

**Additional EMP and ABC-M&A analytical details.** Optimized activity-based planning requires relaxing the assumption of a fixed sales forecast to solve for the optimum level of sales and marketing spend that provides the highest profit and ROI.

There are two different ways to achieve this. One way is termed descriptive (also referred to as scenario analysis or enumeration). It answers the question: “What will happen if we do X?”

The other is termed prescriptive or normative and answers the question: “What is the best X?” Normative techniques are much more mathematically sophisticated and are required when the number of possible scenarios is too numerous to analyze with scenarios.

Solving for the best X looks at every single combination of sales, costs, capacity, and sales and marketing spend that results in highest profit and ROI.

Such techniques have been applied for decades to a variety of problems including supply chain network design questions (e.g., mergers, the number, location, and size of raw material suppliers, manufacturing facilities, production processes, distribution centers, etc). Always, however, with the assumption of a fixed forecast

So, to relax this assumption is in many ways the Holy Grail of financial and operations planning.

But could it be done?

For the last several years, a small group of dedicated subject matter experts in financial and operations planning, sales and marketing, costing and prescriptive techniques have been working on a Proof of Concept (POC) to demonstrate feasibility. The POC model is also referred to as an enterprise planning model (EMP). However, obviously, we were restricted to models that had previously been built since we were trying to prove a concept that had never been previously been applied.

**In the course of our work, a very important fact emerged. If the previous model had been an ABC model, 70-80% of the information needed for the data requirements is readily calculated.**

This is because all the drivers in ABC models are units (i.e., activities). This forces the development of the associated ABC planning factors (activity consumption rate (acr), resource consumption rate (rcr) and cost factors (cf)) which are required to drive the costs to the units. Turns out these planning factors are precisely what our POC model needs for its cost functions. See

Thus, when [CAM-I](#) published its ground breaking book, *The Closed Loop*, describing how the planning factors acr, rcr and cf could be used for planning purposes, the stage was set for, 9 years later, the capability to optimize *The Closed Loop* by relaxing its assumption of a fixed forecast and applying prescriptive optimization techniques.

Obviously, lacking these planning factors, other drivers, such as those popular in S&OP and FP&A models cannot be used in a POC model built from their data. This makes the data gathering and preparation more time consuming.

Such a firm was found. Further, the POC model, developed as a prototype to test the feasibility of optimized planning, demonstrated very significant profit improvements, ranging from 25-150% depending on the scenario. For more details on all of the above, please refer to the **draft of a journal article** soon to be published.