



Case Study Johnson & Johnson, Inc.

PRODUCTION VISIBILITY FROM THE SHOP FLOOR ACROSS THE ENTIRE SUPPLY CHAIN

Johnson & Johnson (J&J) turns to Keethings to increase their visibility of multiple high volume production lines. Keethings gives their organization more communication paths to share critical performance information inside the entire consumer supply chain organization.

Introduction

This part of J&J manufactures a range of consumer products for the global market across multiple production lines and factories. The business intelligence (BI) group is responsible for the overall performance of the global consumer supply chain. It wants to improve its visibility into shop floor equipment performance. The BI group also wants to explore using Keethings to enable improved communication between the shop floor and the supervisory management when problems arise. Equally important though is the collection and delivery of information about production to the business intelligence systems so staff can better plan production. In the future, it wants to explore new possibilities in the area of machine-to-human communication. These four uses of Keethings should result in greater awareness of shop floor operations, the potential for decreased production downtime, faster and more accurate internal communication, and improved supply chain performance.

The Challenge

Various manufacturing groups realized that business intelligence about operations on the factory floor was insufficient to drive comprehensive management processes of the consumer supply chain. They lacked a clear, end-to-end view of interruptions along the supply chain. Further, what data was collected was inconsistent: each operator described manufacturing problems differently and to various levels of completeness. In addition, the operators did not have access to an up-to-date knowledge base to fix interruptions and when they needed them, access to a subject matter expert was difficult.

"We realized that our business intelligence and factory knowledge is not sufficient to drive a comprehensive management process. These groups had changed the



roles, responsibilities, and KPIs of the staff managing the factory floor and to make those changes meaningful, and they needed a better system for managing the data and processes." said Alessandro Gamba, Director Business Intelligence & Analytics, J&J Consumer Supply Chain.

Solution

The current phase of implementation focuses on escalation workflow. Using the roles, responsibilities and workflow functionality of Keethings, the division will construct communication paths from the shop floor to various levels of management including senior management for manufacturing line issues. Management will be able to track progress on these issues so they can adjust production schedules and supply chain commitments.

In the next implementation phase, the division will use the Keethings's Rich Media card (RMC) functionality to deliver pre-formatted escalation reports and troubleshooting guides. Rich Media cards are templates that contain a combination

of graphics, video, documents, and machine data on a touchscreen or smartphone. RMCs will be built that provide simple, clear checklists that let the user make decisions fast when troubleshooting and ensure that the user provides complete problem reporting. When the machine generates an alarm, operators will be able to go to a touchscreen near the machine, tap on the RMC to view a checklist to troubleshoot and report that alarm. The alarm, observations gained in using the checklist, and troubleshooting history will constitute an alert. The alert will then be routed via a pre-defined workflow to plant staff.

Data recorded in alerts will flow into various existing enterprise tools so the data becomes part of the manufacturing supply chain's business intelligence database allowing that data to be easily used for analysis, reporting, and most importantly forecasting of production.

Benefits

The division anticipates a series of benefits from using Keethings. First, they will have more accurate data on production. This in turn will help build a more accurate and timely end-to-end view of the manufacturing supply chain allowing staff to respond to production line interruptions and better plan future production. This response will result in better customer service to the channel and improve all of the division's supply chain indicators.

Keethings will enable faster response to production issues via a consistent and streamlined escalation workflow. Time to resolution will improve, as the operator will be presented with RMCs to aid them in troubleshooting rather than the operator waiting for a subject matter expert to help them. This faster response can increase production volumes.

They foresee a mental shift among factory staff from being reactive to proactive because now they will be empowered with better knowledge of what is going on the floor. Knowing that they can monitor conditions as they change rather than reacting will encourage people to take a more proactive role in anticipating and addressing potential problems.

"That's the beauty of a such a versatile platform. [It's] not related to a specific supply chain indicator. [It's] not installed for a specific line. We can be extremely creative. It also lets us empower people with data. When you work with people and give them data, you empower them. You can generate benefits on lots of dimensions", stated Alessandro.

Future

The division envisions several future possibilities for using Keethings. Bots that enable machine-to-machine interaction and machine-to-human interaction will allow status and alarms to be delivered directly to Keethings software without

operator intervention. Based on this data, workflows can be initiated and appropriate RMCs can be presented to the operator on their smartphone.

Keethings can open up the possibility of presenting production status and equipment condition in new ways. With "direct-from-floor communication" said Alessandro, "... more and better data is available to the business intelligence (BI) system. For example, the BI engine could produce a heat map of the site showing manufacturing status and which equipment may have problems."

In addition, enabling operators to easily capture issues as they occur results in better information for subject matter experts and maintenance staff about those problems. This information can help those experts and staff to develop better preventative and predictive maintenance schedules.

© 2017 Keethings, Inc. All rights reserved. Keethings and the Keethings logo are trademarks of Keethings, Inc. All other marks and names mentioned herein may be trademarks of their respective companies.

