

**BRIEF CASES****9-917-509**

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Cataumet Boats, Inc.

Jaime Giancola had just completed the first half of her MBA program and wanted to work on a project during the summer that would give her some practical experience applying what she had learned in the classroom. She was meeting with her mother, Sheila, and her Uncle Pete, both of whom owned Cataumet Boats on Cape Cod, Massachusetts, for this purpose. Jaime's course in operations management had made her consider how companies with seasonal businesses, like Cataumet Boats, determined worker requirements and scheduling. Her mother said:

"The way we schedule workers has evolved. We have never had a specific goal in mind when we do this. We have always tried to be very customer focused, as we believe that is how we have been able to grow the business. Cost is always an issue from the customer's perspective, but boat owners tend to focus more on the level and quality of service provided. We try very hard to satisfy our customers' requests in the fall for hauling out their boats, winterizing them and storing them for the winter; and then preparing the boats prior to launch and launching them. We can't meet every customer's request in terms of timing, especially in the spring, but we do the best we can."

"Usually when we change how we do something, we have identified a problem that needs to be corrected," Pete added. "I am getting tired of painting boat bottoms every spring because each year it becomes harder for me to get under the boats because of my arthritis. It seems that no matter how hard we try, we can never hire enough seasonal workers to paint the boat bottoms. I usually have to jump in and paint some of them myself. I'm fifty years old and I am still painting boat bottoms because of the problems we have hiring and keeping seasonal workers during the time that we need them most. I think the reason we have such difficulties hiring seasonal workers in the spring is due to the fact that it is only for a very short period, and they can find easier and longer term seasonal employment working in hotels and restaurants that are ramping up in the spring for the peak summer season."

Sheila replied. "As I think about this, it might make sense for us to hire a couple additional full-time workers to help out with painting the bottoms so that you wouldn't have to do them. I am sure we can find other things for them to do during the rest of the year that will probably improve our service level. Besides, we are looking to grow the business over the next several years, and hiring two new full-time employees now might make this transition that much easier for us down the road."

HBS Professor W. Earl Sasser and Professor Mark M. Davis, Bentley University, prepared this case solely as a basis for class discussion and not as an endorsement, a source of primary data, or an illustration of effective or ineffective management. The data in the case have been disguised for either proprietary reasons and/or to emphasize a particular business situation.

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“But can we afford to do it now?” Uncle Pete asked.

Shortly after this conversation with her mother and uncle, Jaime realized that helping Cataumet Boats with its scheduling challenges could be her summer project. She could apply some of what she had learned in her operations management course—specifically, aggregate planning—to see if there was a better way to schedule workers by developing alternatives.

Jaime also knew that she would have to talk with some of the company’s key employees in order to obtain the information she needed. She decided to start by talking with the company’s service manager, Mike Richard, who was most familiar with all of the activities that were performed on the boats. She would also talk with Crystal Fulcher, who coordinated the customers’ work orders/requests for their boats and who scheduled hauling the boats out in the fall and launching in the spring. In addition, Jaime would meet with Steve Hamel, the sales manager, to learn how much labor was needed to support the boat shows in which Cataumet Boats participated each year. In order to determine the company’s average labor costs, she would also need to talk with her mother and uncle about how to get this information (see **Exhibit 1**).

Company Background

Cataumet Boats was started in 1959 by Pete and Rosann Way. During its initial years, the company, then known then as Cataumet Auto Marine, serviced boats in the summer and automobiles in the winter, which provided Pete and Roseann with a year-round income. Pete performed the work on the boats and automobile; Rosann kept the books and paid the bills. They gradually realized that they could not be in both businesses and provide their customers with the high level of service they wanted to offer, so they decided to focus on the boat business and renamed the company Cataumet Boats.

Their two children, Pete Way Jr. and Sheila Giancola, joined the family business in the late 1980s after graduating from college. In 2001, Pete Jr. and Sheila purchased the business from their parents.

Cataumet Boats

Cataumet Boats had two major businesses: (a) selling new and used boats and (b) providing boat maintenance and storage. In a typical year, Cataumet Boats sold 100 to 120 new and used boats out of their three locations in Bourne (headquarters) and Chatham, Massachusetts, and Barrington, Rhode Island. Most years, however, were anything but typical.

