Cups4U Forecasting Process Design Case

Cups4U, Inc. is a $3 billion paper cup manufacturer based in North America. The company sells its products through three sales channels. The first is to mass retailers and warehouse clubs that private label the products under their own brand name. The second is to quick service restaurants, like Taco Burger, that buy cups with their brand names on. The last is to supermarkets and mom-and-pop grocery stores that sell the product under Cups4U's own brand name DrinkIt. The discount retailers, warehouse clubs, and fast-food outlets are sold by a National Accounts department. The company has a field sales force of 85 sales reps selling to supermarkets and mom and pop grocery stores.

Senior management is concerned about a sudden, dramatic increase in finished goods inventories over 2005 and most of 2006. Inventory investment peaked in November 2005 and began a gradual reduction over the next several months, but only after severe action on the part of senior management was taken, including a costly shutdown of all three manufacturing facilities for two weeks in April 2006. The CFO decreed that inventory levels must be reduced by 25% by the end of the year, in order to avoid cash flow problems.

Snappy Consultants did a quick study of the situation and determined that forecasting was the major problem. To quote the report "Cups4U's forecasting process is abysmal, very very bad ---the worst we have seen". In addition they attributed the inventory increases to the following factors that occurred:

- A price increase for the supermarket channel in November 2005 that was not followed by competitors – resulting in lost volume. Cups4U finally reduced their rates back to market level in June 2006

- Competitors increased their market shares with heavy promotional spending in March and April 2006.

- The loss of a major supermarket chain customer (customer #33) in the Southwest in September 2005
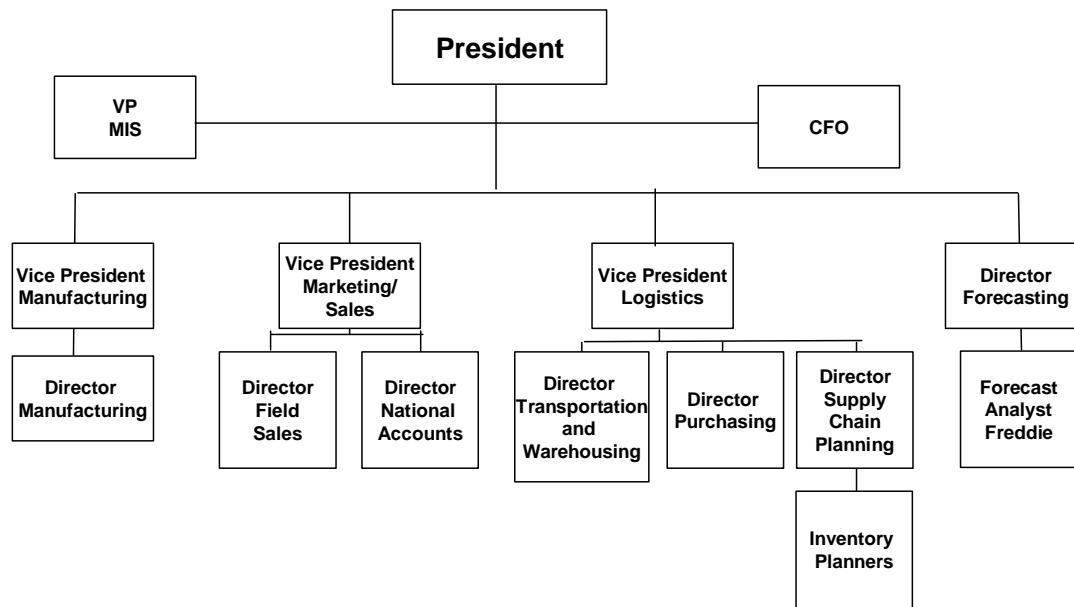
Additionally, the forecast did not seem to incorporate any of the promotions that were run. For example, ever since 2004 each Mass Retail customer is heavily promoted for one month during the winter – normally a slow time period. Customer AA is promoted in January, customer BB is promoted in February, and Customer CC is promoted in March. Unfortunately the forecasts did not incorporate any of these events or factors.

The following interview notes summarize Snappy's discussions with key client executives:

- The VP of Logistics believes that Logistics is the 'scapegoat' in all of this. He said "We just take the Forecasting Department's aggregate level forecast and translate it into an item level forecast based on history and insight. The plants then produce to the item level forecast."

- The VP of Manufacturing viewed the inventory "surge" as a way to build an inventory "cushion" and improve service levels, because "you can't trust the Forecasting Department's numbers."

- The VP of Sales & Marketing stated that many forecasts seem to exist -- Sales, Marketing, and Logistics, and maybe even Manufacturing, have their own. He said "Everyone second-guesses the Forecasting Department. No one believes them."

- The Director of Forecasting stated he only has one staff person Freddie. Together they develop forecasts with a new system installed last year. Freddie told him the system doesn't work well, so he just uses it to forecast based on a simple average of shipments over the last couple of months at an aggregate level. He doesn't trust the Marketing & Sales, since "they don't have a clue what is happening out in the market". Also he refuses to forecast at the SKU level because "the Logistics organization never believes it anyway". The Director stated that "The Forecasting Department is extremely good at what we do. We have never missed publishing our forecasts on time at the end of every month, sometimes even a week early."

- The VP MIS thought the new $300,000 sophisticated forecasting system should have solved the forecasting problem and that the organization isn't taking full advantage of the forecasting system. He's worried about Freddie's attitude and stated "I don't care if Freddie is married to the CEO's second aunt once removed --- we should fire the guy!"

