  
***Eat GOLD, Not Junk.***

**G**reen

**O**rganic

**L**ean

**D**elicious

**GOLD Meals: Food For (Logistics) Thought**

by Christian Hofer, Ph.D.  
University of Arkansas, Sam M. Walton College of Business  
[chofer@walton.uark.edu](mailto:chofer@walton.uark.edu)

**Summary**

GOLD Meals is a small company that sells frozen ready-to-eat meals in four different US states. Being a small, private company, GOLD lacks the processes and expertise to run and efficient and effective operation. Your task is to identify and quantify the short-term savings potential that comes with better (optimal) inventory decision making. Moreover, you are asked to offer strategic guidance for future growth.

**Learning Objectives**

By completing this case analysis, students will

* assess (and quantify) logistics performance;
* identify (and quantify) opportunities for improvement (based on optimal inventory control methods);
* outline sustainable growth strategies; and
* clearly and concisely communicate their findings and recommendations.

**Disclaimer:**

This case is written solely for educational purposes. All names and numbers provided in this case are fictional. Statements made in this case study are not intended to represent appropriate or inappropriate behaviors and/or successful or unsuccessful managerial decision making. All statements and information provided in this case and any supplemental files are intended to stimulate discussion and serve as a basis for further analysis.

**Humble beginnings and rapid rise.**

Frozen food is big business in the US: In 2018, sales of frozen foods topped nearly $57 billion.[[1]](#footnote-1) While comfort foods like pizza and ice cream continue to dominate the segment, there is a surge in demand for healthier fare. Busy millennials, in particular, increasingly look for convenient, wholesome meals made of quality ingredients. As such, it is not surprising that an ever growing number of companies try to capture a slice of this rapidly growing and lucrative market segment: Amy’s, Ethnic Gourmet, Luvo, and Evol are just some of the brands that can be found in your favorite retailer’s frozen foods aisles.

Enter GOLD Meals. Started by Joanna and Keith Cunningham, a young married couple from Colorado, the brand’s premise is simple: tasty food free of any artificial ingredients, common allergens, preservatives and items that are often frowned-upon (such as meat or processed carbohydrates). Think “cauliflower steak with potato-pumpkin mash” or “roasted zucchini flowers with spaghetti squash.” What may sound unappetizing to some, found a quick following: With the encouragement of friends and family, the Cunninghams started preparing a limited selection of fresh meals and delivered them to local customers once a week. After just three months in business, Joanna and Keith cooked and sold no less than 300 meals per week. It was time to “go big or go home.”

The Cunninghams went big. GOLD Meals, as their company is now called, went from fresh to frozen meals,[[2]](#footnote-2) offers 24 different stock-keeping units (SKUs) in two different product lines (“Healthy Alternatives” and “Crossover Fusion”); outsourced production to four different commercial kitchen operators (CKO) in Colorado, Utah, Nevada and Arizona; and sells an average of over 50,000 meals each month via store-based retailers across these four states (see Figure 1). But the Cunningham’s won’t stop there. Their goal is to soon sell throughout the entire United States. The future for GOLD Meals is, well, golden as consumer demand grows relentlessly despite ever greater competition in what has become a hot market segment.

*Figure 1 Approximate current market coverage and location of kitchens/warehouses*



**GOLD Meal’s operations – a look behind the curtain**

Having majored in anthropology, neither Joanna nor Keith had much experience in or knowledge of what it takes to run a successful business prior to starting GOLD Meals. And they have been reluctant to hire more staff—after all, each new hire represents a major expense and a significant commitment. For now, GOLD Meals’ organizational structure is very simple. Joanna is the President of the company, while Keith is its Chief Executive Officer. Both also share the title of Chief Culinary Officer. The position of Marketing Manager is filled by Rudy Langham, and Daniela Morejon is the Operations Manager. The Director of Finance and Accounting, Cynthia Sewell, rounds out the GOLD Meals team.

How can you run a company with just five people? Almost everything is outsourced. GOLD Meals’ primary tasks are to develop new recipes and coordinate with kitchen operators (producers), warehouse companies, and transportation carriers to ensure that its retail customers get what they need. The operating process is outlined in Table 1 below.

