

# Plans, Pasta and Pandemics Case Study

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# Background

**Premium Foods:** Premium Foods headquarters is in East Hanover, New Jersey and their products are sold through distribution centers to both supermarket chains and boutique food shops across North America. Their main product categories are cereal, sauce, frozen food and instant noodles. They have manufacturing plants and central distribution centers in Montreal, Chicago, East Hanover and Dallas

**Perfect Pasta:** Perfect Pasta is an owner-operated business headquartered in Toronto, Ontario. Their pasta products are sold through distribution centers to both supermarket chains and boutique food shops across Canada and the Northeastern United States. They have four categories of pasta. Two are premium pasta lines and two are budget friendly. Their pasta manufacturing plants and central distribution centers are in Toronto, Calgary and Hoboken

**Premium Foods** was struggling with their just-in-time strategy. Sudden spikes in demand had cleared out their inventory. Insufficient stock could impact their ability to serve their customers and affect profits they would gain through their limited inventory strategy.

**Perfect Pasta** was struggling with their Italian supplier. Border closures and various government guidelines were causing delivery delays.

**Mitchell & Guthrie Consulting Group** must provide an analysis of the supply chain planning practices of both Premium Foods and Perfect Pasta. They will also provide recommendations on how to manage the supplier disruption caused by the pandemic in the short term and the long term

# Executive Summary

The purpose of this memo is to provide an assessment of the supplier networks and supply chain planning processes of Premium Foods and Perfect Pasta, as observed by the consulting team from Mitchell & Guthrie Consulting Group. The consulting team conducted a series of interviews and data analyses to identify the strengths and weaknesses of each company's supply chain processes. Based on their observations, the consulting team recommends a series of short-term and long-term actions that Premium Foods and Perfect Pasta should take to improve their supplier networks and supply chain planning processes. With the acquisition of Perfect Pasta by Premium Foods and with the onset of the pandemic, there are several supply chain challenges that will need to be addressed in both the short and medium term. Absent critical course corrections by both organizations, there will be acute disruptions in their ability to successfully deliver products to customers, potentially jeopardizing their businesses, their customer relationships and their profitability. In this case study, we will identify the problems as they presently exist, how this could impact business and our recommendations for how to address them

# Observations

## Perfect Pasta:

- **Centralized supplier network:** According to the case study, "Perfect Pasta had a more centralized supplier network with a diversified group of suppliers". This suggests that Perfect Pasta is less reliant on a single supplier and is better positioned to manage supply chain risk.
- **Proactive supply chain planning:** According to the case study, "Perfect Pasta was more proactive in their supply chain planning processes than Premium Foods, but there were still significant areas for improvement". This suggests that Perfect Pasta is doing a better job than Premium Foods in terms of supply chain planning, but there is still room for improvement.
- **Limited visibility into supplier performance:** According to the case study, "Perfect Pasta had limited visibility into supplier performance and metrics, making it difficult to identify areas for improvement and optimize supplier relationships". This suggests that Perfect Pasta needs to implement supplier performance metrics to better evaluate supplier performance and identify areas for improvement.

After reviewing and discussing with supply chain managers at Perfect Pasta, it is apparent their approach to supply chain management has significant shortcomings. For example, the disciplines are siloed and figures are presented in Excel back and forth via email between departments. This approach causes delays in reporting and by the time data is reported it may no longer be accurate. Further, the information sharing process between suppliers is minimal reflecting a less than ideal collaboration environment for the purposes of supply chain management. This less-than-ideal approach to SCM has caused Perfect Pasta to have more inventory in its possession than is needed in normal circumstances (however with the onset of the pandemic, this is advantageous). Moreover, the Italian supplier has been struggling to deliver the flour needed to create products; in the short term more effective planning may have had limited results, however this will need to be addressed in the medium-term