The maintenance and storage businesses took place primarily at the Bourne facilities. Cataumet Boats provided maintenance and/or storage for approximately 320 boats annually at this location. To accomplish all the tasks (see **Exhibit 2** for examples) that boat owners requested, Cataumet had 11 full-time, year-round employees, not including administrative and management personnel. The company also hired full-time seasonal workers in the spring to help meet peak customer demand. Boat owners could request any combination of maintenance and storage and were charged accordingly. The tasks that were performed could be divided into two major categories:

1. Time-sensitive activities, which ideally were done within a week of the customer’s request. These activities included hauling the boats out in the fall, pressure washing the hulls, and preparing them for winter. In the spring, the tasks included cleaning and waxing the boats, “summerizing” the engines, painting the bottoms of the boats, and launching them in the water.

Additional time-sensitive activities included attending the primary boat shows in the region, Newport, Rhode Island, in August; Providence, Rhode Island, in January, and Boston, Massachusetts, in February.

2. Activities that could be done at any time and that were not time sensitive were considered independent of customer demand. These actions included prepping new boats that had been purchased in the fall and winter; gel-coating repairs to the hulls; making electronic repairs and updates; and repowering hulls with new engines. These activities were typically completed during the winter months. In addition, the mechanics who worked on the engines attended an annual one-week training session in Georgia, to learn about the latest engine characteristics and repair techniques.

Meeting with Mike Richard and Crystal Fulcher

The following week, Jaime met with Mike Richard, the service manager, and Crystal Fulcher, who scheduled customer work orders, to identify the various tasks that were performed on the boats.

“I think my mom told you,” Jaime began, “that I’m working on a project for Uncle Pete and her to see if we can find a better way to schedule the different work activities. We still want to provide great service to our customers, but we’re always looking for better ways to do things more efficiently. Can you help me begin to understand what tasks are involved in servicing customers?”

“The best place to begin is in the fall when the boats are hauled out and readied for winter,” Crystal replied. “The fall process is straightforward. Beginning late summer, the boat owners will tell me when they want their boats hauled out of the water and stored in our facilities for the winter. We usually do that within a week of the requested date.”

“How many boats are you planning to store this year?” Jaime asked.

“Right now,” Mike replied, “we estimate that we will store 320 boats this year, which is pretty close to our maximum capacity. We begin hauling them out in late August. This usually takes between one and two hours, depending on the size of the boat and where it is located. Two people are usually required to do this; one to drive the boat to the boat ramp, and the other to drive the truck to meet the boat at the ramp. However, about 10%¹ of boat owners will take their own boats to the ramp. When this happens, only one person is required to meet the boat owner at a specific day and time to do the haul out.”

“What are the next steps after the boat is hauled?” Jaime asked.

“We haul the boat out and bring it to the storage yard,” Crystal added, “The hull is immediately power washed, which takes between one and two hours, again depending on the size of the boat.”

“Following the power wash,” Mike continued, “the boat is moved to the engine maintenance building, which takes about half an hour. Here the oil and filters are changed on the engines. This takes about 30 minutes per engine. Approximately 50% of the boats have one engine; 40% have two engines, and the remaining 10% have three engines.”

¹ Cataumet Boats had never collected detailed data on the percentage breakdowns, so all of the percentages provided are estimates based on experience with previous years.

“The engines are then winterized, which requires an additional two hours per engine. Doing that involves removing each engine’s propeller, which is greased and reconditioned as necessary. In addition, the fuel system is stabilized and the steering system is greased, which takes about one hour per boat. The water systems on the boat are also drained at this time and non-toxic antifreeze is added. Each boat has between two and four water systems that take, on average, about 2.5 hours per boat.

“After this work is completed, the boats that are stored outside are shrink wrapped and placed in the yard. Shrink wrapping takes about three to four hours per boat to complete. The rest of the boats are stored inside and do not require shrink wrapping. Moving the boats to either the shrink wrap area or to final storage takes 30 to 45 minutes, depending on where in the yard they are being stored.”

