

GLOBAL TRACEABILITY: HARNESSING THE POWER OF BIG DATA



In my blog post, “What does Global Traceability Give you that a MOM Doesn’t?,”

I discussed why companies with an enterprise solution for manufacturing operations management should also invest in an enterprise solution for global traceability. The rationale revolved around the typical issues: contain quality “spills,” protect the brand, comply with regulatory compliance, and appease to consumer pressure and expectations. Those are good reasons, and they are the historical drivers for implementing a global traceability solution. Enterprises need traceability to survive and stay in the game these days.

But now that the early adopters of global traceability have conquered their trace and containment issues, they are beginning to realize they are sitting on a gold mine of process and operational data that can be leveraged for much more than

crisis-resolution. Global traceability involves gathering, storing, and reporting detailed information about every important event throughout supply and production. That information can then be used in many different ways to improve operations or resolve seemingly unrelated challenges.

The following examples of business improvement were all based on what happens when a global traceability solution is put in place. The references are all from real companies. The names, however, were withheld for confidentiality and competitive reasons. We are still in the early days of leveraging this data, so these examples are only the tip of the iceberg.

Use Case #1: Global Inventory and WIP Visibility

Global traceability provides enterprise-wide visibility to inventory levels, location and status.

A semiconductor manufacturer has leveraged this data to provide contract manufacturing inventory and WIP information to help with their supply chain planning, closing the loop on their “Plan-Do-Check-Act” cycle, at an enterprise level.

While Enterprise Resource Planning solutions are often touted as the “single source of the truth,” in all likelihood, there is not a standardized deployment across the enterprise. What this means is information is seldom readily available and

visible. As a result, ERP is a difficult way to approach managing the data that is part of global traceability, despite its role as being the main repository for current inventory and Work in Process (WIP). Having implemented a separate global traceability solution, this manufacturer is better poised to manage operations on a global level, and to better support their “Plan-Do-Check-Act” process loop.

Use Case #2: Lead Time / Value Stream Analysis

One of our customers is using global traceability information to understand manufacturing and supply chain lead time through global genealogy. The company also benchmarks performance at multiple plants that are producing the same products. This knowledge then helps them to analyze lead time data against master data. This information is then provided back to the supply chain planning team to enhance the quality of their master data settings. The aim here is to improve the quality of planning, re-position strategic inventory, and ultimately reduce the cost of inventory and lost opportunities across their global operations.

Use Case #3: Process Intelligence Analysis

A few manufacturers are now using big data collected from multiple sites to perform predictive analytics to spot potential areas for improvement. This information is then fed into their traceability program, which then becomes part of their quality planning and process planning systems. The insights are also used to help plan “vertical launch” New Product Introduction (NPI), where production and

sales are launched simultaneously across multiple regions from day one. Detailed histories and genealogies from past launches can be the basis for continuous improvement.

Use Case #4: Maintenance, Repair & Operations (MRO)

Global traceability captures as-built history from the complex supply network that creates finished goods. Some companies are going further downstream in order to capture as-maintained history. They can then utilize all the related track and trace history in their MRO activities to analyze and improve predictive maintenance and global spare parts inventory management. This strategy is especially applicable for those manufactures that operate in an aftermarket, or have large-scale maintenance operations such as is the case in the medical equipment, automotive, aerospace, and industrial equipment industries.

Conclusion

Global traceability is no longer applicable just for traditional use cases.

Manufacturers are utilizing the data to close the global PDCA loop, optimize supply chain processes, improve New Product Introduction, and find new opportunities for business improvement in critical operational areas. The necessary enablers are now available to manufacturers, and widely in use. It's just a matter of seeing the possibilities and taking the next, incremental step.

Source: <http://www.aprison.com/blog/2015/09/global-traceability-part-2-harnessing-the-power-of-big-data/>