



## Supporting Import and Distribution Strategies Using Data Management: The Case of RK Specialty Foods

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### ABSTRACT

*This paper examines a study of the impact of data management on import and distribution strategies in a retail food industry, most specifically in the area of specialty foods in the Pacific Northwest region of the United States. Citing background and data about the products, industry, and region, the paper then seeks to explore the importance of data management in supporting import and distribution strategies, specifically linked to the marketing and sales of specialty foods. The use of techniques including cluster analysis, pricing models, and forecasting techniques are examined.*

**Keywords:** retail industry, specialty foods, distribution, data management, cluster analysis, pricing models, forecasting models, Pacific Northwest.

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### INTRODUCTION

The Kent, Washington-based firm RK Specialty Foods is a new specialty food importer and distributor of ethnic and specialty food items to local mid-sized retailers, as well as local restaurant chains.

Overall, specialty foods are typically considered as “very unique and high-value food items made in small quantities from high-quality ingredients.” Consumers typically pay higher prices for specialty foods, and may perceive them as having various benefits compared to non-specialty foods. Specialty foods could be found in supermarket departments such as frozen foods, general grocery, produce and the deli department. Examples of these include Russian caviar, French cheese, local handmade hams, certain vitamins, organic juices, truffle chocolates and more. Specialty foods also include organic, non-GMO, and all natural and local products. Furthermore, specialty distributors may offer more services, such as reapportioning products into marketable-size packages. Such examples could be to import French cheese and ham and to cut and package them into “ready to sell” smaller packages, as well as buying

dried nuts and fruits, packing them under the RK or other private retail labels.

The mission of any distributor is to bring together products from many manufacturers and then to distribute to their retailers. This helps to reduce the number of contacts between manufacturers and retailers (Schaffner, et al., 1998). The points below outline the main responsibilities of a main distributor:

- Purchase food products
- Inventory products
- Take sales orders
- Deliver product to retailers
- Stock and rotate products on retailer shelves
- Coordinate in-store demonstrations
- Distribute point-of-purchase materials to retailers
- Educate store staff about products
- Invoice customers and collect payments

Distributors distinguish themselves from the competition by becoming experts on local and regional markets, as well as carrying certain exclusive items and by building long-term relationships with contracted

retailers and foodservice companies. Some of them also offer special promotional and added-value programs to create better service to retailers, mainly by asking producers for significant discounts and promotions on their products.

## BACKGROUND

According to the Food Business News Portal, specialty food sales surpassed \$100 billion for the first time in 2014, with retail and food service sales totaling \$109.5 billion, as reported by the Specialty Food Association, Mintel International and SPINS/IRI. Retail sales of specialty food hit a record \$85.5 billion, while food service sales of specialty foods reached \$24 billion in 2014.

Furthermore, 51 of 58 specialty food and beverage categories grew in terms of sales from 2012 to 2014. Fifteen segments now exceed \$1 billion in annual sales, including cheese, coffee, meat, poultry and seafood, chips, pretzels and snacks, candy, and yogurt. Consequently, the categories named above could be affiliated with specialty foods as well, even though, such categorization is based on individual retailers or distributors some could name Greek yogurt or Nutellas specialty items, or not being specialty foods. In any case, the pattern of eating healthier, living a longer life, and having fewer doctor visits is popular, especially within the high income per capita in both rural and metropolitan areas. (Watrous, 2015).

The rapid migration and increase of Asian populations in the Pacific Northwest has also created high demand for Asian-based food service establishments. Furthermore, food retailers such as Safeway, Costco, Walmart and QFC have opened up special sections for Kosher, Asian, Halal, Mexican and other ethnic and specialty food categories that are serviced by local specialty distributors. The minimal margin and huge competition dictates that small regional businesses invest in data analyses to diversify the sales channels in order to maximize profitability.

## RK DISTRIBUTION CHANNELS

There are several questions to be asked about how to operate RK Foods in order to be successful: What product should they buy or produce for resale in order to build a business? How many items do they need to carry, how long to hold the inventory, and what are the company's gross sales operational margins to maximize profit?

