CASE STUDY

SPECIALTY PACKAGING CORPORATION, PART A

Julie Williams had a lot on her mind when she left the conference room at Specialty Packaging Corporation (SPC). Her divisional manager had informed her that she would be assigned to a team consisting of SPC's marketing vice president and staff members from their key customers. The goal of this team was to improve supply chain performance, as SPC had been unable to meet demand effectively over the previous several years. This often left SPC's customers scrambling to meet new client demands. Julie had little contact with SPC's customers and wondered how she would add value to this process. She was told by her division manager that the team's first task was to establish a collaborative forecast using data from both SPC and its customers. This forecast would serve as the basis for improving the firm's performance, as managers could use this more accurate forecast for their production planning. Improved forecasts would allow SPC to improve delivery performance.

SPC

SPC turns polystyrene resin into recyclable/disposable containers for the food industry. Polystyrene is purchased as a commodity in the form of resin pellets. The resin is unloaded from bulk rail containers or overland trailers into storage silos. Making the food containers is a two-step process. First,

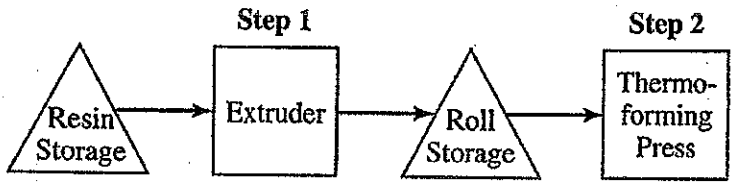
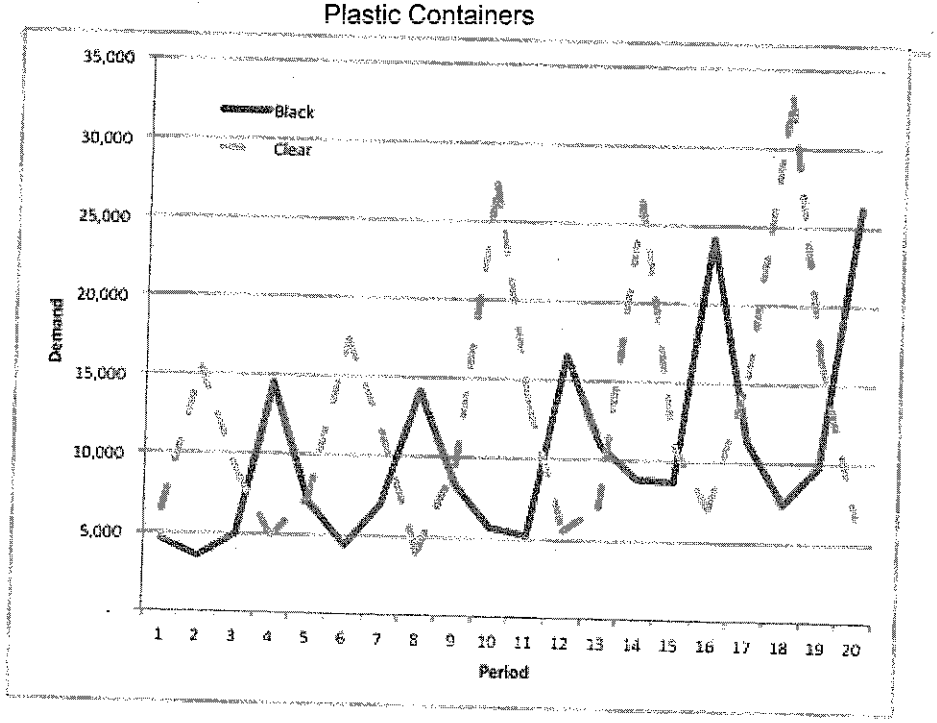


FIGURE 7-9 Manufacturing Process at SPC

TABLE 7-4 Quarterly Historical Demand for Clear and Black Plastic Containers

Year	*Quarter*	*Black Plastic Demand ('000 lb)*	*Clear Plastic Demand ('000 lb)*
2002	I	4,567	6,478
	II	3,530	15,403
	III	4,909	8,918
	IV	14,627	4,837
2003	I	7,097	7,363
	II	4,339	17,434
	III	6,970	11,471
	IV	14,168	3,967
2004	I	8,322	9,575
	II	5,612	27,396
	III	5,200	13,337
	IV	16,563	5,530
2005	I	11,036	7,070
	II	8,845	26,455
	III	8,715	10,969
	IV	24,160	7,040
2006	I	11,381	15,517
	II	7,474	33,268
	III	9,782	16,553
	IV	26,254	6,692

FIGURE 7-10 Plot of Quarterly Demand for Clear and Black Plastic Containers



resin is conveyed to an extruder, which converts it into polystyrene sheet wound into rolls. The plastic comes in two forms—clear and black. The rolls are either used immediately to make containers or are put into storage. Second, the rolls are loaded onto thermoforming presses, which form the sheet into containers and trim the containers from the sheet. The two manufacturing steps are shown in Figure 7-9.

Over the past five years, the plastic packaging business has grown steadily. Demand for containers made from clear plastic comes from grocery stores, bakeries, and restaurants. Caterers and grocery stores use the black plastic trays as packaging and serving trays. Demand for clear plastic containers peaks in the summer months, whereas demand for black plastic containers peaks in the fall. Capacity on the extruders is not sufficient to cover demand for sheets during the peak seasons. As a result, the plant is forced to build inventory of each type of sheet in anticipation of future demand. Table 7-4 and Figure 7-10 display historical quarterly demand for each of the two types of containers (clear and black). The team modified SPC's sales data by accounting for lost sales to obtain true demand data. Without the customers involved in this team, SPC would never have known this information, as the company did not keep track of lost orders.

FORECASTING

As a first step in the team's decision making, they want to forecast quarterly demand for each of the two types of containers for the years 2007 to 2009. Based on historical trends, demand is expected to continue to grow until 2009, after which it is expected to plateau. Julie must select the appropriate forecasting method and estimate the likely forecast error. Which method should she choose?