

Pallet Optimization Pilot

Client Needs

Adept Group conducted an optimization opportunity audit at the customer facility in Texas. One of the opportunities that was identified was turning current one-use wood pallets into durable extended use pallets through minor design modifications. This modification would reduce cost, improve quality and improve sustainability for this package system.

Prior to the pallet redesign, Adept conducted a pilot program to identify where current pallets were being damaged in the supply chain, and as a second step, to establish the number of turns a modified pallet will make through the system before becoming unusable due to transit and handling related damages.

Challenges

We needed to be able to identify the cause for shipping damage. In order to achieve this, we utilized GPS trackers affixed to each pallet that monitored location and pallet condition throughout the supply chain.

Results

We were able to identify the root cause of damage and who was responsible. The data we recovered from the GPS trackers conclusively showed that the supplier had mis-handled the pallets and damaged them heavily. The data clearly shows that the damage occurred at the supplier location.



The redesigned, enhanced reusable pallets were verified to make 3-6 return shipments.



The supplier was notified that damage was coming from their facility.

STEPS TAKEN BY ADEPT

- In order to cover every contingency for the three different pallet types they were using, we had to make an (enhanced) proto-pallet design for every size of pallet being used by the supplier.
 - o For the construction of the test pallet, we utilized the supplier's pallet provider and built with the same wood and current pallets. We used 2 1/2 wood screws in end boards.
 - o We clearly marked each pallet with indelible ink on all four corner blocks for easy prototype identification
 - o We numbered each pallet with ink and assigned a GPS #
 - o Each pallet was affixed with a GPS tracker to track individual pallet ID, location by date, temperature, humidity, acceleration, shock, vibration and transit time
- Reusable pallets were redesigned utilizing damage information to modify the design to better withstand the distribution environment.

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