

Case Study: Old Dutch Foods Masters Employees' Mobile Moments

A Modern Application Approach Optimizes Manufacturing, Distribution, And Sales

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WHY READ THIS REPORT

It's easy for development teams to focus their mobile app development efforts exclusively on meeting customers in their mobile moments. But employees also have mobile moments, and there's just as much (if not more) potential for application development and delivery (AD&D) professionals to bump up bottom-line results by improving employee engagement in the mobile channel. That's been the case at Old Dutch Foods, a Midwest US food products manufacturer. The tech management team at Old Dutch Foods has been a long time investor in employee mobile enablement, and they've taken their mobile apps far beyond the needs of individual employees through real-time integration into their production systems of record and automation. The result? A set of modern applications that provide a high degree of operational awareness, resulting in improved inventory accuracy and higher quality production processes.

CONTEXT-RICH MOBILE MOMENTS MATTER IN MANUFACTURING

A manufacturing production line seems to be about the furthest place from a mobile moment that one could get. It's most definitely not small, portable, or easy to replace. But mobility has a role to play when it comes to improving manufacturing processes. At least that's been the case at Old Dutch Foods, a regional mid-western food products manufacturing company that makes potato chips, popcorn, and other snack foods. We recently spent some time speaking with Tom Nollan, an IT director at Old Dutch Foods, to learn a bit more about how the company's mobile moments ripple from their systems of engagement into their production systems of record and automation.

Mobile Employees Are Great Sources Of Timely, Accurate Information

Old Dutch Foods has been making snack foods for over 80 years, and have been making investments in employee mobile support since 1988. This long-running mobile investment includes a custom developed mobile app to standardize the process of product distribution, and is built on a Microsoft product stack, including Windows Server 2008, SQL Server 2008, and a mobile middleware platform from Data Systems International (DSI). This custom-built application supports data collection and process automation at a number of employee mobile moments, including:



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- **Collecting order data throughout the day.** Every morning, drivers leave Old Dutch Foods distribution centers to deliver freshly-made products to customers along their routes. The standard distribution app allows drivers to update order data at each stop along their route. Drivers print orders and bills for customers using their Intermec CN70e and PB51 mobile printer. Why not iPhones or Android tablets? According to Nollan, the delivery truck is still a pretty rough environment, and in their opinion, company-provided, hardened devices still suit their drivers better than a consumer grade device.
- **Processing inbound stock as it arrives.** As raw materials like corn and potatoes arrive at processing facilities, employees with scanner-equipped mobile devices update production systems with the latest stats on raw materials availability. When it comes to making food products, many ingredients have a finite shelf life, so it's useful to know where products are and how old they are, to minimize scrap from spoilage.
- **Checking for quality while product is manufactured.** As part of Old Dutch Foods certification by the Safe Quality Food Institute (SQF certification), it needs to perform daily audits of production processes. By taking a paper process and mobilizing it, quality control personnel perform their checks as products come into the plant instead of waiting until they are back in the labs. As a result, quality-monitoring processes have gone from checking paperwork to investigating exceptions caught during data collection processes.

Timely Information Plus Systems Of Automation Yield Operational Awareness

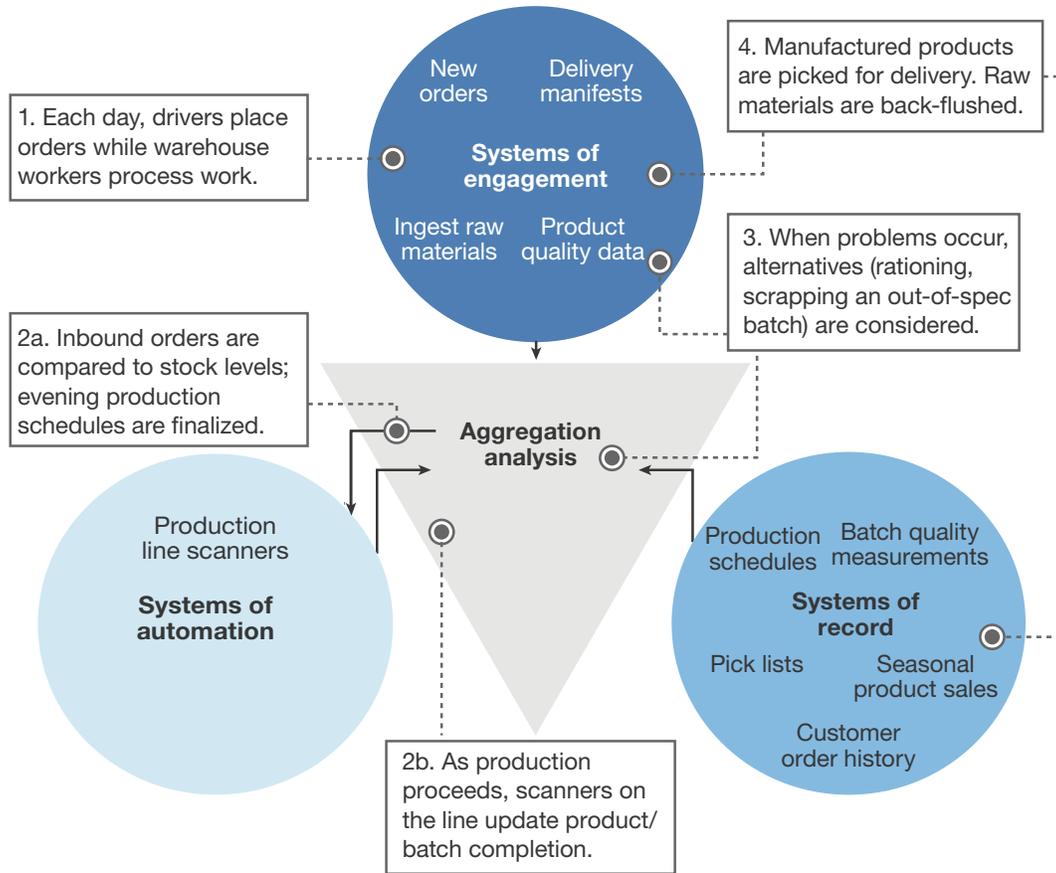
There's a common theme to each of these mobile moments: timely capture of data at the point of origin. But the data mobile employees collect is only half of the story. Each point of data in and of itself isn't particularly useful; it's the rapid aggregation and analysis of that data which creates real opportunities for profit. Here's how:

- **Adjusting production schedules in real time.** Before mobilizing delivery drivers, production schedulers had to wait until after 5 p.m., when drivers returned from their routes and entered their order data in batch mode. Now order data comes in steadily throughout the day. While Old Dutch Foods doesn't necessarily need up to the second order information, getting timely data makes it possible to adjust nightly production schedules for real-world conditions. For example, there might be runs on a particular product in stores due to promotions or customers stocking up for holiday weekends. The company can also ration products when filling orders if a spot shortage develops. And drivers can afford to spend a few extra minutes with store buyers as needed, instead of racing back to distribution centers to get orders in before the 5 p.m. cut-offs.

- **Raising inventory accuracy.** By connecting production data to inventories of raw materials stock, Old Dutch Foods does a better job matching supply to demand. By reducing the situations where the company runs long on some materials and short on others, it's better able match what's on hand with what's needed, and reduce both spoilage and ingredient shortages which would lead to downstream rationing on store shelves.
- **Producing higher quality products.** If there's a problem with a production batch it's imperative to immediately identify the scope of the problem. Did the issue affect a whole shift of production or just a certain batch of product? By reducing the time from problem identification to scope identification, Old Dutch is able to quickly prevent out of spec products from entering the distribution chain.
- **Customizing production runs.** Old Dutch Foods has also integrated their mobile middleware infrastructure to connect scanners that monitor the production line (see Figure 1). This allows plant operators to precisely control production runs because they know exactly how much product has been manufactured. That's particularly useful when manufacturing custom products for customers with house labels, where any extra cases of product produced over a specified order level are likely to go unused.

Taken together, integration of data from Old Dutch Foods systems of engagement, record, and automation enable a higher level of operational awareness, and control over production processes. Conversations between plant and distribution personnel over what got made versus what's in storage are now much more informed.¹ Raw materials are now automatically back-flushed from inventory when the scanners detect finished product coming off the production lines. And business leaders and employees alike depend on the operational awareness these integrated systems provide. According to Tom, "They call in minutes if something in the systems goes down."

Figure 1 Old Dutch Foods Creates Operational Awareness By Aggregating Production Context



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RECOMMENDATIONS

COLLECT MOBILE DATA TO IMPROVE OPERATIONAL AWARENESS

In other mobile case studies we've focused on the value that operational awareness adds to customer engagement.² In those situations, getting the right data into the hands of the customer is critical to creating good brand engagement. And while it's easy to understand the value of the mobile channel when it comes to distributing data, it can be just as useful when aggregating data back into systems of automation. At Old Dutch Foods, employee mobile moments lead to a higher level of operational awareness by ingesting the right data at the right time. To follow in their development team's footsteps, you should:

- **Identify mobile moments throughout the supply chain.** It's pretty easy for AD&D to identify mobile employees that are on the road or outside the building. Sales reps and field service workers are classic mobile plays. But mobile workers also operate closer to home. In this case, quality control personnel and warehouse workers also have valuable mobile moments that Old Dutch Foods did not ignore. Start your analysis by asking employees what they do while not sitting at a desk, in a dedicated office.
- **Get creative when connecting sensor data into systems of automation.** In this case, the easiest way to connect sensors on the production line into Old Dutch Food's system of automation was through the exact same mobile middleware infrastructure they used to support employee mobile moments. Even though the scanners are stationary, the architecture works well, and the additional data significantly enhances the operational awareness used to plan production.
- **Make sure you can act quickly on ingested data.** It's great to move from batch order processing and stock updating to real time information — if your systems can promptly present the information to operators and help them make informed choices (or automatically make those choices). Make a plan to profit from the new, up to date information you can now collect.

ENDNOTES

- ¹ For more information about how systems of engagement, record, and automation work together (and how they are different), see the May 16, 2014, "[Brief: Systems Of Engagement Take Center Stage](#)" report.
- ² Concur provides an example case study with their TripIt service. For more information, see the March 17, 2014, "[Brief: How TripIt Masters Mobile Moments For Frequent Fliers](#)" report.

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