“What percent of the boats are stored outside?” Jaime asked.

“About 55%,” Mike replied. “Also, about 2% to 3% of the inside boat storage owners want a plastic drop curtain placed over their boats, which requires another hour of labor.

“After the boats are stored for the winter, we begin working on repairs and modifications that the customers have requested. These activities take place during the winter months and include gel coat repairs, electronic repairs and updates, and repowering new engines that owners have purchased. These repairs/updates are done on about 30% of the boats that we store, and this work can take anywhere between 20 to 30 hours per boat. In addition, it usually takes us about a half hour to retrieve the boat from its storage location and then another half hour to put it back.

“Also during this time, any new boats that were sold at the end of the previous season or during the fall and winter months have to be received, prepped, shrink wrapped, and stored, all of which takes about five to six hours per boat.”

“How many new boats do we usually sell during the fall and winter?” Jaime asked.

“Between 20 and 30,” Mike replied.

“In addition, all the hulls of the new boats have to be sanded, the water line taped off, and painted with two coats of bottom paint, which takes between seven and 10 hours per boat. They are then waxed with two coats of wax and the electronics are installed, which together take between five to 25 hours per boat, again depending on the size of the boat and specific electronics purchased by the owners. And the last thing we do is clean them, which takes about three hours.”

“What happens in the spring?” Jaime asked.

“The process of launching the boats in the spring,” Crystal replied, “begins in December, when I send a questionnaire to the boat owners asking them what work they want done and when they want to launch their boats. These questionnaires let me develop the spring work schedules and boat launches. The challenge for us is that most of the work done on the boats needs to be done just before the launch, such as cleaning and polishing. Once the schedule of boat launches is finalized, I meet with Mike to review it, after which Mike schedules the actual work to be done on each boat.”

“Spring activities begin March 1,” Mike continued. “Between March 1 and March 15, about 60 additional boat owners bring their boats in to be readied for the upcoming season. Work on these additional boats includes checking out the engines, tuning them, and putting in new oil filters, if necessary. The boat bottoms are cleaned and painted and the engines are “synched and linked.” In total, these tasks take about nine hours per boat, and are typically completed within two to three weeks of when the boat is brought in.”

“Boat launches begin the last week in March,” Crystal added, “and will go through the end of June, and even into the first weeks of July.”

“Prior to launching,” Mike continued, “the bottom of each boat is painted with a water-based paint that is better for the environment and more effective than the copper-based paints that were used previously. This takes between two and four hours per boat. While this can be done anytime over the winter, it is usually done within a week of the launch date, as it can be logistically very difficult to pull the boat out from its storage location, paint it, and then put it back. There is about a half hour of labor required to take the boat out storage and position it for cleaning and painting.

“The tops of about 60% of the boats are waxed, which takes between two and a half to three hours per boat. The boat engine(s) are “summerized,” which includes a tune-up, and replacing the old spark plugs and filters, all of which takes about three hours per engine. The water systems are flushed to remove the antifreeze and fresh water is added. This takes about two hours per system.

“Boats are then cleaned, which takes about three hours and launched within a week of an owner’s request. The launch takes the same amount of time as the haul out, between one and two hours, depending on the size of the boat and where it is launched, and whether the owner will meet us at the ramp. And, as in the fall, about 10% of the owners meet us at the boat ramp.”

“That’s a lot of work during the spring! How do you get everything done?” asked Jaime.

“In the spring,” Mike said, “we hire seasonal workers on a full-time basis to help prep the boats, mostly painting bottoms. Typically, 10 to 12 are hired each year, and we hope three or four stay for the entire spring. Hiring and training take a lot of time, and there’s a learning curve. As a result, the seasonal workers typically take twice as long to complete these tasks. Because they do take so long, we do not have them work overtime.”

Over the years, Crystal had collected some data on when the owners want their boats hauled out in the fall and launched in the spring:

Percentage Distribution of Owners’ Requests for Hauling Out Boats in the Fall

Week	1	2	3	4	5	6	7
Percent of Boats	11%	12%	13%	13%	13%	12%	11%

Week 1 in the fall is the week of Labor Day, the first Monday in September. These weeks were the peak time in the fall, which represented 85% of the owners’ requests. The remaining owners either had their boats hauled out at the end of August or left them in the water until late October.

