

# **An Alternative Food Pantry Responds to the Pandemic: A Case Study on Service Redesign**

**Ian M. Langella**

*Shippensburg University, USA*

**Rainer Kleber**

*Otto-von-Guericke University Magdeburg, Germany*

**David Hwang**

*Shippensburg University, USA*

**Abstract.** This article provides a teaching case study detailing the reaction of an alternative food pantry to the Coronavirus. The alternative food pantry provided produce, dairy, meat, and cereals to around 150 families each week before the virus. Due to social distancing and concerns about spreading infection, the food distribution process needed to be quickly modified. This paper examines the enterprise's procurement, transportation, and distribution operations before and during the virus crisis. This juxtaposition highlights the changes that the unfolding pandemic necessitated and the various ways food pantries can organize their distribution. This presents an excellent opportunity to illustrate service process redesign and service blueprinting to students in addition to highlighting the operational issues that the redesign presented. The case can be used in core undergraduate classes on operations and supply chains, specialized undergraduate courses on service management, and graduate-level classes on supply chain and service management.

**Keywords:** humanitarian supply chain management, pandemic response, food pantry, food bank, supply chain management, service process redesign, service blueprinting.

## **1. Background**

Shippensburg Produce and Outreach (SPO) is an alternative food pantry in the university town of Shippensburg, in south-central Pennsylvania, USA. Alternative food pantries aim to provide healthy alternatives, fresh fruits, and vegetables. Before the crisis, SPO provided around 2 tons of food each week to approximately 150 families. As the Coronavirus swept through the world, it became apparent that the need for SPO's service would likely increase, and

*This shortened version of the article is for promotional purposes on publicly accessible databases.*

*Readers who wish to obtain the full text version of the article can order it via the url*

<https://www.neilsonjournals.com/OMER/abstractomer16foodpantry.html>

*Any enquiries, please contact the Publishing Editor, Peter Neilson [pneilson@neilsonjournals.com](mailto:pneilson@neilsonjournals.com)*

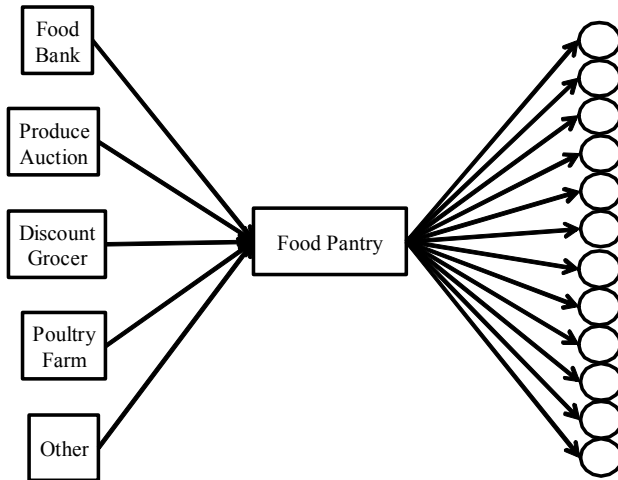
*© NeilsonJournals Publishing 2022.*

SPO's operation would need to change to protect the clients and volunteers quickly.

## 2. Operations Before the Crisis

This section will provide a detailed examination of the SPO's procurement, transportation, and distribution operations. The whole process occurred once a week and was repeated each Tuesday between 8 am, when the buying team arrived at the SPO facility, and 6:30 pm when clean-up ended. The food pantry operated only once per week as it was run entirely by volunteers and had no paid staff. Figure 1 depicts the supply chain with upstream suppliers on the left and downstream clients on the right.

Figure 1: A depiction of the supply chain



### **Procurement**

The food pantry obtained food from several sources. The main sources included:

1. A **food bank**, the Central Pennsylvania Food Bank (CPFB), provided the majority (in weight terms) of the products, including cereal and grains, lean meats, and milk.
2. A weekly **produce auction**, where farmers, traders, distributors, and retailers met to buy and sell products such as fruits and vegetables.

3. A **discount grocer** was used as a backup source because of the uncertainty of the produce auction concerning the quantity, quality, and price of the products.
4. A local **poultry farm** provided eggs at a discount.