Recent overall increased consumer demand for specialty foods as well as other new items is reflected in the broad spectrum of retail channels and distributors carrying specialty food items in retail and food service outlets:

- Specialty Food Stores
- Natural Food Stores
- Conventional/mainstream Grocery Stores
- Convenience (C-Stores)
- Warehouse Club Stores (In most cases they won't be working with distributors to buy from them-instead will buy direct from the source)
- Drug Stores
- Alternate Channels (Department Stores and Internet)
- Foodservice
- E-commerce (Amazon, eBay, B2C transactions)

## Distributors

- Large Regional Distributors such as Unified Grocers and Crown Pacific
- Columbia Distributing (beverages):
- Core-Mark (convenience stores): On average, the markup is 10 to 15 percent,
- DPI Northwest (bakery and deli): The markup depends on many factors, including volume projections, risk, shelf life,
- Interbitzin Distributors (snack foods): The markup is 25 to 35 percent, with the higher percentages for refrigerated foods, due to their higher transportation and storage costs.

While the majority of the company's 1200 key products are imported from the EU, Turkey, and Asia, the main drivers are coconut water, spices, olive oil, aloe vera drinks, private label juices, and organic dried fruits. Distribution channels and methods to move products to the end customer are very different and in some cases, very complicated.

## RK FOODS DATA MANAGEMENT

A smaller company such as RK has a very small chance of working directly with national club retailers such as Costco Wholesalers or Sam's Club, and as such, for these accounts, products need to be bought direct from both domestic and overseas manufacturers. The larger grocery store chains such as Safeway, Publix and Walmart use national wide distributors such as UNFI, KEHE and Nations Best as well as Sysco for their foodservice operations. This leaves a relatively small number of importers and distributors to reach locally owned and ethnic markets and food service establishments, so as to generate sufficient business.

For entrepreneurs looking to start their own specialty food wholesale distributorship or production, there are basically three avenues to choose from: buying an existing business, starting from scratch, or buying

into a business opportunity. Buying an existing business can be costly and may even be risky, depending on the level of success and reputation of the distributorship you want to buy. The positive side of buying a business is that you can probably tap into the seller's knowledge base, and you may even inherit his or her existing client base, which could prove extremely valuable.

Once the business is established and has consistent products and customers, the management of thousands of SKU's with different margins and expiration dates, the use of various fixed and variable costs for supplier payments, the handling of minimum wages and other variables, and the employment of data management and optimization plays huge role in a company's sustainability and profitability. According to the Entrepreneur Journal:

The opportunity is to learn from your company's data in order to make smarter business decisions. And while it may come as no surprise that large, enterprise companies are taking advantage of the opportunity that big data affords, some entrepreneurs may not know that small businesses can do the same. (Schloss, 2014).

How do you get from multiple points of data entry to a single view of the business? This is the challenge that has faced companies for many years. Modern business analytics on top of terabyte-sized data warehouses are producing ever more relevant and actionable information for decision makers, but the data sources remain fragmented and inconsistent. These data quality problems continue to impact operational efficiency and reporting accuracy. Master Data Management is the key. It fixes the data quality problem on the operational side of the business and augments the data warehouse on the analytical side of the business.

Below are some data processing examples that could be applied to RK Foods and overall food distribution production industry:

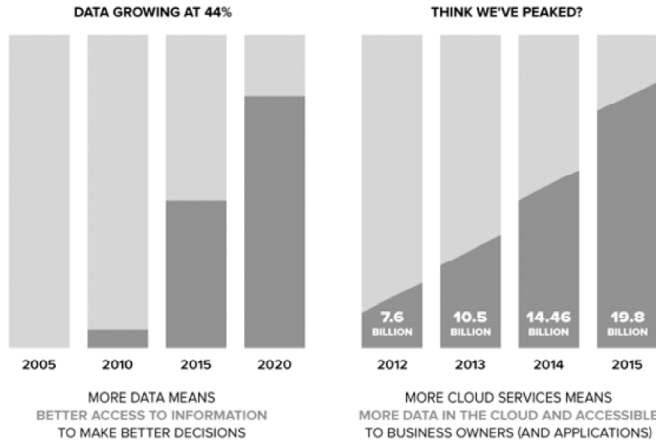
- 1) **Transactional Data:** A company's operations are supported by applications that automate key business processes. The processes in question are in sales, service, order management, manufacturing, purchasing, billing, accounts receivable and accounts payable. These applications require significant amounts of data to function correctly, and this includes data about the objects that are involved in transactions, as well as the transaction data itself. For example, when a customer buys a product, the transaction is managed by a sales application. The objects of the transaction are the Customer and the Product. The

transactional data is the time, place, price, discount, payment methods, etc. used at the point of sale. (Butler, 2011).