Percentage Distribution of Owners’ Requests for Launching Boats in the Spring

Week	1	2	3	4	5	6	7
Percent of Boats	8%	9%	11%	11%	11%	8%	7%

Week 1 in the spring is the last week in April. These weeks represented the peak time in the spring, which was when 65% of the owners wanted to launch their boats. The remaining boat owners wanted their boats launched either in early April or in late June and even the first week in July.

Meeting with Steve Hamel

Jaime next met with Steve Hamel, the company's sales manager, to discuss the boat shows in which Cataumet Boats participated and the labor required to support each one.

"We attend three major boat shows each year in the New England area," Steve said. "The New England and Providence shows usually require about 100 hours of labor each, in addition to my time and your mother's and your Uncle Pete's time. The Newport show requires a little more, probably 120 hours of labor, because it is farther away and we often drive our boats there over the water. Included in these estimates are the times it takes to drive the boats to the show and back (either on truck or by water) and to set up the booth at the show and then taking it down when the show is over."

After her meetings with Service and Sales, Jaime began her analysis. As she started to delve into the details, she asked herself: *If it is so hard to hire and keep seasonal workers in the spring, what would be the impact of hiring two additional full-time employees to do this work?* as her mother had suggested. At a minimum, it would eliminate the need for Uncle Pete to paint boat bottoms. Were there other advantages to this option? Were there other options to consider, such as prepping the same number of boats each week rather than by requested launch dates? What would these options cost?

Exhibit 1 Labor and Other Cost Figures

Number of full-time, year-round hourly workers = 11

Labor Costs:

Average full-time, year-round worker hourly rate = \$24.00 per hour, including benefits

Average seasonal worker hourly rate = \$17.50 per hour, including benefits

Hours worked per week = 40 hours

Overtime hourly rate for full-time, year-round workers = \$34.00 per hour, including benefits

Overtime hourly rate for seasonal workers = \$24.75 per hour, including benefits

Hourly wage rate for two new year-round employees = \$21.60 per hour, including benefits

Overtime hourly rate for new year-round employees = \$31.00 per hour, including benefits

Note: Workers are paid a 50% increase in their actual wages for overtime work. However, many of the benefits, especially for full-time, year-round workers, remain constant (such as vacation time and sick leave). Thus the overtime rate, including benefits, is less than 50% more than the normal hourly rate.

Workers can work a maximum of 60 hours per week.

Allocation of Hourly Employees' Hours:

70% - direct (billable) labor hours

15% - indirect labor hours (related to direct hours worked)

15% - overhead labor hours (includes vacation, sick time, training, boat shows, etc.)

Worker Efficiencies:

Seasonal workers take 100% longer, or twice as long, to do tasks. (This time includes on-the-job training when they are first hired, and reflects the high turnover rate.)

Cost of Dissatisfied Customer (i.e., not meeting initial customer requests for launch date):

This cost is \$400.00 per customer, which is an estimate that recognizes a small percentage of customers will be dissatisfied when they cannot get the exact launch date they requested, and will not return as a result. Most customers, however, understand the challenges of spring launches, and are sufficiently flexible to pick another launch date with no repercussions, in terms of their going elsewhere.

Cost of Hiring and Terminating Part-time Workers:

Hiring costs for seasonal workers are estimated at \$300 per worker hired, which includes recruitment efforts such as advertising, interviewing time, etc., and which also reflects their high turnover. Termination costs for seasonal workers is estimated at \$150 per worker, which includes completing all of the necessary paperwork related to discharging a worker.

Management Assistance

Mike Richard and Pete Way can each work up to 20 hours a week doing direct-hour activities, although they prefer not to.

Exhibit 2 Examples of Different Tasks Performed on the Boats

Fall Activities



Hauling a boat out of the water



Pressure washing the hull



Winterizing the engines



Shrink wrapping the boat for storage

Spring Activities



Repairing boat trim



Cleaning hull



Painting boat bottom



Painting boat bottom