*Table 1 Outline of operating process (example for SKU HA-39 in Colorado#)*

|  |  |  |  |
| --- | --- | --- | --- |
| **Task** | **Task owner** | **Description** | **Lead time\*** |
| 1 | GOLD | Place order with CKO |  |
| 2 | CKO | Order and receipt of raw materials (ingredients) | 3 |
| 3 | CKO | Production | 4 |
| 4 | Transportation co. | Pick up from CKO and transportation to warehouse | .5 |
| 5 | Warehouse co. | Storage |  |
| 6 | Transportation co. | Shipment to retail customers (on demand) |

\* average, in days.  
# lead times vary by SKU (due to varying procurement lead times for ingredients and prep/cooking times)

The CKOs are independent food processing companies that produce both fresh and frozen meals for any number of clients, including corporate cafeterias, local eateries, and brands such as GOLD. Customers typically book CKOs for capacity bands (with guaranteed minimum transaction volumes and maximum quantities based on the CKOs’ capacity limitations), although GOLD’s CKO partners are very flexible and accommodating of GOLD’s needs and demands. When CKOs receive an order, they generate an ingredient list based on the quantity and particular recipes ordered. In GOLD’s case, the CKOs procure these ingredients from regional co-op distributors, and the items are typically received within one to four days. Upon receipt, the CKOs process the ingredients and prepare the meals (typically within one to four days, depending on the recipe). The meals are then flash-frozen and packaged for transport (within one day). Contract carriers pick up each batch from the CKOs and transport them to independently operated refrigerated warehouses (.5 days). The total average lead time, thus, ranges from about 3 to 9 days (or about .1 to .3 months). Inventory is stored at the warehouse until retail customer orders are received.

Daniela Morejon’s primary responsibility is to decide when to place orders with the CKOs, how much to order, and how much stock to keep in the warehouses. She readily admits that “we’re just winging it… by the seat of our pants.” Daniela continues: “For example, looking at our refrigerated warehouse in Colorado, we just hold 100 or 200 units of safety stock per SKU. Why? Because Keith figured that’s a good number…. The quantities we order from the commercial kitchen operators were determined in much the same way. To be perfectly honest, we just have no clue what we’re doing. But we’re doing quite well, so it can’t be all bad, right? But as we continue to grow, we may need to pay more attention to this.”

*Table 2 Excerpt of operations report CO\_19*

|  |  |  |  |
| --- | --- | --- | --- |
| ***SKU*** | **HA-39** | **HA-40** | **…** |
| *January* | 294 | 264 |  |
| *February* | 301 | 289 |  |
| *March* | 294 | 266 |  |
| *April* | 341 | 259 |  |
| *May* | 338 | 282 |  |
| *June* | 323 | 260 |  |
| *July* | 306 | 299 |  |
| *August* | 340 | 285 |  |
| *September* | 306 | 268 |  |
| *October* | 345 | 273 |  |
| *November* | 323 | 250 |  |
| *December* | 311 | 302 |  |
| Mean monthly demand | 319 | 275 |  |
| Std. deviation of monthly demand | 19 | 17 |  |
| Average lead time (in months) | 0.25 | 0.25 |  |
| Std. deviation of lead time (in months) | 0.10 | 0.10 |  |
| Unit cost ($) | $ 5.65 | $ 5.51 |  |
| Holding cost factor (%/month) | 3% | 3% |  |
| Order placement cost ($/order) | $ 290 | $ 290 |  |
| Stockout cost ($/unit, estimated) | $ 3.20 | $ 3.20 |  |
| Current order quantity (units/order placement) | 140 | 140 |  |
| Current safety stock | 100 | 100 |  |

Table 2 summarizes some key data (pertaining to SKUs HA-39 and HA-40 for Colorado), including demand and lead time data, as well as some key cost information. Detailed data for all of GOLD’s SKUs are provided in a separate Excel file.

**Your pitch to GOLD Meals**

After weeks of pleading for help, Joanna and Keith have agreed to consider hiring consultants to help set GOLD Meals on the path to success. Clearly, GOLD Meals must manage its logistics operations more efficiently and effectively moving forward.

GOLD Meals has invited you to pitch a proposal. Why should GOLD hire you? And is doing so worthwhile? To effectively make your case, you need to answer the following questions (based on the data provided for the Colorado market):

1. What is the current average in-stock rate (averaged across all of GOLD’s SKUs)?
2. What is the current average fill rate (averaged across all of GOLD’s SKUs)?
3. What is the current total logistics cost per month (i.e., the sum of holding, ordering and stockout costs across all of GOLD’s SKUs)?

Of course, the goal is to improve GOLD’s performance. Hence, you also need to address the next set of questions:

1. What is the \*optimal\* total cycle stock (across all of GOLD’s SKUs)?
2. What is the \*optimal\* total safety stock (across all of GOLD’s SKUs)?
3. What is the \*optimal\* total logistics cost per month (i.e., the sum of holding, ordering and stockout costs across all of GOLD’s SKUs)?

Finally, given your answers above, please also provide responses to the following questions:

1. Based on your answers to Q.3 and Q.6 above, what is the cost penalty (in $ per month, across all SKUs) associated with GOLD’s use of its current (sub-optimal) inventory management parameters?
2. What is this percentage increase in total logistics costs (Q.7) relative to the optimal total cost (Q.6)?
3. What is the deviation (in %) of current total inventories from optimal total inventories (across all SKUs)?[[3]](#footnote-3)
4. Assuming that the AZ, NV, and UT markets are comparable to CO in terms of demand, lead times and costs, how much money in total could GOLD save per year by implementing the inventory policies you recommend?
5. Finally, your proposal includes consulting fees of $100,000 (500 man-hours @ $200/hour). What is the return on investment (the investment of hiring you and your team) given your consulting fees and the expected annual cost savings?

