

## Case 9-2: Portable Phones, Inc.

Portable Phones, Inc., manufactures and sells wireless telephones for residential and commercial use. Portable Phones' plant is organized by product line, with five phone assembly departments in total. Each of these five phone assembly departments is responsible for the complete production of

a particular phone line, including manufacturing some parts, purchasing other parts, and assembling the unit.

Each of the five phone assembly department managers reports to a product-line manager who has profit responsibility for his/her product. These five product-line managers have authority over pricing, marketing, distribution, and production of their product. Each of the five phone assembly departments is a cost center within its respective product-line profit center.

A key component of each phone is the circuit board(s) containing the integrated circuit chips. Each phone assembly department purchases from outside vendors the basic boards and chips to be attached to its board(s). The board department of the plant receives the boards and chips in kits from each phone assembly department and assembles them into completed boards ready for assembly into the phones. The board department (with a cost structure that is 80 percent fixed and 20 percent variable) uses a single highly automated assembly line of robotic insertion machines to precisely position each chip on the board and soldering machines to solder the chips onto the board. The board department is a common resource for the plant; all five of the phone assembly departments use the board department to assemble some or all of their boards. Since the board department has a single assembly line, it can only assemble boards for one type of phone at a time. The assembly departments have authority to seek the most competitive supplier for all their parts and services, including circuit board assembly.

The board department's assembly schedule is determined at the beginning of each month. The five assembly departments request a time during the month when they plan delivery of particular kits to the board department and specify the number of boards to be assembled. The manager of the board department then takes these requests and tries to satisfy the assembly departments' requests. However, the board department manager finds that she has a peak load problem; the assembly departments tend to want their boards assembled at the same time. The only way to satisfy these requests is to work overtime shifts during these peak periods even though the board department has excess capacity at other times of the month.

The total monthly costs of the board department (equipment depreciation, maintenance, direct labor, supervision, and engineering support) are assigned to the phone assembly departments based on an hourly rate. The board department's total monthly costs are divided by the number of hours of capacity in the month (e.g., if a particular month has 22 working days, this is equivalent to 352 hours or 22 days  $\times$  2 shifts  $\times$  8 hours per shift) to arrive at a charge per hour. To give the phone assembly departments incentives to have their kits (boards and chips) delivered to the board department in a timely manner, the phone assembly department is charged for the time from when the last job (a batch of boards assembled for a phone assembly department) was finished by the board department until the time when the next job is finished. For example, suppose phone assembly department A's phones were finished at 9:00 a.m., and that department B delivered its kits at 1:00 p.m. and they were completed at 7:00 p.m. the same day. Department B would be charged for 10 hours of the board department's costs even though the board department was idle for 4 of the 10 hours.

When first installed, the board department was expected to be operating at full capacity, two shifts per day, six days per week. But due to increased competition and outsourcing of some models, the board department is now operating at about 70 percent of the initial planned capacity.

### *Required:*

- a. If you manage a phone assembly department, when during the month would you tend to request that your phone circuit boards be assembled by the board department (everything else being held constant)? Explain why.
- b. Identify various dysfunctional behaviors likely to occur among the phone assembly departments and the board department.
- c. What management changes would you suggest? In particular, what changes would you make in the accounting system? Explain why each change should be made.

## Case 9-3: PortCo Products

PortCo Products is a divisionalized furniture manufacturer. The divisions are autonomous segments, each responsible for its own sales, costs of operations, working capital management, and equipment