Measuring disruption indicators in foodservice supply chain

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Motivation / Background

$240B revenue loss in US food distribution in 2020

Food distribution expected to change post-COVID

Upstream knowledge improves analytics and planning

Key Question / Hypothesis

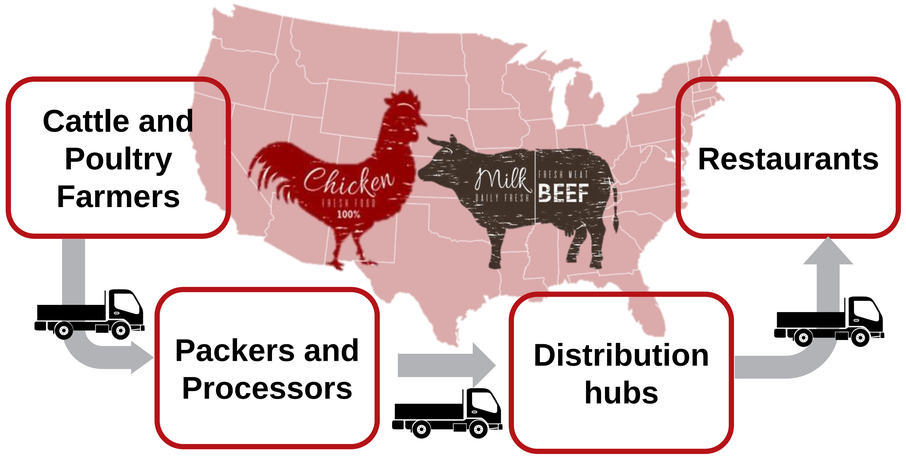
1. What are the leading **indicators** of supply chain **disruptions** within the beef and poultry foodservice supply chain?

2. How do significant **factors** impact **risk** of supply continuity?

Relevant Literature

Brenner, V. (2015). *Causes of supply chain disruptions an empirical analysis in cold chains for food and pharmaceuticals*. Wiesbaden: Springer Gabler.

MacKenzie, C. A., & Apte, A. (2017). Modeling disruption in a fresh produce supply chain. *The International Journal of Logistics Management*, *28*(2), 656–679.



The Problem

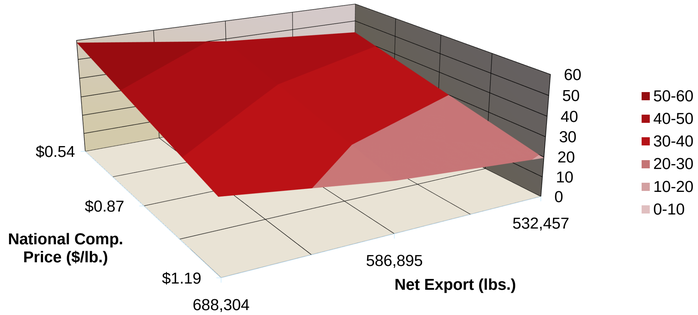
Food service distribution relies on tight operations with narrow margins. Disruptions to supply continuity are costly and can impact client relationships.

Methodology

1) Process Mapping → 2) External Data Collection → 3) Data Processing & Analysis → 4) Risk Function

Results

Macro factors affecting number of poultry shipment with above average freight cost per month



Identify relationship between wholesale price, net import, and above average freight costs

Key Insights

- ✓ **Big data** may hold valuable insights into operational improvement, but you need to know what to look for
- ✓ Supply chain already has **built-in expectation** for small variations; only **significant deviation** from expectation will cause disruption to the supply chain
- ✓ An **efficient supply chain** has built-in resilience to absorb disruptions from one end to the other.

A method of formulating models based on external data that connects to pertinent supply chain profiles

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