- 2) **Analytical Data:** Analytical data is used to support a company's decision making. Customer buying patterns are analyzed to identify churn, profitability, and marketing segmentation. Suppliers are categorized, based on performance characteristics over time, for better supply chain decisions. Product behavior is scrutinized over long periods to identify failure patterns. This data is stored in large data warehouses and also possibly in smaller data marts with table structures designed to support heavy aggregation, ad hoc queries, and data mining. Typically the data is stored in large fact tables surrounded by key dimensions such as customer, product, supplier, account, and location.
- 3) **Master Data:** Master Data represents the business objects that are shared across more than one transactional application. This data represents the business objects around which the transactions are executed. This data also represents the key dimensions around which analytics are done. Master data creates a single version of the truth about these objects across the operational IT landscape. A Mobile Device Management (MDM) solution should be able to manage all master data objects. These usually include Customer, Supplier, Site, Account, Asset, and Product. But other objects such as Invoices, Campaigns, or Service Requests can also cross applications and need consolidation, standardization, cleansing, and distribution. Different industries will have additional objects that are critical to the smooth functioning of the business.

Solutions that focus on managing Transactional, Master and Analytical Data under operational applications are called MDMs. This application solves the problems above and provides based on data analyses that could be customized based on each component and other business requirements.

According to the Online Business Analytic (see Figure 1) source, both small and large business data shell are expected to increase by 44% in the next decade, therefore data based decisions shall increase tremendously as well. Such approaches should help existing large and small businesses with their decision-making process and overall profitability as well.



**Figure 1:** Data Growth Analysis

Below are the RK Foods original data based problems and solutions examples:

We will consider two business problems

Problem 1: grouping a set of products into few groups based on a set of relevant characteristics of the products and a similarity/dissimilarity metric.

Ideally, the characteristics (variables) of the products should be selected with the purpose of the grouping in mind. For instance, if the object is to identify products that have similar profitability, turnover etc. characteristics, the grouping procedure should use variables pertaining to these attributes.

A data analysis technique that can be used to solve this problem is cluster analysis, which is a multivariate technique that can be used to group items (in this case products) into fewer groups or clusters.

A cluster analysis clusters or groups a set of items into groups or clusters using a distance measure (or, equivalently, a similarity measure). Some cluster analysis procedures start with each item as a cluster and successively merge the items into smaller number of clusters. Items or smaller-sized clusters are merged into bigger clusters based on the distance between the clusters. These types of procedure are called agglomerative hierarchical methods.

Suppose we decided to use four numeric characteristics to cluster products, the  $i^{th}$  product might be symbolically represented as

$$x_i = (x_{i1}, x_{i2}, x_{i3}, x_{i4})$$

where for the  $i^{th}$  product  $x_{i1}$  = sales,  $x_{i2}$  = average price,  $x_{i3}$  = avg coGS,  $x_{i4}$  = gross margin

Usually, Euclidean distance is used to measure the distance (dissimilarity) between the  $i^{th}$  product and the  $j^{th}$  product, where

$$d(x_i, x_j) = \sqrt{\sum_{k=1}^4 (x_{ik} - x_{jk})^2}$$

is the Euclidean distance between the  $i^{th}$  product and the  $j^{th}$  product. The agglomerative hierarchical methods start by merging two products with the smallest distance between them, then progressively reduces the number of clusters by merging the next two clusters of products with the smallest distance between them, and so on and so forth.

We applied the agglomerative hierarchical method on 30 products that are carried by RK Specialty foods. The list of products along with the data for the four numeric variables is given below (Table 1).