The procurement processes were different for each supplier and will be explained next. The food bank had an online ordering system where buyers could peruse and select items and quantities. Some products had to be purchased, while others were free, though there was always a reasonable service charge for the ordering and delivery. Orders were placed by a specific deadline every two weeks.

Where the food bank presented a technologically advanced ordering system, the produce auction was at the other end of the spectrum. Here, the buyer must be present at the auction and bid on the products offered. The environment was fast-paced and competitive, with a revolving cast of characters present. Here, a lot (e.g., a pallet of 24 cartons of broccoli) was offered for auction. The auctioneer started with a sufficiently low starting bid until one bidder bids. The auction proceeded as successive bids raised the price until no further bids occurred. The winner could buy the entire lot or just a portion, subject to a minimum quantity. Payment occurred by check immediately following the purchase. The auction occurred only on Tuesdays and Thursdays and SPO had always operated on Tuesdays in the past as it was one day in the week it could coincide with the auction.

If the buying team could not procure a sufficient quantity of good quality products, they would proceed to the discount grocer. They would meet with the produce manager to discuss available prices and quantities. When deciding the amounts to buy at the discount grocer, the amount of food obtained from the food bank and produce auction was known. Like the produce auction, payment was made immediately through a debit card.

The poultry farm was by far the most straightforward process to describe here. A standing order existed for 300 dozen eggs every other week, though this order could be modified anytime. The food pantry was invoiced for this. The farm delivered for free, but they would only deliver every two weeks to economize on delivery costs.

It should be noted that while the sources mentioned above provided the bulk of the food, donations from two local grocery stores, a gleaning project, the university farm, and community members were significant and appreciated.

### ***Transportation and Storage***

Once the food was purchased, it must be transported to the food pantry for distribution. SPO's warehouse (see Figure 2) had dry storage space, a large

refrigerated cooler, and several commercial freezers for frozen storage. The food bank delivered to the food pantry every other week via a refrigerated truck. The driver met the buying team and unloaded the truck using an electric pallet jack. A volunteer driver (with a pickup truck and trailer) met the buying team for the produce auction and the discount grocer. They loaded the products onto the trailer and secured them for transport. The load was then transported to the SPO facility. In both cases, the driver and buying team put the product away. Lastly, the poultry farm delivered the eggs early in the morning directly to SPO every other week. The eggs were left on a loading dock for an hour or two and put away by the buying team when they arrived at the facility. Products purchased and transported to the facility were put away by 11:30 am each Tuesday.

### ***Distribution***

There are two basic distribution models for food pantries: client choice or standardized bag. In the standardized-bag model, clients receive a prepackaged bag of items, most of which might be useful, but some are likely not. Clients can select from items offered in the client-choice model, allowing them to forego things they will not use, allowing a more efficient allocation (Thomas 2015). The client-choice model also seems to afford clients more dignity and respect, which many report (e.g., Akron-Canton Regional Foodbank 2012), and has therefore been the preferred model in the past. The Tarrant Area Food Bank (2017) differentiates between supermarket models, table models, and inventory list models in classifying client-choice models further. In supermarket models, clients navigate a layout similar to a grocery store with shelves and refrigerated sections. Inventory list models provide clients with a list of inventories they can select from, and volunteers pick their orders. In table models, and SPO is an example, clients walk along a distribution line of tables selecting items. Before the virus, SPO followed a table model called “the marketplace,” where clients got shopping carts and walked through a distribution line picking what they would like, subject to maximum amounts. Figure 2 depicts the approximate layout of the SPO facility. Distribution took place from 4 pm to 6 pm, and clean up and put away from 6 pm to 6:30 pm.

To prepare for distribution, several activities must occur, which were accomplished starting at 12:30 pm and finished by 2:30 pm each Tuesday. Items were brought out of storage and moved onto the distribution line tables and the replenishment stations directly behind. Some items must be packaged or repackaged, depending on the item and how it was received. Some items, like potatoes and onions, were typically obtained in large 50-pound bags and had to be taken out of those bags before distribution. Other items were received in bulk and had to be bagged. The eggs were received in large 30 dozen cartons, which must be repackaged into dozens. A group of elderly neighbors living in a group home assisted every week with this repackaging before the