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# Improvement of the Pallet Auditing Process at Loblaw Distribution Centre

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Loblaw Companies Limited

## 1. Problem Definition

- The Loblaw Distribution Centre in Lakeside, NS distributes dry and non-fresh goods to retailers in Atlantic Canada
- The pallet auditing process at Loblaw is **inefficient** and **physically demanding**
- A pallet selected for auditing must be dismantled and each product must be verified against an order report before it is re-assembled and sent out

**0.75%**
Weekly outgoing volume audited

**0.82**
Incorrect cases of product per 1000

## 2. Problem Scope

- Improve efficiency of the physical auditing process
- Implement a new user-friendly customer and employee based dashboard
- Determine if the current sample size is representative of all customers and order sizes

**Solution Evaluation Metrics:**

**Audit Efficiency**
Cases Audited/Hour

**Cost**

## 3. Current State

- Paper based Audit verification process
- Barcode scanner inefficiency
- Excess motion waste
- Unequal distribution of audits

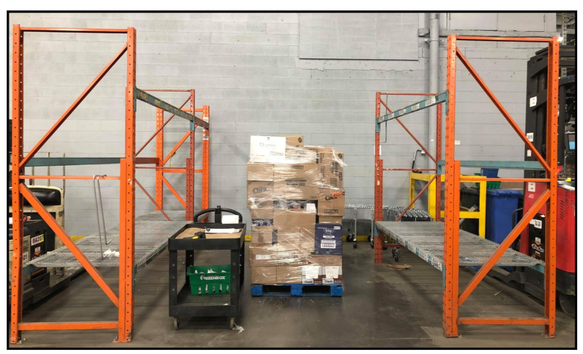

*Figure 1: Current Auditing Set-Up*

## 4. Methods & Analysis

### Time Study

- Conducted a time study to find **bottleneck** of process
- **54.3%** of process time associated with scanning and verifying