# Observations

## Premium Foods:

- **Fragmented supplier network:** Premium Foods relies heavily on a single supplier for a large portion of its raw materials. According to the case study, "One of the primary suppliers for Premium Foods shut down one of their plants for three days, causing a significant disruption in the supply chain". This suggests that Premium Foods has a high level of supplier dependency and is at risk of supply chain disruptions.
- **Reactive supply chain planning:** According to the case study, "Premium Foods' supply chain planning process is primarily reactive and geared toward fulfilling orders as they come in". This suggests that Premium Foods is not proactively planning for demand and is instead reacting to orders as they come in. This can lead to stockouts and overstocking, which negatively impact customer satisfaction and profitability.
- **Limited understanding of customer demand:** According to the case study, "Premium Foods has a limited understanding of customer demand patterns, resulting in poor demand planning and forecasting". This suggests that Premium Foods needs to conduct a customer demand analysis to gain a better understanding of demand patterns and improve demand forecasting accuracy.

On the other end of the spectrum, Premium foods has a more lean supply chain with rapid, data sharing and concurrent approach to data sharing. However, with the just in time strategy they've been adopting, their inventory and supply of products to customers may be adversely affected due to large and sustained demand spikes resulting from the pandemic.

# Actions for Improvement

Based on the observations made by the consulting team, we recommend the following short-term and long-term actions for Premium Foods and Perfect Pasta:

## Premium Foods:

### Short-term:

1. Implement a supplier risk management program to identify high-risk suppliers and develop contingency plans for supply disruptions.
2. Conduct a customer demand analysis to gain a better understanding of demand patterns and improve demand forecasting.
3. Implement a proactive inventory management system to reduce stockouts and overstocking.

### Long-term:

1. Diversify the supplier network to reduce supplier dependency and increase supplier competition.
2. Develop a more robust supply chain planning process that is proactive and includes scenario planning and capacity planning.
3. Implement a customer relationship management (CRM) system to gain better insight into customer demand and preferences.

## **Perfect Pasta:**

### **Short-term:**

1. Implement supplier performance metrics to evaluate supplier performance and identify areas for improvement.
2. Conduct a demand analysis to improve demand forecasting accuracy.
3. Develop a more proactive capacity planning process to reduce stockouts and overstocking.

### **Long-term:**

1. Implement a supplier relationship management (SRM) program to strengthen supplier relationships and improve supplier collaboration.
2. Develop a more robust supply chain planning process that includes scenario planning and capacity planning.
3. Implement a supply chain analytics system to gain better insight into supply chain performance and identify areas for improvement.

In conclusion, the consulting team from Mitchell & Guthrie Consulting Group recommends that Premium Foods and Perfect Pasta take a series of short-term and long-term actions to improve their supplier networks and supply chain planning processes. These actions will reduce risk, increase supply chain visibility, and improve customer satisfaction and profitability. We are available to provide further support and guidance in implementing these recommendations.

# Weighted Score

**Figure 11:** (For use in question #2.)

**Premium Foods: real-time scorecard created by planner to assess supplier options**

		X01.a - CT Live Data	X01.a1 - Allow Alternate Supplier		X01.a2 - Equalshare Supply		X01.a3 - Fairshare Supply		X01.a4 - Prioritize Key Customers	
Metric	Weight	Target	Result	Score	Result	Score	Result	Score	Result	Score
Ontime Revenue	14.3%	\$5,850,916,928	\$6,096,660,579		\$5,755,316,069		\$5,712,257,524		\$5,831,534,664	
Late Revenue	14.3%	\$245,743,651	\$0		\$341,344,510		\$384,403,055		\$265,125,915	
Gross Margin Percent	28.6%	44.74%	44.80%		44.66%		44.66%		45.01%	
Cost of Goods Sold	14.3%	\$3,403,480,661	\$3,394,695,276		\$3,407,787,205		\$3,407,699,174		\$3,383,066,051	
Late Order Count	14.3%	368	0		543		1,000		548	
CO2 Consumption	7.1%	7,098,113,400	7,098,113,400		7,098,263,400		7,098,263,400		7,375,804,200	
Plastics Consumption	7.1%	55,086,132	55,086,132		55,087,632		55,087,632		57,795,750	
<b>Overall Score</b>										

The metric's weight determines how important it is to the overall decision-making process. For example, gross margin profit carries more importance to the business than plastics consumption.

