Achieve or exceed product quality targets for higher operating margins

Improve product quality and yield while reducing scrap and rework with advanced analytics, AI and machine learning

Integrate disparate data and make informed decisions fast.

Quickly discover root causes and implement corrective actions.

Predict and prevent future issues, waste and lost sales.

Automate, monitor and optimize processes in real time.

The Issue

According to the American Society for Quality, many organizations have quality-related costs as high as 15-20% of sales revenue, with some as high as 40% of total operations. Though when it comes to improving product quality and throughput, manufacturers face numerous challenges, including:

- Inability to integrate data from disparate systems and isolated sources.
- Lack of visibility into and understanding of multiple operational processes.
- Rising costs due to poor-quality goods, rework and scrap.
- Increasing complexity that reduces manufacturing yields.

A lack of visibility across the value chain hampers a manufacturer's ability to react to changes in product quality and operational performance. Data comes from many systems, including MES, CMMS, MRP, MOM, EAM, SCM and S&OP.

Making fact-based business decisions is difficult without connecting and analyzing data to gain real insights, leaving manufacturers to rely on employee intuition and guesswork. This further increases the costs of poor quality due to wrong decisions based on incomplete information. If left unaddressed, poor quality and low yield eventually lead to dissatisfied customers and reduced competitiveness in the marketplace.

The Challenge

Declining brand loyalty. Consumers have many choices and will quickly choose alternatives to low-quality products. SAS® analytics enables manufacturers to improve quality and customer satisfaction to be more competitive with increased profitability and market share.

Disconnected view of enterprise quality. Disparate and isolated data sources limit a manufacturer's ability to see and address quality issues across the entire operation. SAS connects varying data sources for a complete picture that leads to optimal business decisions.

Failure to achieve yield and throughput KPIs. The inability to know when quality control problems start negatively affects yield and throughput. SAS helps manufacturers identify the root cause of quality control problems – and predict and prevent them.

Excessive scrap and rework across the value chain. The cost of poor-quality goods can devastate a company's bottom line and hurt ESG targets. SAS helps increase first-pass yield, reducing waste and inefficiencies while helping meet sustainability goals.

Our Approach

Lack of critical information leaves manufacturers unable to solve underlying quality problems. Without a clear understanding of quality's effects on cost and demand, organizations can be left with unexpected expenses, reduced yields and low customer satisfaction. SAS advanced analytics for manufacturing help solve quality issues. We enable you to integrate and rationalize data from disparate systems and apply AI and machine learning, deep learning and neural networks to uncover the insights needed to make informed decisions while minimizing risk quickly.

We approach the problem by providing software and services that help you:

- **Turn insights into action and gain best-case recommendations** by deploying advanced analytics with intelligent decisioning capabilities.
- **Improve product quality with predictive capabilities** that address potential failures so products regain and sustain quality while lowering costs.
- **Optimize production yield** by monitoring and optimizing processes in real time and prescribing the proper setpoints, control limits and operational specifications to improve quality.
- **Improve profitability and support sustainability initiatives** with process optimization that reduces scrap, rework and energy consumption.

The SAS® Difference

SAS empowers manufacturers to unlock the immense potential of their digital transformation efforts while accelerating results. Our advanced analytics have robust visualization capabilities and a single platform with an intuitive interface that's simple to use. Additionally, SAS scales to meet evolving needs and delivers increased functionality manufacturers need for a competitive advantage.

SAS software and services help manufacturers:

- **Achieve production and quality improvements** by applying analytics – including AI, streaming analytics and machine learning – to shop floor and IoT data sources for a deeper process understanding than other solutions offer.
- **Reduce the expenses and inefficiencies of poor quality** by using analytics to predict and prevent issues that lead to scrap, waste and lost sales.
- **Analyze in seconds what could take a half-hour with other software**, delivering the right information and answers faster.
- **Keep overhead costs lower** with our patented no-code GUI interface and guided AI – so there's no need to hire specialized data scientists.

CUSTOMER CASE STUDY:
MULTINATIONAL MANUFACTURER OF HOME APPLIANCES

Challenge

This manufacturer was competing with many new market entrants who were eroding revenue and margin by offering similar equipment at a lower price. To effectively compete, the company wanted to focus on further differentiating its quality.

Solution

Using SAS predictive analytics and reporting, the manufacturer improves quality beyond its already high standards and ultimately sells products at a greater margin.

Results

50%
improvement in quality

28%
reduction in field failure rate

4.5+
stars for customer satisfaction

266.4% IRR,
$18.9 million NPV, 11 months payback

Learn more about how SAS can solve your manufacturing challenges.

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