Application	Marketing Mix Modeling	Sales Resource Optimization	Enterprise Master Plan
Planning Issue	Size and allocate all or a portion of planned marketing budget including sales force for a brand (capacity constrained)	Size and allocate all or a portion of planned sales force budget	1) Optimize a given forecast for **maximum profit by maximizing ROI of total sales and marketing spend** 2) Optimize the supply chain, guaranting it can make and fulfill the new forecast 3) resize and reallocate the entire projected income statement to enable (1) and (2)
Organizational Sponsor	Marketing	Sales	Marketing **AND** Sales
Independent variables	Econometric and marketing budget	Econometric and sales budget	Econometric and total sales and marketing budget
How forecast optimized	Prescriptively; nonlinear programming	Prescriptively; nonlinear programming	Prescriptively; mixed integer and linear programming
Objective function	Profit proxy: contribution margin by product	Profit proxy: contribution margin by product: See NOTE, below	**Profit** Every product/brand and customer/channel/zip combination is profitable (NOTE: 25k in white goods model where EMP idea germinated
Best possible forecast, financially	No	No	**Yes**
Best possible forecast, operationally (e.g., observe constraints)	No	No	**Yes**
Sales and Marketing ROI maximized	No	No	**Yes**
Forecast's use	Within marketing	Within sales	**Across entire enterprise** It drives the entire annual planning process
Reference Articles	Hanssens, Parsons, Schultz, Ibid, "Integrating Market response Models in Sales Forecasting at Polaroid," pages 391-393	Sinha and Zoltners,"Sales-Force Models: insights from 25 Years of Implementation, *Interfaces31:3, Part 2 of 2*, May-June 2001	Article in draft

Market Response Function: An Application Comparison

NOTE: From "Sales-Force Models" ibid, page S14: "…contribution margin is defined as net sales minus consolidated variable product costs, advertising and promotion costs, field-support costs and sales-force costs"