Forest hill paper company essay sample

Forest Hill Paper Company (FHPC) is a closely-held paperboard manufacturer that has been struggling with a number of strategic issues facing a capital-intensive, mature industry. Their product costing system was inadequate to provide management with relevant information for decision making. Therefore, the board of directors has approved your consulting company's proposal to conduct a cost system pilot study. Besides showing an analysis of FHPC's product cost, your report to the board of directors is to include strategic recommendations based on your findings.

INSTRUCTOR NOTE: I recommend viewing the following video before reading the rest of the case study. In the following paragraphs, there is company specific terminology that may make the case seem more difficult than it is if you don't have some background information (and a visual of what is being described) for this type of company. The following video is not of Forest Hill Paper Company; however, it describes and shows the production environment of a similar company, Clearwater Paper Corporation: http://youtu. be/3t4jSVXjutI

Background: Product and Process Description

Forest Hill Paper Company (FHPC) produces an extensive line of paperboard in large reels, termed parent rolls. These parent rolls are sold to converters who further process them into containers used for a diverse line of consumer products. The owners of FHPC have long pursued the strategy of producing a full range of products. While product diversity within a paperboard plant would not be readily apparent to the casual observer, subtle differences exist. For example, paperboard differs by basis weight (or thickness as determined by caliper measurements) for a specified length of product.

Additionally, paperboard may be uncoated or coated with an opaque, white clay-based material that masks cosmetic flaws and smoothes surface variability. Customers are increasingly concerned with surface variability because extremely smooth surfaces are required to accommodate complex printed designs on the completed paperboard container or carton.

FHPC produces 19 different grades of paperboard. Some were produced in large quantities requiring production runs of several days, while others were produced in smaller quantities requiring runs of only a few hours. Production schedules were driven by two factors, market demand and the theoretically optimal production schedule. The optimal production schedule was designed to reduce waste associated with grade changes by producing successive batches with minor differences in basis weight.

Competitive Environment

Paper and paperboard producers operate in a very cyclical economic environment, with upswings every three to four years. Following the economic boom of the late 1980s, the industry fell upon hard times during much of the early 1990s. In response to limited supply during the boom, customers began doubling or tripling the quantities ordered. They began receiving their huge orders as the economy, once again, began to slow. As a result, many customers found their paper inventories exceeded current needs and temporarily stopped placing orders. To further compound FHPCs headaches, its market share for domestic paperboard was down to 25% from about 35% through most of the 1980s. The most significant contributors to the loss of market share were the trend toward plastic and to more environmentally friendly grades of recycled paperboard. Throughout the

industry, companies made very limited investments to expand capacity. When a surge in demand for paper products occurred during the mid-to-late 1990s, demand exceeded capacity. Thus, the industry experienced steep price hikes resulting in record selling prices for most grades. The Manufacturing Process

Pulp manufacturing begins with hardwood or softwood timber in the form of logs or wood chips. If raw materials are received in the form of logs, the first step in the process is debarking. A rotating debarking drum that "measures 16 feet in diameter by 100 feet in length tumbles the logs to remove bark. After debarking, chippers reduce the logs into one-inch cubes.

The second step in the process is termed “ digesting”. Wood chips are cooked at 325 degrees Fahrenheit to break down the glue-like material bonding the wood fibers. Chemicals used in the digester are reclaimed and used in future pulp production. Following the digesting process, only brown fibers remain which are washed and screened. A bleaching process is used to convert brown pulp into white pulp. The paperboard manufacturing process begins by mixing pulp with water and chemicals in the first stage, or headbox, of a paper machine. The mixture is applied to a porous wire mesh; and formation of paper actually occurs within this step. The wire mesh travels through a press that forces the pulp mixture against the wire to eliminate water within the mixture and to form the desired paper thickness. The material then proceeds to a drying section where it travels across numerous cylindrical dryers that are heated with steam. In the final section of the paper machine, long sections of paperboard are rolled up into parent rolls and are removed from the machine. The parent roll is further processed

by FHPC’s customers to make various types of paperboard containers. Sometimes customers require additional processes to be performed on parent rolls.

For example, food processors often require widths of 18 inches, rather than the standard width of a reel (approximately 12 feet). Thus, reels are loaded onto a rewinder slitter to produce eight reels 18″ wide from one reel 12-feet wide. For convenience, Forest Hill combined labor and machine costs of the rewinder slitter with those of the paper machine for allocation purposes. Thus, all grades of paperboard shared in the costs of slitting even though most grades were not slit. Additionally, only a minor setup fee was charged to customers requesting slit parent rolls, as this was viewed as incidental customer service. Engineering studies suggest the slitting may be more expensive than previously thought. In addition to specialized equipment and extra labor, knives used in the slitting process often damaged the paperboard’s edges.