**The path to future growth**

Answering the questions listed above is critical as this specifies the savings you can generate for GOLD Meals in the short term and, therefore, serves to make a case for hiring you as consultants.

Beyond this, GOLD Meals needs guidance as it plans its future growth. Thus far, GOLD Meals’ has employed what might be called a “multi-regional” growth strategy. That is, each expansion phase involved setting up new collaborations with a regional CKO (in CO, AZ, NV, and UT, respectively), a regional warehousing partner, and carriers for deliveries to and from these warehouses. As noted previously, GOLD Meals’ goal is to serve and sell throughout the entire United States. Is this “multi-regional” approach to production and distribution scalable? Or should GOLD Meals’ re-think its strategy? Specifically,[[4]](#footnote-4)

* What kind of production and distribution system do you recommend for GOLD Meals moving forward?
  + Should production be outsourced or insourced?
  + Should sourcing and production be centralized or decentralized?
* How should GOLD Meals plan its future growth?
  + Should GOLD Meals expand “one state at a time” as it has in the past?
  + Is it preferable to establish a presence in every state as quickly as possible or to increase coverage in the states it already serves (or will serve)?
  + Should GOLD Meals focus on particular areas/markets?

Your goal is to outline a clear and compelling growth strategy that sets GOLD Meals on the path to sustained financial success.

**Your task**

Your task consists of two parts (deliverables).

* 1. Please answer questions 1-11 based on the data provided in the **Excel** file. Please submit this Excel file with your numerical answers provided in the “Answers” template. Please be sure to show your underlying calculations on the “CO\_19” worksheet.
  2. Please prepare a **PowerPoint** presentation that supports your pitch to GOLD Meals.   
     This presentation must include:  
     **a**) a burning platform, i.e., a compelling opening that conveys—on the first slide!—that there is a need to act, that you have a solution, and that hiring you will lead to a positive ($) outcome for GOLD Meals (hint: some of your work on Q.1-11 will come in handy here);  
     **b**) a summary of your operational recommendations (hint: again, some of your work on Q.1-11 will come in handy here. But don’t get lost in numerical detail. Focus on the high-level message. Will order quantities need to be increased/decreased? Will more or less safety stock be needed? Why?; and  
     **c**) an outline of your recommended growth strategy for GOLD Meals (this part is separate from parts a) and b) above). How do you recommend GOLD Meals plan for its nationwide expansion? Should it continue its “multi-regional” approach or plan its production and distribution efforts differently? If not, what kind of production and distribution system do you recommend? What market(s) should be prioritized for expansion? While you do not need to support your recommendation(s) with numerical analyses, you should concisely and clearly communicate why and how you believe your recommended strategy will impact GOLD Meals’ (future) costs and revenue streams. In particular, please focus on the (likely) implications of your recommendations from a logistics cost and performance perspective. This also means that you should draw on your understanding of the course material (incl. risk pooling) to evaluate the potential benefits and drawbacks of alternative strategies.

**Notes:**

* Please refer to the Excel file (provided separately) and base your calculations on the data provided.
* The data provided is given and not negotiable (i.e., all demand, lead time, and cost data is fixed and cannot be changed).
* There is no need to forecast future sales. You can safely base all your calculations based on the average and standard deviation of the demand data provided.
* Your PowerPoint presentation should include a title slide, a burning platform slide (see a) above), 2-3 slides summarizing your operational recommendations (see part b) above), and 3-5 slides summarizing your recommended growth strategy moving forward. Please note that you will not actually give a presentation in class. As such, it is important that your slides speak for themselves and clearly communicate a meaningful and compelling message.
* Please do not put bullet points or excessive amounts of text on the slide(s). Think of meaningful graphic ways to support the message you want to get across.

1. https://www.foodnavigator-usa.com/Article/2019/02/25/Frozen-food-is-staging-a-comeback-says-report-but-many-consumers-still-query-its-healthy-credentials [↑](#footnote-ref-1)
2. The meals’ shelf life is greater 12 months (so, for all intents and purposes, unlimited). [↑](#footnote-ref-2)
3. Please keep in mind that positive % deviations suggest that current inventories are greater-than-optimal, and negative % deviations suggest that current inventories are lower-than-optimal. [↑](#footnote-ref-3)
4. The questions listed here are meant to guide you as you devise a strategy for GOLD Meals. Rather than answering these questions sequentially, please be sure to develop a recommendation that is coherent and compelling and effectively (at least implicitly) answers the questions listed. [↑](#footnote-ref-4)