Demanding Manufacturing – Was it too efficient, or was the auditor too skeptical?

Demanding Manufacturing is in the business of extrusion molding and blow molding of household products. It has established itself as a low-cost, high-volume manufacturer of consumable products.

Its manufacturing plant is set up for maximum efficiency in terms of machine layouts, raw material handling, efficient end-of-machine handling, and packaging of finished goods. Raw materials are received in pelletized form for automatic loading into large storage tanks. The raw materials are then transferred directly to the feeder bins of extrusion machines. As each machine cycle occurs the feeder bins push the material into the heaters for extrusion into the machine molds to form the desired products.

Each cycle of the machines is designed for ultimate efficiency and the production of a high-quality product that meets or exceeds the desired design specifications. Where the product designed has more than one component, the machines are set up to match the production process so that there is a minimum of finished products on the production floor and there is no requirement, or minimum requirements for semi-finished goods on the production floor.

Once completed, the products are either packaged or stacked directly on pallets for shipment. All palletized products meet strict retail customer standards so that the pallets, fully loaded with product, can be moved from the factory floor to the shipping transports and from there to the showroom floor without repackaging or rehandling in any form. Consumers can then pick up the product directly off the pallets and take them home.

Examples of the product mix are lawn chairs, chairs, tables, wheelbarrows, planters, garbage containers, various sizes of stackable storage containers with lids, and similar products. All are stackable, in their final form.

The extrusion and blow molding machines are designed specifically for this company, in that they meet certain requirements so that molds and fittings are universal. Machine capacities are matched to the type of production molds to be used. Molds are designed to be adaptable to any or most of the machines so that there are no production stoppages or conflicts once a line is up and operational.

The company started its operations in one factory and has expanded its footprint to 5 manufacturing locations and 12 major warehouse locations. Once the products are produced, they are immediately moved to the appropriate warehouse location depending upon the customers that are purchasing them and the anticipated delivery or pick up dates. Because of the nature of the products, it is not uncommon for the products to be shipped directly from the factory floor.

Great care is taken to ensure that there is a minimum of duplicate handling and that products are available for almost immediate delivery to customers. It is not unusual for a series of

products to be supplied to customers such as Walmart on an exclusive or at least semi-exclusive basis.

The main manufacturing plants work on the basis of 24/7, with shifts designed to give workers an 8-hour shift with reasonable personal and rest breaks during each shift. Wages paid are above the rate for equivalent work, but reliability is a key factor with bonuses based on meeting production quotas. Line workers are encouraged to provide ideas for maintaining output, making the work more interesting and variable to avoid burnout.

The company is expanding very rapidly, with sales doubling every year for the last five years, reaching a current year peak of $200 million. Net profit before taxes is in the 40% range and cash flow from most customers is consistent, on time and very little by way of bad debts have been incurred. (Less than 0.05%). Production specifications have been compiled based upon input from retailers such as Walmart, Costco, KMart and Canadian Tire. While these customers will give estimated volumes and anticipated delivery requests, they do not give purchase orders until just before shipments are made. Hence, the inventory build-up for a sales season is at the risk of the manufacturer. Based upon being a high-volume low-cost supplier, this can be a managed risk.

To maintain its position as a high-volume manufacturer, Demanding Manufacturing modified its business practices as follows:

1. Raw materials for extrusion must maintain certain standards for the ultimate durability of the products produced and to maintain the safety standards required for the consumer and by the retailer. In order to do this, the raw material purchased exceeded the quality specifications of the customers but was considered “off-spec” and hence cost less than “on-spec” material, which was actually of a lower quality. As a result, raw material costs were about 75% of “on-spec” equivalent materials and usually quoted as FOB the plant by rail car or tank truck.
2. Molds were specifically designed to produce more than one item at a time to reduce individual product costs. For example, the production of 8 litre totes with lids were produced 4 at a time per cycle as were the lids so there would be no work-in-process of lids or totes waiting for matching parts to be produced.
3. Machine capacities were matched so that one machine producing lids matched the time to make the production output for two machines making containers and as a result, containers and lids could be produced at the same time and stacked on a pallet as a complete unit with no need to inventory containers or lids waiting for matching parts.
4. By running longer production runs, machine set-ups have been reduced, and the number of set-ups and hours involved in those set-ups was reduced drastically resulting in a lower per unit cost and higher output per machine.
5. Production was scheduled weeks in advance. The cost of finished goods inventory compared to raw materials inventory was higher only by the per unit labor cost plus the

electricity cost of running the machine. With no moving parts, the wear and tear on the machine was minimal.

6. Warehouses were established at locations that provided easy access for customers to pick up their own merchandise e.g., Walmart. By having a logistics delivery model for truck transport of product, the logistics companies could efficiently schedule their truck movements and give the company preferred rates.
7. A master inventory system permitted the locating and tracking of inventory using scanners and bar coding to reduce the paper flow and monitor movements. All pallets were coded as to pallet number and product. Pallets not returned were charged to the customer.
8. Pallets were manufactured in the plant, and when returned, were ground up and the material reused. This is similar system to that used by IKEA.

The issue that arose was how to finance the mammoth annual growth in inventory that was manufactured on speculation for a selling season.

This valuation was important from a costing perspective, an income recognition prospective, and a security prospective for bank or other financing. The company's auditors reviewed the production records, observed the machines in operation and the production records and concluded that the valuation processes were sound and appropriate with appropriate applications of costs and overheads. From the company's perspective, the only issue that might have been debated was the quantity of inventory on hand at the peak of the production cycle, with no orders, just projections of the potential sales volumes.

At a month end cutoff date, 15 trailer loads of product were ready to be shipped. The customers' transport trucks were at the loading docks, and it was anticipated that all the trucks would be loaded, and the trucks would be ready to leave before the close of business at the month end. As a result, the shipping documents were sent to head office and were invoiced. The invoices were prepared, but because the mail courier had left on the Friday night, the invoices were not physically sent until Monday morning. Meanwhile because the customers' 15 drivers knew the product was not due in the stores until Monday morning and all loading was completed before closing time, the drivers decided not to leave until first thing Saturday morning. They stayed overnight at their employer's expense, so that the trucks could remain in the securitized location of the vendor's warehouse facilities.

As the financier was financing inventory at 50% of cost and accounts receivable at 80% of invoiced receivables, there was a significant profit margin and financing value based upon these 15 truckloads of finished product. The cash advances to be made based upon the invoice values made a significant difference to the current and to the following month's cash flows, as well as the profit recorded for the month. The financier objected and refused to advance the funds. In addition, the financier demanded a review of the cut-off procedures and took exception to the process which gave rise to the temporary error (if you consider the facts an error).

The financier took exception to the valuation of the inventory as had been agreed with the company's auditors. He insisted that his own corporate auditor/consultant be engaged to value the inventory. His auditor/consultant did not agree with the following factors:

1. Raw material content should be priced at the replacement cost of "on-spec" product.
2. Cycle times were too long and the production records were not considered accurate enough, even though they had been verified by Demanding Manufacturing's Auditors.
3. Sales, profitability, and accounts receivable were deemed to be overstated and inventory inappropriately valued.

Questions:

1. Is it appropriate to compare the company's auditor's judgements with the financier's auditor/consultants? Why and why not?
2. Was the financier's auditor/consultant too skeptical?
3. Were the company's auditors not skeptical enough?
4. Was there a cut-off error?
5. Was the dispute justified.

Source: Professional Skepticism Case Collection for Professional Accountants, University of Toronto Professional Accounting Centre, 2023, PAC website https://www.utm.utoronto.ca/pac/case-collections/enhancing-professional-skepticism-case-collection.