Thus, more quality inspection and testing were required when producing slit reels. Overhead Allocation and Additional Cost Management and Production Information Continuous processors, such as chemical and paper producers, historically have used volume-related drivers to attach overhead to products. Forest Hill traditionally used materials costs to apply overhead to production: thicker materials required more machine time to process as they demanded slower machine speeds. Additionally, drying time and energy consumption increase with thicker basis weights. However, other important costs were incurred without

respect to volume. For example, grade changes induce instabilities into the process that result in scrap until the process resumes stability. On average, production engineers estimate that approximately one-half reel is lost to scrap each time a grade change is made. Just as discrete-part manufacturers incur machine setup costs between production runs of two different products, scrap produced following grade changes are a predictable cost of production. Some of the pulp costs lost to scrap can be recovered by recycling the scrapped paper, termed “ broke” paper. Thus, the cost figures presented in this case include only lost chemicals energy, labor, and equipment costs. Recently, managers began questioning the long-standing strategic policy of producing a full product line. Because selling prices and profit margins vary significantly across their product sales mix, some managers question whether assets are used to the greatest advantage.

Though the market for paperboard is cyclical, the company is experiencing demand in excess of their production capacity. Because they cannot control selling prices, they manage profitability through efficient operations and aggressive cost control. A sample representing significant categories of grades is presented in Exhibit 1. The sample contains thin paperboard grades (caliper . 013) as well as heavier grades (caliper . 02). In addition, Exhibit 1 identifies whether a grade is coated or uncoated and whether the parent rolls are slit or not. The sample is representative of the variation in batch quantities. As shown in Exhibit 1, production follows the market demands of small quantities for some grades and significantly larger quantities for other grades. Materials cost per reel includes pulp and chemical costs. Selling price per reel reflects recent spot market prices.

Pulp and paperboard is a capital intensive industry requiring expensive processing equipment. Forest Hill’s accountants estimate that manufacturing overhead, including depreciation, labor, energy, other, and unrecoverable clay and chemicals costs from grade changeover, approximates 105% of material costs. Historically, product costs at Forest Hill were calculated by multiplying the overhead rate by direct material costs. However, brand managers have begun to suspect that some grades were subsidizing others with respect to costs. Three significant activities (grade changes, slitting, and materials handling) have been identified to help reduce cross-subsidy and provide more accurate cost estimates. Exhibit 2 identifies total overhead costs, estimated grade change activity costs, slitting activity costs, and materials handling activity costs with respect to the production of the four grades of product shown in Exhibit 1.

The capital intensive structure of a paper company coupled with the cyclical nature of the industry makes accurate cost information an important strategic tool. Though current demand exceeds existing capacity, managers at Forest Hill know that a downturn is inevitable. They understand different pricing and production mix strategies are necessary when the economic environmental changes.

Case Formatting and Grading Information:

1. This is an INDIVIDUAL project and should be completed by each student, INDIVIDUALLY; Not in groups.

2. Any sources used (if any) should be properly cited. Do NOT plagiarize the work of others.

3. Your responses to each of the questions / requirements in the “ Case Analysis Questions / Requirements” section above should be TYPED using Times New Roman, 12-point font, 1-inch margins, and a portrait pageorientation.

4. You should use single-spacing within paragraphs and double-spacing between paragraphs / between requirement numbers.

5. Your case study analysis should be a MAXIMUM of two pages in length. There is no minimum number of pages required; however, your completed analysis will be graded, in part, based upon how adequately you address each of the case issues.

6. Your case study analysis / answers should be clearly labeled with the corresponding requirement number on the “ case study requirements” list. (Note: This style of analysis is not written as a “ report” and does not need introductory or concluding paragraphs.)

7. You must bring to class TWO COPIES of your completed case study analysis. One of these copies will be submitted to the instructor at the beginning of the class period to be graded. The second copy will be used to facilitate group and class discussions.

8. Your case study grade will be based upon a variety of factors, including: (a) the logic, adequacy, and correctness of your responses, (b) application of course concepts covered to the case materials, (c) proper formatting, grammar, spelling, and organization, and (d) your individual contributions to group and class discussion related to the case study. A grading rubric for the

case study will be posted on Blackboard. **Please note that if you do not attend class on the due date and participate in the group and class discussions related to the case study, you will only be able to earn, at most, 75% of the case study points.**

INSTRUCTOR CASE STUDY ANALYSIS NOTES AND HINTS:

To calculate the plantwide overhead rate currently in use, you need to take total overhead divided by total materials costs. Total materials costs are not shown in any of the tables nor is total materials cost per product shown in any of the tables (only materials cost per reel for each product). You will need to calculate the total materials cost for each product first and then add those materials costs together to get the total materials cost needed for your plantwide overhead rate equation.

When computing the ABC overhead in requirement #2, you should use the following activity cost drivers: Grade Change Activity Cost Driver = # of batches (Each product identified in Exhibit 1 represents one batch.) Slitting Activity Cost Driver = # of slit reels (Be sure to only include the total number of slit reels.) Materials Handling Activity Cost Driver = total materials costs (See note “ a.” above for calculation hints.)