The organization chart for Cups4U is shown below.

Background on Channels and Products

The cups themselves are rather simple and are manufactured in three stages: printing, cutting, and assembling. In the printing stage, raw paper stock is printed with the appropriate logos or designs. The customized printing for the mass retail (MR) and quick service restaurant (QSR) channels is performed at this stage. This is also where Cups4U's own DrinkIt brands are printed. During the cutting stage, the stock paper is laminated and cut for the specific sizes. The assembly stage simply wraps these sides and glues them to the same circular bases that are used in all of the cups. The cups are then placed in stacks of 100 and then packed in cases of 1000 cups each.

There are two sizes of cups: Large and Small. Cups4U also provides lids with their cups. The lids are identical for all three channels, but are size dependent. That is, there are separate lids for small and large cups.

In the Major Retailer (MR) channel, there are three customers: AA, BB, and CC. All of them have been customers for over ten years, but AA was a very small account until 2001 when Cups4U became its sole supplier of cups. Cups4U is sold as a private label brand for each of these customers – that is, each retailer's own brand is printed on their own cups. Cups for one MR customer cannot be sold at another's store.

The Quick Service Restaurant (QSR) channel has two long standing customers: YY and ZZ. Cups sold to the QSR channel are customized for each chain.

Finally, the Supermarket (SM) channel consists of 13 individual firms – coded as a unique two digit number. The cups sold through the SM channel are all printed as the DrinkIt brand and are common across all of the clients.

The attached spreadsheet (Cups4U_Data.XLS) contains monthly order information in cases for each customer by SKU. The file lists the month/year, the SKU, the channel, the customer, and the number of cases. The SKU for each of the products is coded as follows: **TT-#-PPN**

Where:

- TT is the type of product. In our data, we are only looking at the CN (cup normal) products.

- \# - is an indicator of whether this is customized. If \#=0, it is the DrinkIt brand, if \#=1, then it is customized for a specific client.

- PP – indicates how the printing is customized. If PP=00, it is for the DrinkIt brand. For any other customization, the customer code is used.

- N indicates the size of the cup (S for small and L for large).

So, SKU **CN-0-00L** is a large normal cup printed with the DrinkIt brand. While SKU **CN-1-ZZS** is a small normal cup printed with customer ZZ's own brand. Thus the total number of SKUs contained in the data set is 12 (5 custom brands and one Cups4U brand times two sizes, large and small).

Assignment

Your team's assignment is to draft two memos: one to the President and one to the CFO.

<u>Memo to the President</u>

The President of Cups4U, Larry, is confused. He wants your advice on how he should revamp his entire forecasting process. Please answer the following questions in a brief (less than 4 pages) memo to him. All answers should be supported by any assumptions you made as well as the reasoning behind your answer.

1.   What departments should get the forecasts and why do they need it?

2.   Design the pro-forma views needed for each function to review and revise demand forecasts. Include views and report formats for each of the following functions:

    a.   Marketing

    b.   Sales

    c.   Manufacturing

    d.   Warehouse and transportation management

    e.   Procurement

    f.   Finance

3.   Redesign the S&OP process. Address the following questions in your redesign.

    a.   Who will be responsible for organizing and moderating the meetings?

    b.   How many S&OP meetings should be run? How often?

    c.   Which organizations should be invited to each meeting?

    d.   Develop a detailed agenda for each meeting. Specify the meeting length, its parts and what will be discussed during each part.

4.   Develop a plan to restaff the forecasting department by answering:

    a.   To whom should the department report to?

    b.   How many people should be in the group?

    c.   How should the forecasting tasks be divided among these people?

    d.   What should be their skills?

<u>Memo to the CFO</u>

The CFO for Cups4U, Chris, is angry. He is really sick and tired of all of the infighting and bickering involved with the forecasting process. He wants external validation on the quality of Cups4Us forecasts. Specifically, your team has been asked to test out your forecasting capabilities to see if you can do better than Freddie. Using the attached data file (Cups4U_Data.XLS), please draft a memo to him that addresses the following:

1. For each SKU, describe and quantify the impact (if any) for each of the following factors along with the technique used to understand this impact:

    a. Seasonality (of any sort)

    b. Trend

    c. Promotions

    d. Pricing

    e. Competitive Forces/Actions

    f. Anything else?

2. Develop and show a monthly <u>cup</u> forecast(s) for September 2006 to August 2007 at the SKU level assuming no promotions, pricing changes, or competitive responses over this period. Explain all of your assumptions, logic, and approaches taken.

3. Develop and show a monthly <u>lid</u> forecast(s) for September 2006 to August 2007 assuming no promotions, pricing changes, or competitive responses over this period. 1 case of lids = 1 case of cups. Explain all of your assumptions, logic, and approaches taken.

4. QSR customer YY is thinking of introducing an Extra Large cup. What would your monthly cup forecast(s) for September 2006 to August 2007 at the SKU level be for customer YY? Assume no promotions, pricing changes, or competitive responses over this period. Explain all of your assumptions, logic, and approaches taken.

5. Cups4U is considering redesigning their cups so that a single lid will work for both sizes of cups. If they did this, what would the benefits be? Provide analysis quantifying this benefit.

The format for any submitted Word document is as follows:

- Font: Times New Roman, 12 point

- Margins: 1"

- Double spaced

- Number each page in the top right corner