Quantitative Process Analysis Techniques

While qualitative techniques provide workflow visibility, quantitative techniques assess process performance using data and metrics. Key techniques include:

Process Benchmarking

Compare as-is process metrics like cost, quality, cycle time and productivity against internal best practices and external world-class levels.

Establish Baseline Metrics

Measure current performance across KPIs like cost/transaction, cycle time, error rate, customer satisfaction. Baseline metrics enable pre/post analysis.

Drill Down Metrics

Break down process-level metrics to underlying activity metrics to identify performance bottlenecks. For example, cycle time by activity.

Statistical Analysis

Analyze metric data to identify variability, trends and outliers. Use techniques like Pareto analysis to identify vital few process issues causing the trivial many.

Process Mining

Load system event logs into process mining tools to visualize flows, variations, exceptions, and detailed performance metrics.

Process Simulation

Model the process "as is" and simulate improvements through techniques like discrete event simulation. Quantify potential throughput, cost and quality impact of changes.

Predictive Analytics

Apply predictive analytics techniques to forecast process KPIs based on influencing factors. For example, predicting cycle time based on order characteristics.

In summary, quantitative techniques extract actionable, statistically valid insights to identify high-impact process improvement opportunities and build an ROI business case.