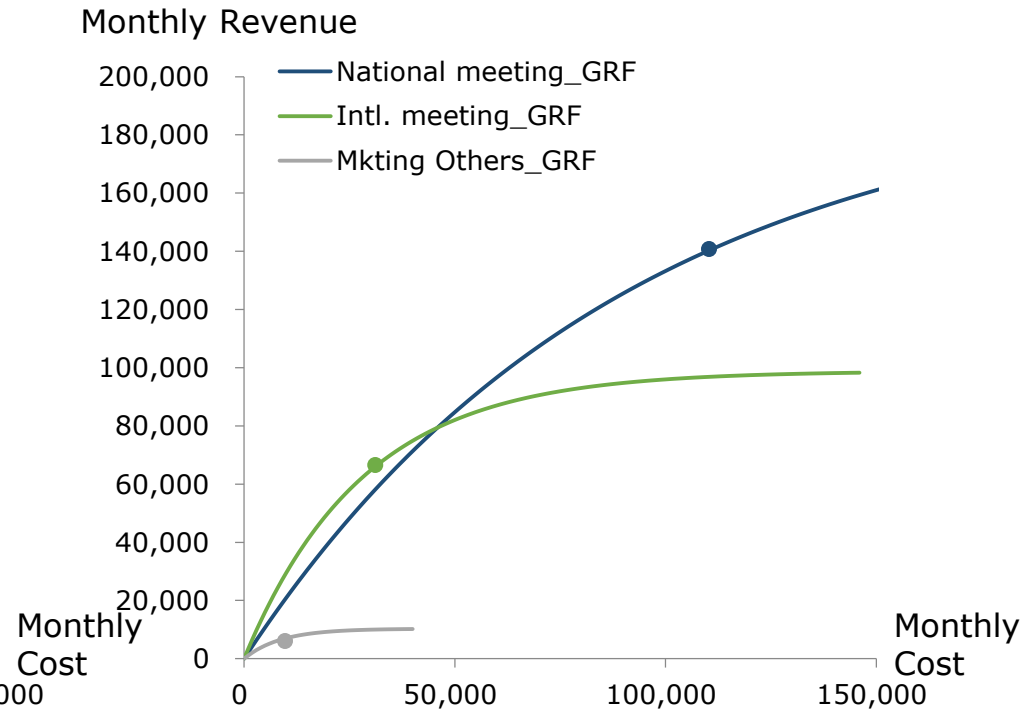


Response curve for marketing channels

Response curve for Prograf



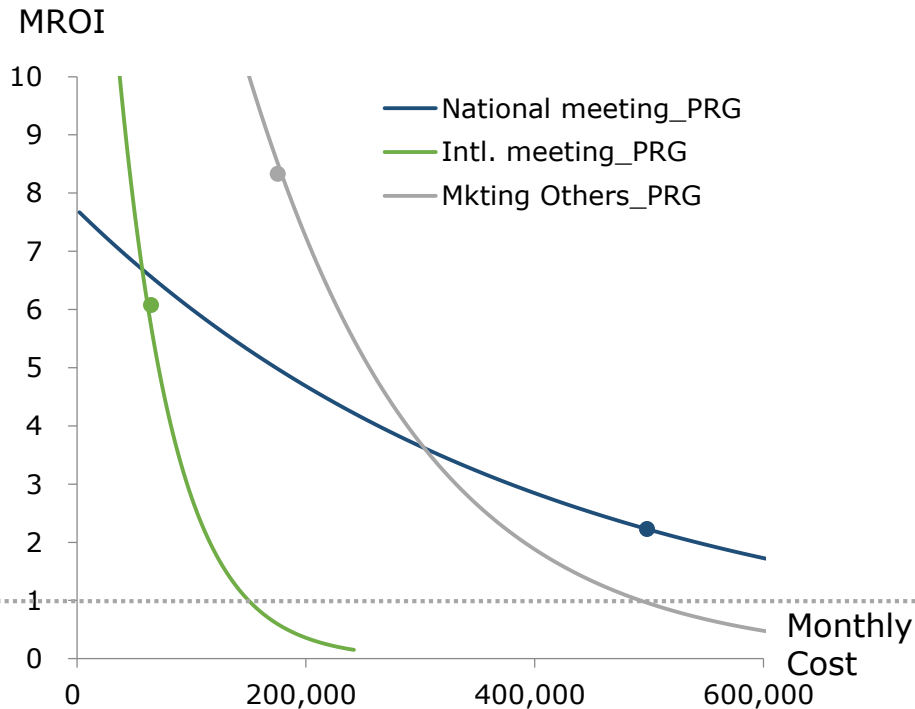
Response curve for Grafalon



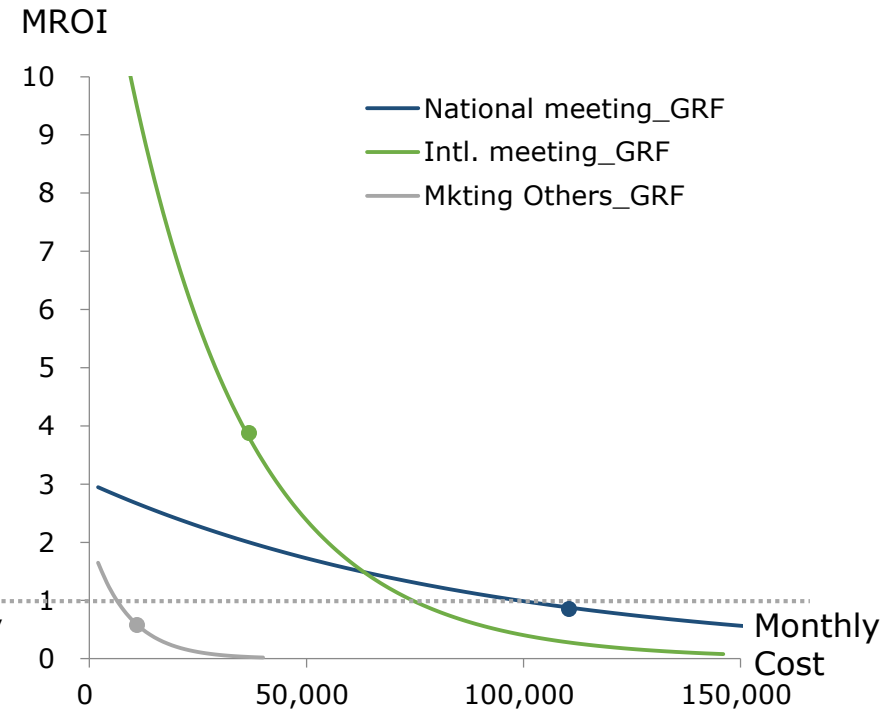
	National meeting		International meeting		Marketing others	
	Prograf	Grafalon	Prograf	Grafalon	Prograf	Grafalon
Current monthly cost	513,196	119,875	60,743	36,974	179,828	10,355
Current monthly sales	1,891,678	144,766	542,772	72,171	1,561,032	7,519

Expense on marketing promotions for the two products needs to be optimized

MROI for Prograf

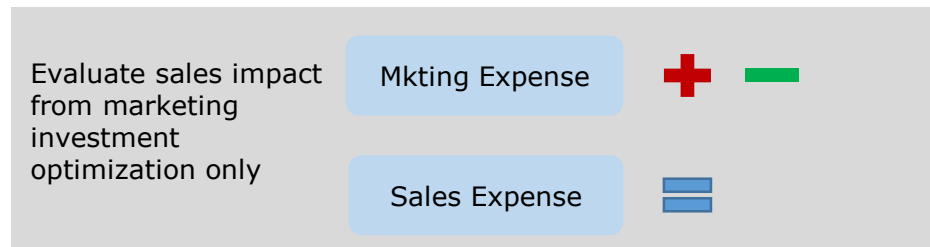
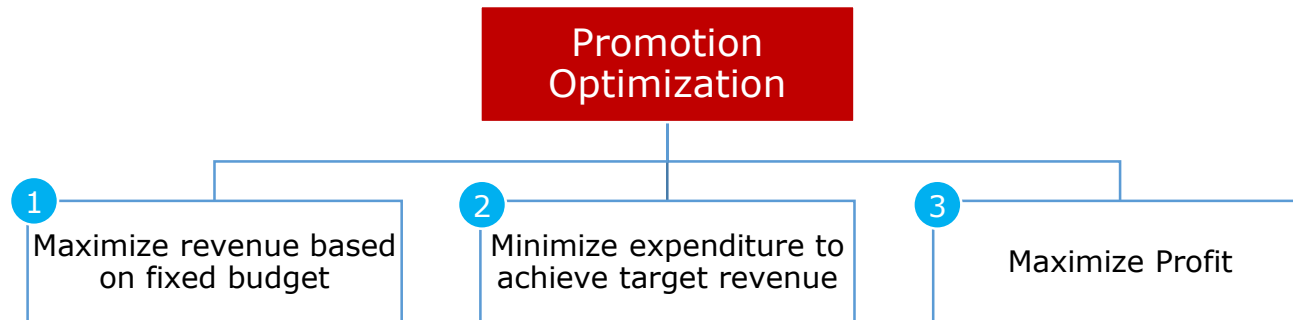


MROI for Grafalon



	National meeting		International meeting		Marketing others	
	Prograf	Grafalon	Prograf	Grafalon	Prograf	Grafalon
Current monthly cost	513,196	119,875	60,743	36,974	179,828	10,355
Current MROI	2.1	0.8	6.1	3.6	8.2	0.6

Three types of optimization can be achieved to guide resource allocation



Channel	Mkting Cost % before opt	Fixed Budget Scenario		Fixed Revenue Scenario		Max Profit Scenario	
		Mkting Cost % after opt	Budget Change	Mkting Cost % after opt	Budget Change	Mkting Cost % after opt	Budget Change
National meeting	52.9%	42.9%	-19%	42.6%	-22%	49.9%	15%
Intl. meeting	21.4%	25.5%	19%	25.6%	17%	22.8%	30%
Mkting Others	25.6%	31.6%	23%	31.8%	21%	27.3%	30%
Call		Sales Operation Cost Keeps Constant					
Dept. meeting							
Large meeting							
Training							
Sales others							
Opt results		Total Revenue +3.4%		Mkting Cost -2.6%		Total Profit +5.0% Mkting Cost +22.2%	

1

2

3

