Using NextGen Technologies to Build Sustainable Food Supply Chains

Presented by:
Kyle Tanger
The Food value chain is enormously wasteful

- Worldwide, about a third of all food grown for people to consume is thrown away; in the U.S., it’s 40%
- A lot of grocery stores throw away 20% of highly perishable products
- Distribution centers reject 10% of all the products delivered to them
The supply chain is flooded with produce

“We’re running this entire process in the dark – we just don’t have visibility into what’s coming and by when from suppliers.”
Over-ordering contributes to waste

Data Analysis

- Low Sales, High Waste
- High Sales, High Waste
- Low Sales, Low Waste
- High Sales, Low Waste

Diminishing Return

Waste Reduction Opportunity

Observations

“I know we order too much, but how much and what’s being wasted currently is hard to sort out.”
Variability in supplier quality increases waste

“For the same items, supplier performance in terms of waste is significantly different primarily due to product quality”
A connected value chain can improve fresh quality and reduce waste

**Synchronized Planning**
- Assortment Planning
- Demand Sensing
- Order Optimization

**Intelligent Supply**
- Technology-enabled Suppliers
- Quality-based Contracting
- Joint Business Planning

**Dynamic Routing**
- Predictive Routing
- Cold Chain Compliance
- Direct-to-user Delivery

**Diversion Optimization**
- Donation & Tax Strategy
- Recycling
- Secondary Resellers

**Smart Merchandising**
- Dynamic Pricing & Markdowns
- Employee Training
- Customer Communications

**Digital Fulfillment**
- Optimal Inventory Freshness Management
- Date-Driven Auto-Replenishment
Deloitte’s end-to-end fresh solution connects the value chain to improve fresh quality and reduce waste

There is a need to transform end-to-end supply chain thinking, planning, and management into a dynamic web to address critical food waste and freshness issues across the value chain.

End-to-End Solution

Leading food industry solutions that solve core business challenges

- **What to Buy**: Contracted Freshness
- **Who to Buy From**: Tech Enabled Growers
- **How to Pay**: Quality Based Pricing
- **How Much to Buy**: Dynamic Order Fulfillment
- **How to Move**: Intelligent Product Routing
- **Delivering Freshness**: Optimal Freshness Inventory Management

- **Synchronized Planning**
- **Intelligent Supply**
- **Dynamic Routing**
- **Digital Fulfillment**
- **Smart Merch**
- **Diversion Optimization**
Future of Fresh - Holistic Freshness Platform

Freshness is managed using a platform of core systems, processes, and traditional fresh tech.

**Digital Threads**

- Synchronized Planning
- Intelligent Supply
- Dynamic Routing
- Digital Fulfillment
- Smart Merch
- Diversion Optimization

**Insights Layer**

- Quality & Safety Sensing
- Deep Learning & AI
- Advanced Analytics & Algorithmic Science

**Digital Core**

- Connectivity
  - Sensors
  - Devices
  - Networks
  - AR / VR
- Data Architecture & Mgmt
  - Platforms
  - Data
- Core Business Systems & Fresh Tech
  - ERP (Cold Chain)
  - TMS / WMS / SRM
- Scalable Platform

**Work Flow Process**

- Intelligent Process Mgmt.
- RPA
- Dynamic Routing
- E-ink
- Smart Contracts

**Powered by Possibilities**
Deloitte Future of Fresh | IBM Food Trust

Deliver consistent, safe, high quality food and realize greater end-to-end business value

UnlockCapabilities

Transparency and quality
- Define what is important (quality)
- Capture product information as it moves from farm-to-table
- Share data securely with upstream and downstream players to combat trust issues and manage risk

Action and change
- Learn where there are problems and how they can be fixed—inspire action
- Shift actions from audit to intervention by using insights to take corrective action before product goes bad

Brand loyalty
- Connect to customers in new ways that differentiate product quality & attributes
- Tell impactful stories that enhance consumer perception and addresses relevant purchasing trends / concerns (e.g., healthy, safe, sustainable)

Transparency
- Establish trust in data sharing

Traceability
- Provides proof of origin & ownership

Information Consistency
- Reduce friction & minimize disputes

Immutability
- Guarantee auditability & compliance

Real-time Settlements
- Optimize working capital

Automation
- Lower cost & reduce cycle time

Analytics
- Mine data to gain business insights

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For more information:

Speaker email: ktanger@deloitte.com
Website: www.deloitte.com