Evaluation of Discovery Strategic Investment Options

ProModel
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Vertical

Manufacturing | **Pharmaceutical** | Healthcare | Portfolio | Logistics | Financial | Government | Business

Genre

Case Study | **Project Review:** | White Paper | Technology Overview

Client

A leading global pharmaceutical firm

Situation

The firm invests close to $1 billion per year in Discovery Research to fuel the development pipeline with valuable drug opportunities. Appropriate allocation of these funds is critical to sustaining profitability.

Because the business is so highly variable and unpredictable, management is always looking for more accurate ways to evaluate how various investment options affect the ability of Discovery to maximize throughput of Candidates (CAN's) to First-In-Human (FIH).

Objectives

- Create a methodology to make objective comparisons between alternate investment options, across the Global Discovery Research organization.
- Assist with using the above methodology to reduce investment decision risk and increase the ROI of Discovery Research investment dollars.
- Aide in identifying ways to increase Discovery CAN throughput to FIH.

Solution

ProModel worked with the Discovery Operations team to develop a simulation based solution to support their objectives.

Some key features of the solution:

- Captures the entire global process from Target to FIH.
- Able to answer questions about technology investments and organizational changes.
- Accounts for the high degree of variability and resource constraints inherent to the Discovery process.
- Capable of evaluating the impact of potential investments on scientific tasks and their departmental inter-relationships.
- Able to delineate activities by line and by stage of the pipeline.

Customizable Output Reports – Key Performance Indicators (KPIs) of multiple scenarios can be compared simultaneously. The types of KPI reports include;

- Starts/completions per stage or process step.
- Cycle time per stage or process step.
- Survival rates per stage.
- Key resource requirements and utilization.
- FIH's per quarter or year.

Task / Resource Bottleneck Report – Used to isolate and rank the tasks/resources that have the greatest impact on the system. Some characteristics of the report are:

- Ranking the process tasks which most affect cycle time.
- Identifying the resources, dependencies or tasks that cause the largest delays.

Results

Benefits:

For the first time, the client has an accurate representation of the major scientific tasks and inter-relationships that make up their Discovery process. This gives them the capability to more accurately perform the following:

- Predict how many FIHs they can expect to achieve in the future..
- Evaluate global or site initiative effects on organizational goals.
- Experiment with process and/or staff initiatives and predict the impact on Discovery throughput and cost.
- Integrate high level portfolio analysis using Portfolio Simulator with the detailed Initiatives Analysis Model, to provide more accurate Discovery projections 2-10 years into the future.
- Evaluate financial ROI by comparing the potential additional revenue generated from increased throughput against the potential cost of the changes required to gain the additional throughput.

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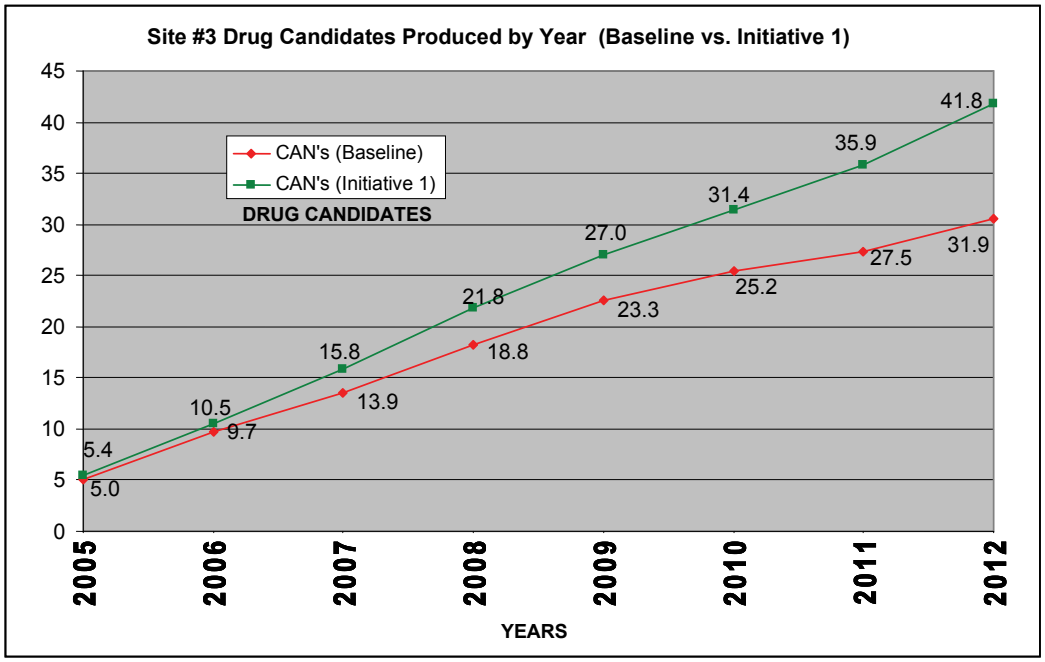
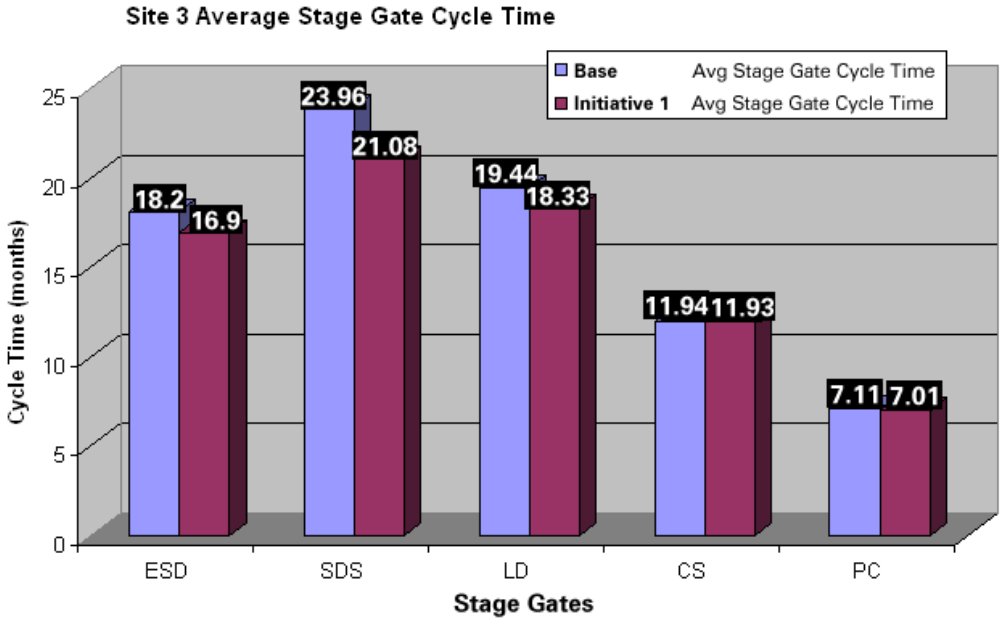
Results

Results of the simulation solution can be displayed in a variety of visual and meaningful ways.



The above chart shows how some of the changes being tested in initiative 1 improve drug candidate throughput over time.



The above chart displays the reduction in stage gate cycle times by implementing initiative 1 changes.