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Conifer Corp. is a sawmill operation in Oregon that is owned by a major forest products company but operates independently of the parent company. It was built 30 years ago and completely updated with new machinery five years ago. Conifer receives raw logs from the area for cutting and planning into building-grade lumber, mostly 2-by-4 and 2-by-6 pieces of standard lengths. Higher-grade logs leave Conifer's sawmill department in finished form and are sent directly to the packaging department. The remaining 40 percent of sawmill output are cuts from lower-grade logs, requiring further work by the planning department.

Conifer has 1 general manager, 16 supervisors and support staff, and 180 unionized employees. The unionized employees are paid an hourly rate specified in the collective agreement, whereas management and support staff are paid a monthly salary. The mill is divided into six operating departments: boom, sawmill, planer, packaging, shipping, and maintenance. The sawmill, boom, and packaging departments operate a morning shift starting at 6:00 a.m. and an afternoon shift starting at 2:00 p.m. Employees in these departments rotate shifts every two weeks. The planer and shipping departments operate only morning shifts. Maintenance employees work the night shift (starting at 10:00 p.m.).

Each department, except for packaging, has a supervisor on every work shift. The planer supervisor is responsible for the packaging department on the morning shift, and the sawmill supervisor is responsible for the packaging department on the afternoon shift. However, the packaging operation is housed in a separate building from the other departments, so supervisors seldom visit the packaging department. This is particularly true for the afternoon shift, because the sawmill supervisor is the furthest distance from the packaging building.

PACKAGING QUALITY

Ninety percent of Conifer's product is sold nationally and internationally through Westboard, Inc., a large marketing agency. Westboard represents all forest products mills owned by Conifer's parent company as well as several other clients in the region. The market for building-grade lumber is very price competitive, because there are numerous mills selling a relatively undifferentiated product. However, some differentiation does occur in product packaging and presentation. Buyers will look closely at the packaging when deciding whether to buy from Conifer or another mill.

To encourage its clients to package their products better, Westboard sponsors a monthly package quality award. The marketing agency samples and rates its clients' packages daily, and the sawmill with the highest score at the end of the month is awarded a framed certificate of excellence. Package quality is a combination of how the lumber is piled (e.g., defects turned in), where the bands and dunnage are placed, how neatly the stencil and seal are applied, the stencil's accuracy, and how neatly and tightly the plastic wrap is attached.

Conifer won Westboard's packaging quality award several times over the past five years, and received high ratings in the months that it didn't win. However, the mill's ratings have started to decline over the past year or two, and several clients have complained about the appearance of the finished product. A few large customers switched to competitors' lumber, saying that the decision was based on the substandard appearance of Conifer's packaging when it arrived in their lumber yard.

BOTTLENECK IN PACKAGING

The planning and sawmilling departments have significantly increased productivity over the past couple of years. The sawmill operation recently set a new productivity record on a single day. The planer operation has increased productivity to the point where last year it reduced operations to just one (rather than two) shifts per day. These productivity improvements are due to better operator training, fewer machine breakdowns, and better selection of raw logs. (Sawmill cuts from high-quality logs usually do not require planning work.)