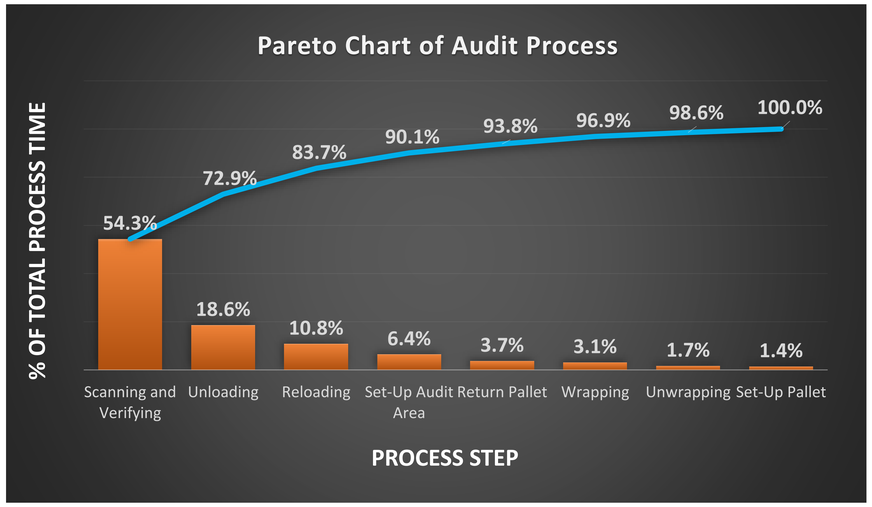


*Figure 2: Time Study*

### Prototyping

Developed **physical prototypes** to estimate solution impact

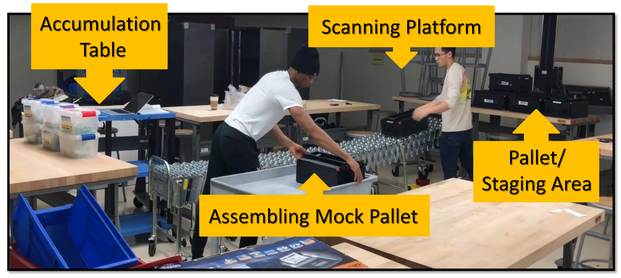


*Figure 3: Prototype*

**Digitized Audit Report** to reduce verification time

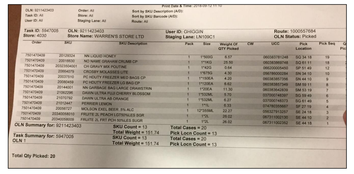

*Figure 4: Paper Audit Report*

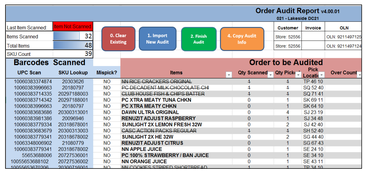

*Figure 5: Excel Audit Tool*

## 5. Results & Implementation

### Customer and Employee Dashboard

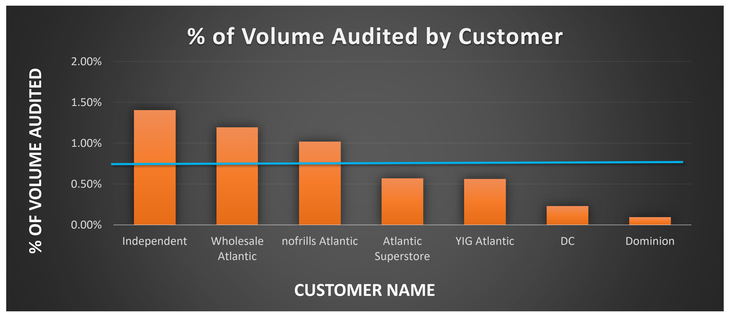


*Figure 6: Customer Dashboard to monitor audit rates of customers*

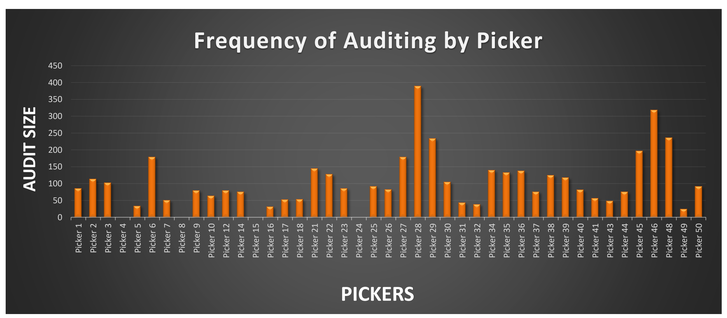


*Figure 7: Employee Dashboard to monitor employee audit volume*

### Proposed Solution & Ergonomic Recommendations

- An **ergonomic lift** to reduce loading and unloading time and risk of auditor injury
- A **roller conveyor** to reduce unnecessary motion waste
- An **excel audit tool** and a **fixed scanner** to reduce verification and scanning time

**97 Cases/Hour**
Current Audit Rate

**174 Cases/Hour**
Proposed Audit Rate

**80%**
Increase in Productivity

**$6,282**
Proposed Solution Cost

**35 Weeks**
Net Payback Period

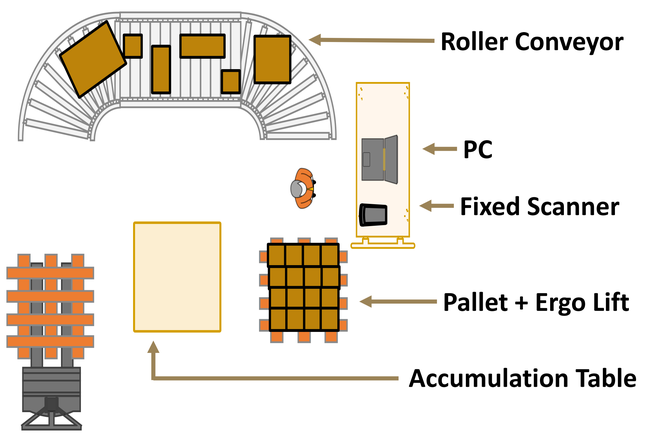


*Figure 8 : Proposed Audit Layout*