

Comparison of Planning Models' Optimality

Planning Model considerations 1-5 from Why OIS Works	Financial Planning & Analysis	Sales & Operations Planning	Marketing-Mix Modeling	Supply Chain Design
Definition	Wikipedia: In business, a financial plan can refer to the three primary financial statements (balance sheet , income statement , and cash flow statement) created within a business plan . Financial forecast or financial plan can also refer to an annual projection of income and expenses	APICS defines S&OP as the "function of setting the overall level of manufacturing output (production plan) and other activities to best satisfy the current planned levels of sales (sales plan and/or forecasts), while meeting general business objectives of profitability, productivity , competitive customer lead times, etc., as expressed in the overall business plan	Wikipedia: Marketing mix modeling (MMM) is a term of art for the use of statistical analysis such as multivariate regressions on sales and marketing time series data to estimate the impact of various marketing tactics (marketing mix) on sales and then forecast the impact of future sets of tactics. It is often used to optimize advertising mix and promotional tactics with respect to sales revenue or profit.	Wikipedia: Supply chain optimization is the application of processes and tools to ensure the optimal operation of a manufacturing and distribution supply chain . ^[1] This includes the optimal placement of inventory within the supply chain, minimizing operating costs (including manufacturing costs, transportation costs, and distribution costs). This often involves the application of mathematical modelling techniques using computer software.
1. Plan must be unit based	no	yes	yes	yes
2. Forecast must be dependent variable of S (\$)	no	no	yes, in part	no
3. COGS and GA costs must be dependent variable of units	yes	yes	yes, in part	yes
5. Solver technique must be prescriptive	Scenario analysis (i.e., what will happen if we do X)	Scenario analysis (i.e., what will happen if we do X)	Scenario analysis (i.e., what will happen if we do X)	Prescriptive (i.e., What is the best X?)
4. Objective function	Profit max	Profit max	Contribution margin max	Cost min, typically,
Entire income statement modeled	Yes	Yes	No	No
Solution operationally	Not necessarily	Yes	Not necessarily	Yes

feasible				
Solution optimally feasible	No	No	No	Yes
Enterprise forecast optimized	No	No	No	No
Enterprise supply chain optimized	No	No	No	yes
Sales & marketing ROI maximized	No	No	No	no
RESULT	Plan necessarily sub-optimal	Plan necessarily sub- optimal	Plan necessarily sub-optimal	Design necessarily sub- optimal