**Table 1: Data for Analysis**

| Obs | Product   | % of Sales | Avg Price per case | Avg COGS | Gross Margin % |
|-----|-----------|------------|--------------------|----------|----------------|
| 1   | Coconut   | 0.00326    | 20.18              | 17.38    | 0.13888        |
| 2   | Coconut   | 0.00068    | 16.8               | 14.83    | 0.11726        |
| 3   | Coconut   | 0.00095    | 23.6               | 16.53    | 0.29958        |
| 4   | Coconut   | 0.00462    | 19.07              | 17.38    | 0.08855        |
| 5   | Coconut   | 0.00191    | 23.6               | 14.83    | 0.37161        |
| 6   | Coconut   | 0.00895    | 18.45              | 19.92    | -0.07982       |
| 7   | Coconut   | 0.02125    | 18.77              | 15.24    | 0.18836        |
| 8   | Coconut   | 0.01819    | 15                 | 12.5     | 0.16667        |
| 9   | Okf       | 0.02454    | 25.29              | 18.75    | 0.25865        |
| 10  | Okf       | 0.03945    | 31.48              | 21.5     | 0.31711        |
| 11  | Okf       | 0.14934    | 17.1               | 13.8     | 0.1932         |
| 12  | Okf       | 0.04935    | 16.96              | 13.8     | 0.18616        |
| 13  | Okf       | 0.03422    | 17.64              | 13.8     | 0.21758        |
| 14  | Okf       | 0.03095    | 17.4               | 13.8     | 0.2071         |
| 15  | Okf       | 0.03306    | 17.4               | 13.8     | 0.20709        |
| 16  | Okf       | 0.03639    | 13.24              | 11.5     | 0.1313         |
| 17  | Okf       | 0.02145    | 13.27              | 11.5     | 0.13306        |
| 18  | Okf       | 0.02158    | 13.35              | 11.5     | 0.13858        |
| 19  | Okf       | 0.01837    | 13.77              | 11.5     | 0.16483        |
| 20  | Okf       | 0.02142    | 13.59              | 11.87    | 0.12677        |
| 21  | Okf       | 0.01565    | 13.83              | 11.5     | 0.16839        |
| 22  | Okf       | 0.01434    | 13.65              | 11.5     | 0.15727        |
| 23  | Okf       | 0.05147    | 16.76              | 13.8     | 0.17638        |
| 24  | Okf       | 0.03146    | 17.29              | 13.8     | 0.202          |
| 25  | olive oil | 0.00847    | 34.92              | 31       | 0.11217        |
| 26  | olive oil | 0.008      | 49.5               | 42       | 0.15152        |
| 27  | w and r   | 0.01148    | 56.8               | 40.56    | 0.28592        |
| 28  | w and r   | 0.01415    | 58.33              | 40.56    | 0.30469        |
| 29  | w and r   | 0.03217    | 56.84              | 40.56    | 0.28642        |
| 30  | w and r   | 0.0046     | 56.96              | 40.56    | 0.28792        |
| 31  | w and r   | 0.00465    | 57.46              | 40.46    | 0.29586        |

We used XLMINER for performing the cluster analysis. For merging lower-level clusters (clusters near floor of the hierarchy) into higher-level clusters (clusters near the top of the hierarchy), average linkage method was used. We also requested XLMINER to cluster the products into three clusters. The results of the cluster analyses are displayed in the following table (Table 2).

Table 2: Cluster Analysis

| Cluster ID | Sub-Cluster | % of Sales | Avg Price per case | Avg COGS | Gross Margin % |
|------------|-------------|------------|--------------------|----------|----------------|
| 1          | 1           | 0.00326    | 20.18              | 17.38    | 0.13888        |
| 1          | 2           | 0.00068    | 16.8               | 14.83    | 0.11726        |
| 1          | 3           | 0.00095    | 23.6               | 16.53    | 0.29958        |
| 1          | 4           | 0.00462    | 19.07              | 17.38    | 0.08855        |
| 1          | 5           | 0.00191    | 23.6               | 14.83    | 0.37161        |
| 1          | 6           | 0.00895    | 18.45              | 19.92    | 0.07982        |
| 1          | 7           | 0.02125    | 18.77              | 15.24    | 0.18836        |
| 1          | 8           | 0.01819    | 15                 | 12.5     | 0.16667        |
| 1          | 9           | 0.02454    | 25.29              | 18.75    | 0.25865        |
| 1          | 10          | 0.03945    | 31.48              | 21.5     | 0.31711        |
| 2          | 11          | 0.14934    | 17.1               | 13.8     | 0.1932         |
| 1          | 12          | 0.04935    | 16.96              | 13.8     | 0.18616        |
| 1          | 13          | 0.03422    | 17.64              | 13.8     | 0.21758        |
| 1          | 14          | 0.03095    | 17.4               | 13.8     | 0.2071         |
| 1          | 15          | 0.03306    | 17.4               | 13.8     | 0.20709        |
| 1          | 16          | 0.03639    | 13.24              | 11.5     | 0.1313         |
| 1          | 17          | 0.02145    | 13.27              | 11.5     | 0.13306        |
| 1          | 18          | 0.02158    | 13.35              | 11.5     | 0.13858        |
| 1          | 19          | 0.01837    | 13.77              | 11.5     | 0.16483        |
| 1          | 20          | 0.02142    | 13.59              | 11.87    | 0.12677        |
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| 1          | 23          | 0.05147    | 16.76              | 13.8     | 0.17638        |
| 1          | 14          | 0.03146    | 17.29              | 13.8     | 0.202          |
| 3          | 24          | 0.00847    | 34.92              | 31       | 0.11217        |
| 3          | 25          | 0.008      | 49.5               | 42       | 0.15152        |
| 3          | 26          | 0.01148    | 56.8               | 40.56    | 0.28592        |
| 3          | 27          | 0.01415    | 58.33              | 40.56    | 0.30469        |
| 3          | 28          | 0.03217    | 56.84              | 40.56    | 0.28642        |
| 3          | 29          | 0.0046     | 56.96              | 40.56    | 0.28792        |
| 3          | 30          | 0.00465    | 57.46              | 40.46    | 0.29586        |

