

Case Study: Simulation Modeling

Artisan Bread Manufacturer (ABM)

- Making more bread without spending more dough

The Challenges

ABM's daily production levels exceeded 50,000 loaves of handmade artisan bread, including 25 products of different shapes and sizes. As the company's success grew, it needed to increase capacity, while improving quality. Efficiency Engineers were proactively hired so ABM's customers would continue to receive high quality products at affordable prices.

Efficiency Engineers Solutions

Efficiency Engineers began by evaluating the production levels and line work capabilities. A simulation modeling technique was used so the data could be easily reviewed and necessary adjustments could be quickly made. Efficiency Engineers analyzed and suggested five different variations to ABM's current production methods, evaluating such key components as total output, production rates, oven utilization and downtime percentages.

Efficiency Engineers were able to change product types, number of workers and conveyor speeds to provide maximum results using the simulation modeling technique.



Results

Efficiency Engineers' recommendations, based on careful review of simulation data, provided an increase in productivity and reduced spending while facilitating continual data driven decision making. Suggestions included:

- Increasing conveyor speeds and hiring additional operators, resulting in a possible 30% productivity increase.
- Operational revisions will delay need to purchase a new production line for 6 months.

Most importantly, ABM used the simulation mainly as a tool which increased knowledge about how production line components interact and affect each other. The result enabled informed decision making.

In a follow up interview years later, ABM's Director of Engineering said, "The simulation justified spending. It proved to be accurate and set the groundwork for spending over \$100,000. We were able to produce more with the same amount of people."