Roadmap level planning and optimization for an IC manufacturer

Background

Client situation
- A top tier IC supplier of components and drivers for mobile devices who was struggling to optimize their product development strategy

- Had to make an immediate choice whether to embark on development of 3 new products, or focus only on 2 of the 3 product opportunities

- Main concern: projected revenues depended strongly on achieving specific market windows; TTM delays would carry severe and immediate financial repercussions

Engagement objectives
- Mitigate the risk of missing market windows by developing high-confidence plans for each product
- Optimize ROI by balancing the potential revenue opportunities against the risk of missing market windows in the face of both schedule and resource limitations

Approach

Determine project complexity
- Use Numetrics' to quantify the true (complexity) of each product option

Generate four roadmap scenarios
- Using the Numetrics planning simulator, create four "fact-based" scenarios representing various product roadmap options:
  - Launch all 3 products (x,y,z)
  - Launch 2 of 3 (xy, zy, xz)

- Each scenario incorporated both market window and resource constraints, and was calibrated using realistic estimates of team productivity, derived from past project performance

Analyze "risk-versus-reward"
- Schedule risk for each project was measured by benchmarking the underlying execution assumptions
- This risk was balanced by the corresponding revenue potential

Impact

- Proved quantitatively that target market entry dates for all 3 products could not be achieved

- Subsequently, a decision was made to launch 2 of the 3 products

- Both projects achieved a "Best-in-Class" standing in their industry segment, meaning they were able to achieve above-average productivity while at the same time growing team size to simultaneously achieve above-average throughput

- Both projects were released at the target launch date without slipping schedule

"Having facts we could depend on meant reaching consensus in making this choice was easier and faster"

- Program manager

1. "Best-in-class" is defined as simultaneously achieving above-average performance in two competing dimensions: Development Productivity and Development Throughput

predictive analytics identified resource bottleneck before the projects were kicked off

Analytics on required staffing across 3 projects

Resource bottleneck identified and resolved BEFORE projects slip
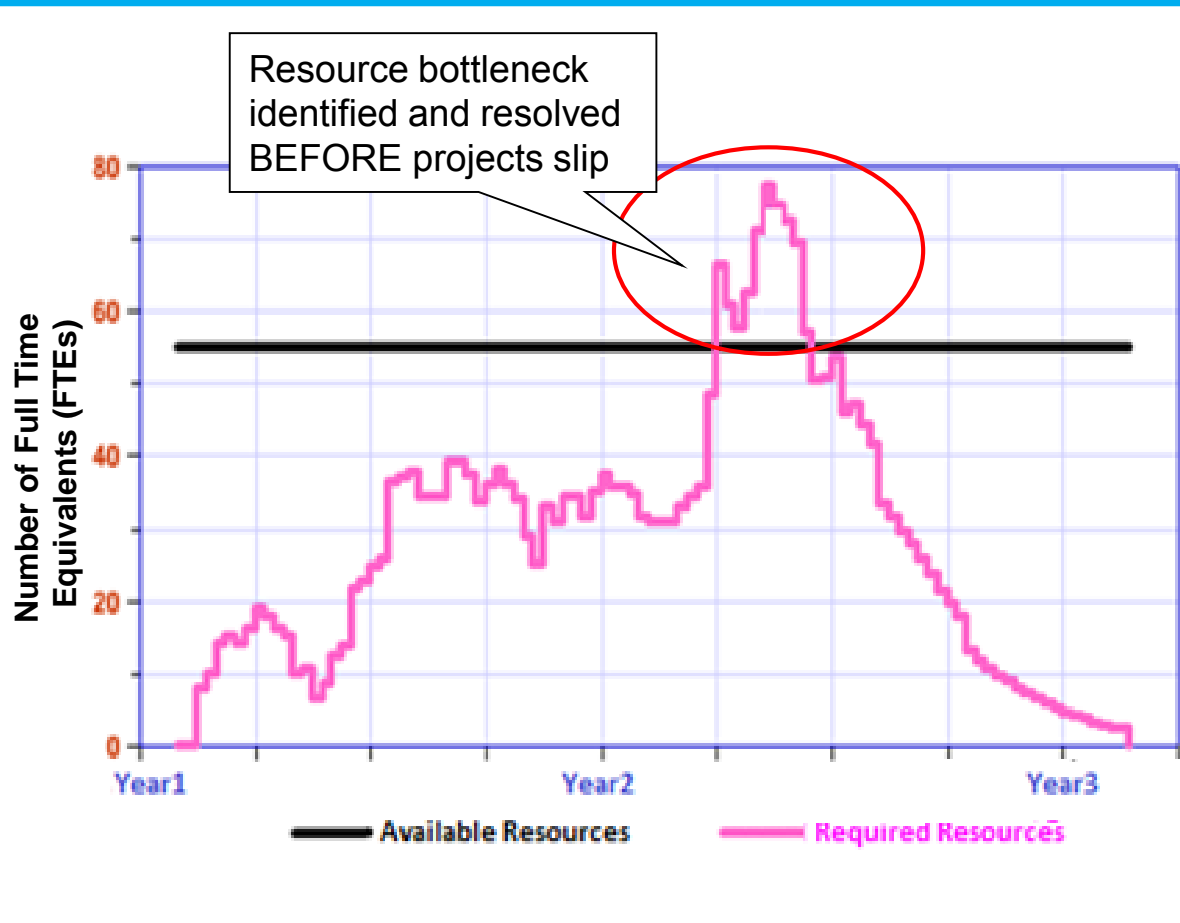
- Analytics showed that the plan to launch all 3 projects would cause resource bottlenecks and delays

- Alterative plans were generated and evaluated together with the relevant business cases

- The two high priority projects were launched with the appropriate resources to achieve "best-in-class" productivity