According to the results of the cluster analysis, 21 of the products are grouped into the same cluster (cluster id = 1), the other 8 products grouped into another cluster (cluster id = 3), and product 22 constituting its own cluster (cluster id = 2). Products in a cluster are more similar to each other than products from other clusters, where the similarity is with respect to the Euclidean distance and the average linkage method used.

Questions that could be asked include the following: Can one make meaningful sense of the clusters? Were products of the same nature clustered in the same group? Why was the product on its own cluster on its own?

The progression of the agglomerative hierarchical clustering and the final results are also displayed in the dendrogram (tree), as shown in Figure 2.

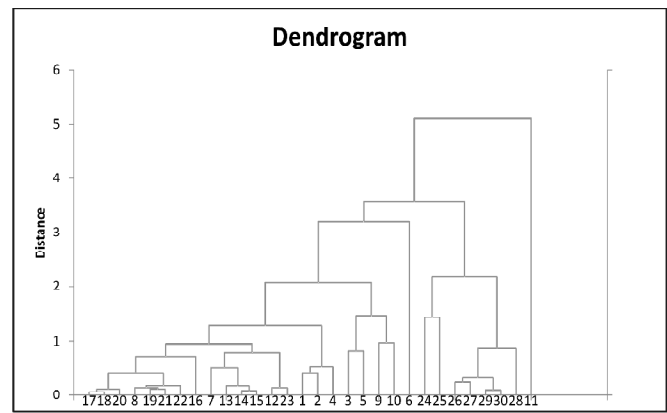


Figure 2: Dendrogram

### Problem 2: modeling and forecasting sales

The ability to model and forecast sales is an important factor in the successful operation of a business. While it is possible to use sophisticated modeling and forecasting tools, we will use a simple moving average regression model where the predicted (fitted) value fitted value at time is a simple average of most immediate previous values (i.e. at time  $t-1$ , and  $t-2$ ). Suppose the value of the response variable  $Y$  at time is represented by  $Y_t$  and the predicted value for the response variable at time  $t$  is represented by  $\hat{Y}_t$ , the equation for the simple moving average regression model is given by

$$e\hat{Y}_t = \frac{Y_{t-1} + Y_{t-2}}{2}$$

We fitted the above two-time point simple moving average model on the annual sales data from Kroger.

The results from fitting the model are given below. In Figure 3 “Fitted Model”, the original data (year versus yearly sale) along with the forecast values and residuals are given. Because, the fitted or forecast sales for a given year is an average of the sales data for the previous two years, the forecast for year 2003 and 2004 could not be predicted using the simple moving average model.

The time plot of the actual and predicted values are given in the time plot presented. The forecast values seem to largely track the actual values which were obtained.

### FINDING A PROFITABLE NICHE IN THE PACIFIC NORTHWEST

The profitable niches in the Pacific Northwest wholesale distribution arena include, but are certainly not limited to, reselling products that require some degree of knowledge on the part of the seller. RK Foods is best suited to serving retailer/food service customers from

Inputs

| Data                   |                 |
|------------------------|-----------------|
| Workbook               | SalesYrly.xlsx  |
| Worksheet              | Sheet1          |
| Range                  | =\$A\$1:\$B\$14 |
| Selected Variable      | total sales     |
| #Records in Input Data | 13              |

| Parameters/Options |     |
|--------------------|-----|
| Interval           | 2   |
| Forecast           | Yes |
| #Forecasts         | 5   |