We are given 4 scenarios, along with their metrics and metric's weights. We need to rank the 4 scenarios wrt their weighted scores. **Weighted Score =  $\Sigma$  (metric x metric weight)**



# Definitions

## Scenarios

1. **Allow Alternate Supplier**: Premium Foods uses an alternate supplier for the flavoring ingredient. The alternate supplier had been previously used by Premium Foods, but in the past two years regional suppliers with shorter lead times were preferred due to the just-in-time inventory strategy.
2. **Equal Share Supply**: Premium Foods' inventory will be divided equally into orders, meaning that all customers will receive the same amount. e.g.: Premium Foods will ship 100K units to each customer.
3. **Fair Share Supply**: Premium Foods' inventory will be divided fairly into orders, meaning that all customers will receive a certain % of their order. e.g.: Premium Foods will ship 50% of each order.
4. **Prioritize Key Customer**: Premium Foods' inventory will be divided among orders from their key customers, meaning that key customers will receive full orders, whereas less critical customers will only receive orders once the key customer orders are fulfilled.

## Metric Definitions

1. **Ontime Revenue** displays the value of timely customer orders revenue.
2. **Late Revenue** displays the value of late customer orders revenue.
3. **Gross Margin Percentage** displays the standard gross margin percentage for all independent demands.
4. **Cost of Goods Sold** displays the planned Cost of Goods Sold for all independent demands.
5. **Late Order Count** counts the number of customers who have late orders.
6. **CO2 Consumption** measures the kilograms of CO2 emitted in operations in a scenario
7. **Plastics Consumption** measures the kilograms of plastic used in operations in a scenario

# Scenario Ranking

← Scenario 1 → ← Scenario 2 → ← Scenario 3 → ← Scenario 4 →

Metric	Weight	Target	Result	Score	Result	Score	Result	Score	Result	Score
Ontime Revenue	14.3%	\$5850916928	\$6096660579	87,18,22,462.797	\$5755316069	82,30,10,197.867	\$5712257524	81,68,52,825.932	\$5831534664	83,39,09,456.952
Late Revenue	14.3%	\$245743651	\$0	0	\$341344510	4,88,12,264.93	\$384403055	5,49,69,636.865	\$265125915	3,79,13,005.845
Gross Margin %	28.6%	44.74%	44.80%	12.8128	44.66%	12.77276	44.66%	12.77276	45.01%	12.87286
Cost of Goods Sold	14.3%	\$3403480661	\$3394695276	48,54,41,424.468	\$3407787205	48,73,13,570.315	\$3407699174	48,73,00,981.882	\$3383066051	48,37,78,445.293
Late Order Count	14.3%	368	0	0	543	77.649	1000	143	548	78.364
CO2 Consumption	7.1%	7098113400	7098113400	50,39,66,051.4	7098263400	50,39,76,701.4	7098263400	50,39,76,701.4	7375804200	52,36,82,098.2
Plastics Consumption	7.1%	55086132	55086132	39,11,115.372	55087632	39,11,221.872	55087632	39,11,221.872	57795750	41,03,498.25
Overall Score				1,86,51,41,066.8498		1,86,70,24,046.80576		1,86,70,11,523.72376		1,88,33,86,595.77686

Rank 4

Rank 2

Rank 3

Rank 1

# Result Analysis

**Rank 1:** Prioritize Key Customer (Weighted Average= 1,88,33,86,595.77686)

**Rank 2:** Equal Share Supply (Weighted Average=1,86,70,24,046.80576)

**Rank 3:** Fair Share Supply (Weighted Average= 1,86,70,11,523.72376)

**Rank 4:** Allow Alternate Supplier (Weighted Average= 1,86,51,41,066.8498)

## **Priority Order of Metrics:**

Gross Margin Percentage(28.6%) > Ontime Revenue(14.3%) = Late Revenue(14.3%) = Cost of Goods Sold(14.3%) = Late Order Count(14.3%) > CO2 Consumption(7.1%) = Plastics Consumption(7.1%)

Overall, the case study highlights the importance of flexibility, adaptability, and innovation in the face of challenges such as the COVID-19 pandemic. It also emphasizes the need for businesses to be proactive in responding to changes in their operating environment and to seek out new opportunities for growth and success.