Training Error Measures

|                                       |          |
|---------------------------------------|----------|
| Mean Absolute Percentage Error (MAPE) | 6.701334 |
| Mean Absolute Deviation (MAD)         | 6188.273 |
| Mean Square Error (MSE)               | 75662059 |
| Tracking Signal Error (TSE)           | 10.01927 |
| Cumulative Forecast Error (CFE)       | 62302    |
| Mean Forecast Error (MFE)             | 5635.545 |

Fitted Model

| year | Actual | Forecast | Residuals |
|------|--------|----------|-----------|
| 2003 | 66890  | *        | *         |
| 2004 | 66608  | *        | *         |
| 2005 | 69560  | 67749    | 1811      |
| 2006 | 72679  | 69684    | 3795      |
| 2007 | 77890  | 71219.5  | 6670.5    |
| 2008 | 72350  | 75384.5  | -3034.5   |
| 2009 | 82160  | 75120    | 7040      |
| 2010 | 96480  | 77255    | 19225     |
| 2011 | 105780 | 80320    | 15460     |
| 2012 | 106321 | 102134.5 | 3186.5    |
| 2013 | 107981 | 105555   | 2335      |
| 2014 | 106450 | 106605   | -1044     |
| 2015 | 106830 | 108170.5 | -1340.5   |

Forecast

| year | Forecast | LCI      | UCI      |
|------|----------|----------|----------|
| 1    | 109140   | 93441.96 | 124838.3 |
| 2    | 109140   | 92958.52 | 125321.5 |
| 3    | 109140   | 92489.39 | 125790.6 |
| 4    | 109140   | 92033.13 | 126246.9 |
| 5    | 109140   | 91588.72 | 126691.3 |



Figure 3: Fitted Model Data Analysis

five different consumer-driven categories: wellness, indulgence, ethnicity, value, and convenience. All of the specialty foods defined in this report fall into one (or more) of these categories. The definitions and market scope stated below may vary from market to market, however, the new business specialty foods business operator must be well experienced and be able to identify the best business prospects. Locally owned food business retailers that could secure enough volume and could work directly with importers and distributors in Pacific Northwest area include Haggen Foods, Bartell Drugs, Market of Choice, New Seasons market, Amazon Local, Costco Wholesale, Ray’s Market and several others. Furthermore, the Pacific Northwest has a variety of food service establishments that could be very attractive revenue generators for any food distributor producer or importer as well. In addition, the largest growing B2C e-commerce segment uses channels such are Amazon, Groupon and other online operators.

While Safeway and Albertson have terminated their contracts with the nation’s largest organic and natural products distributor UNFI, (NASDAQ: UNFI), they then signed a contract with KEHE Distributors for the same kinds of products and services.

*The loss of the Albertsons business comes on the heels of softer channel growth, which will undoubtedly shake investor confidence and impact valuation. The Albertsons loss is a reversal of fortune, as UNFI won the business 4 years ago and was clearly underbid by the former contract servicer who we suspect had more incentive to be aggressive with pricing.*

KEHE, on other side has offered Safeway/ Albertsons a less expensive and more growth oriented business model to maximize the revenue and overall margin for the retailer.

*“[This course of action] will now allow us to redirect our resources to pursue our previously announced plans to **expand our focus in fresh categories** such as proteins and specialty cheeses across the country, grow our gourmet and ethnic business, and serve as an e-commerce solution for our customers,” said Spinner in a press release. (Daily market news).*

In such a competitive landscape as the low margin grocery item market it is hard for any new entrants, and also smaller companies to succeed without having massive buying power and existing logistical coverage. As mentioned above, diversification of sales and carrying various brands and owning and producing

some items, requires the need to use large distributors; as such, selling direct to the customer and finding a careful balance between the size of the company and overall margins would be the key of sustainability and long term growth (see Figure 4).



Figure 4: Markets and Distributors

## RK FOODS CATEGORY MANAGEMENT: GROCERY/ NON PERISHABLE ITEMS

As many customers might know, food retailers are divided into several independent departments such as: general grocery, produce, deli, dairy, meat and fish, frozen, ethnic, and floral. RK Specialty foods distributes and works with several different departments in order to maximize per location delivery revenue, and to maximize overall sales volume and profit.

### 1) Organic, Non GMO and Wellness Category

Organic, Non GMO Foods are perceived to have a positive impact on consumer health and well-being. These are products that avoid explicit harm, and are perceived to be healthier. This current category is the most expansive and experienced the most growth among the main retailers, but not for discount stores such as Saars Market, Grocery Outlet, 99 cents and several other ones. RK Foods owns and distributes close to 35 SKU's via direct sales, distributed throughout Washington and Oregon, and using Unified Grocery's Central Warehouse to optimize 1700 location distribution via a large 3<sup>rd</sup> party West Coast distributor.

### 2) Ethnic Foods Category

Products that arise from the food traits of specific ethnic groups, and that offer authentic appeal to the ethnic group itself, comprise this category. These include foods marketed to the wider US population that have been influenced by ethnic tastes and ingredients, and is a growing category, but ethnic foods often aren't known for their ingredient reliability.

RK Foods carry close to 500 SKU's from Korea, Turkey, Israel, Spain, Tunisia, Georgia, China and

Ukraine. Even though the nationwide supermarkets carry very limited ethnic products, though, this category is gradually growing due to the demand especially with the Asian population residing in the Pacific Northwest.

### 4) Produce Department

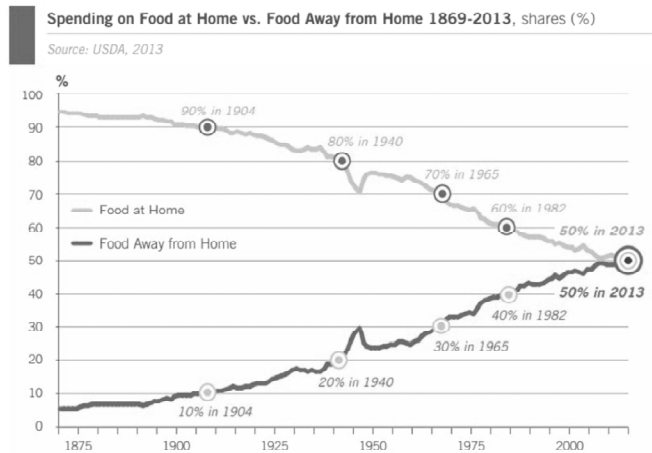
The produce department is a generalized term for a group of farm-produced crop and goods, including fruits and vegetables. Frequently grains, oats, etc. are also sometimes considered as produce. While products from other grocery departments could employ a more flexible delivery and refill schedule due to the longer expiration dates, the produce department service and inventory turnover is more crucial than other non-perishable products. As a result, due to spoilage, the produce department operational margin can be higher than other departments. The Kent, Washington company Charlie's Produce is well known by suppliers and only provides items to local supermarkets and their produce departments. Several other local distributors such as Petersons are offering similar products to food retailers and also food service establishments.

### 5) Foodservice and Deli- Bakery Departments

Food products that meet consumers' needs at the lowest price such as McDonald's hamburgers, fluid milk in gallon containers, and private label food products fall into this category. Other options that make life easier for the customer such as "fast" foods, "on-the-go" foods, partially prepared foods, component assembly products, and bundled products such as Lunchables. Furthermore, the food service segment has been growing rapidly while the retail and in home segment has been constantly shrinking. Any new business needs to find more opportunities to increase sales volume by serving food service outlets, including retailers, deli departments, and also competing for traditional retailer shelf space. According to the USDA (Figure 5), the "away from the home" food consumption category has a roughly equal volume of sales compared with food usage at home. However, there has been a very rapid growth rate; therefore for both new or existing business, the foodservice categories should be targeted very seriously for future growth.

### 6) Floral Department

Every main supermarket that has available square footage usually has a floral section that offers flowers, party goods, and other unique product combinations. At this Point, RK Foods does not provide anything for this department nor has any plans to do this in the future. This department often is overlooked; nevertheless, offering some other products that could



**Figure 5:** Food at Home Vs. Food Away from Home

justify the space usage could open up some new business opportunities for future vendors.

## RK LOGISTICS SOLUTIONS

Besides the quality, production cost, labeling and taste innovation, logistics components and its data optimization are the key components for any new product's success. While any small manufacturer/distributor could capture local markets, the nation-wide expansion can be a bit more challenging, and is strongly dependent on third party distributors. Most startups have a choice on how to proceed to maximize business opportunity:

- 1) Use third party warehouses, co-packers, and logistical companies.
- 2) Start a small warehouse and attempt to manage the most of the tasks in-house to avoid excessive upfront costs.

In both scenarios, the graph below outlines the correct strategy working with various customers.

With the correct strategy and pricing stature, the logistical part becomes more sustainable and stable.

As demand management principles have become more important to supply chain initiatives, the category management process has increased in popularity. With an objective of preventing "out of stock" situations and improving supplier-retailer relations, category management aims to balance retailers' product volume and variety objectives. Among the activities included in the category management process are the capture and utilization of knowledge of the drivers behind consumer attitudes and choices.

According to the Goos Kant publication, this implementation is noted for its progressive transition from prior business data practice and analyses. CCE has realized an annual cost savings of \$45 million with

major improvements in customer service due to optimizing new delivery routes and using more efficient trucks. This approach has been so successful that Coca-Cola has extended it beyond CCE to other Coca-Cola bottling companies and beer distributors.

Here is a RK logistics overview that could be compared to its regional competitors.

Kent, WA. Ownership Status For-profit, Annual Sales \$3.4 million.

Year Est. 2009. Geographic Area: WA, OR and LTL & pallet minimum Ohio and Northern California Deliveries.

The fleet consists of 2 temperature-controlled box trucks and 2 semi-trailers; most are 4-5 years old, with the oldest truck at 10 years. As for the leasing structure, half of the equipment is owned and trucks are all under regular lease from 4-6 years. There is a maintenance agreement with a leased Loading System Tiered based on pallet space; the first pallet is \$120 and then each additional one is \$70-\$100. There is the task of route planning, since there is a need for multiple trips a day to aggregate and distribute products, including trips from Seattle and Portland 5 days a week. Backhaul is done when geographically feasible. The calculation of mileage costs comes to \$2.35 per mile for box trucks and \$2.55 per mile for tractor trailers, calculated by combining fixed and variable costs. There is a 9% fuel surcharge. The designated business model separates the gross margin of freight side of operations (39.5%) from food sales (28%), there are also facilities for warehouse space freight and storage (Warehouse Square Footage: 18,000.).

## RK PRICING MODEL

All Pacific Northwest Distributors including RK Foods, make money by purchasing products from a local or foreigner manufacturer at a wholesale price, marking them up, and selling them to local retailers. Distributor markups range from 15% to 40% percent, and brokers' commissions average between 2% to 5%. However, Acosta, working primarily with Costco, could charge up to 8%, however, they offer some additional services, such as issuing purchase orders, as well as some logistics and inventory management.

In many cases, the most successful businesses have several pricing structures incorporated into the Cost of Goods including: retailer pricing, wholesaler/distributor and broker fees as well as logistics and marketing compensation. However, the specialty food business can be tough. While pricing new products properly helps to alleviate some of the risk because business owner can determine if they will be making enough



money when sell the new product to customers. The pricing structure could be explained via the simple example stated below:

The Strawberry Jam Total Product Cost is \$1.48/ jar (per 2000 cases needed to be priced), pricing your product through distribution. That includes broker, distributor, retailer, and slot fees, resulting in the consumer price – the one on the shelf. Before you send your jar of jam through the distribution network, your target would be a 40-60% margin. Here's how to calculate your margin:

Price to distributors = COGS / (1 - margin %)

Here's how your price changes with different margins:

- 40% margin: \$2.47
- 50% margin: \$2.96
- 60% margin: \$3.70

With the calculations above the final retail price to customers shall be around \$5.99 to \$6.99 range depends on the retailers Growth margin (Klein , 2014) .

While the price to distributors tend to be 30% lower, the direct to retailer sales often include freight fees and other expenses that can reduce the profit dramatically unless the order amount is very large.

## CONCLUSION

According to the FDA (Food & Drug Administration):

“If you are thinking about opening a food business, there are many regulatory requirements that you will need to meet. Some of these requirements apply to all food businesses, and some are specific to the particular food product, such as low-acid canned food, seafood, or juice.

In addition to the Food and Drug Administration's (FDA's) requirements, your food business is likely

to be subject to other federal, state, and local requirements.” (U.S. Food and Drug Administration, 2016)

The Specialty Food sector definitely provides new opportunities for small business to grow and satisfy market growth in Retailer and Food Service Sectors, however, the high professionalism, experience and understanding the industry are the key factors for any new business to succeed. The learning curve for any inexperienced business might be too long and expensive to overcome and then continue successful operations. In comparison to other markets, there are many areas with much less risks to try out without requiring exposure to such great risks and complications.

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