

ADVANCED GCE
BUSINESS STUDIES
Further Operations Management
TUESDAY 17 JUNE 2008

2877

Afternoon
Time: 1 hour 30 minutes

Additional materials (enclosed): Answer Booklet (8 page)

Additional materials (required):
Calculators may be used



INSTRUCTIONS TO CANDIDATES

- Write your name in capital letters, your Centre Number and Candidate Number in the spaces provided on the Answer Booklet.
- Read each question carefully and make sure you know what you have to do before starting your answer.
- Answer **all** the questions.
- Write your answers on the separate Answer Booklet provided.
- If you need extra sheets of paper, fasten these sheets securely to the Answer Booklet.

INFORMATION FOR CANDIDATES

- The number of marks for each question is given in brackets [] at the end of each question or part question.
- The total number of marks for this paper is **60**.
- You will be awarded marks for the quality of written communication where an answer requires a piece of extended writing.

This document consists of **4** printed pages.

THE BLUE GLASS COMPANY

As an industry, glass making in the West Country dates back over 300 years. The area was particularly well known for specialising in coloured glass. However, in the early years of the 20th century the industry went into decline, only to be revived in the 1990s. The Blue Glass Company (TBGC) was a part of this revival. Set up in 1995 by Sean Ransom and his sister, Ellie, TBGC specialises in the manufacture of high quality handmade glass. No moulds or machines are used. 5

Sean and Ellie both attended college nearby, learning glass making skills as part of their degrees. They always wanted to set up their own business. In 1995 the opportunity arose to acquire the lease on a former bus depot, which they then set about converting into a small glass making factory. Originally, Sean and Ellie did all the designing and glass making themselves, selling their products in local shops around the area. They were very successful and as demand grew rapidly the business expanded. Sean was always insistent that TBGC should employ specialist staff to carry out the various glassmaking tasks in the factory. Currently TBGC has six full-time glassmakers and two engravers working in the factory. 10

Being hand made, each piece of glass is unique. Individual pieces are made from Sean's exclusive designs. Larger quantities of a single design are also manufactured for special commissions. Glass making begins when the materials are heated to a very high temperature in a furnace to produce molten glass. This is then blown and shaped by the glassblowers. Through a constant process of reheating and reshaping, using a small furnace called a "glory hole", the glass products are made. Next they are 'cooked' in an oven where, overnight, the temperature is gradually lowered so the glass does not shatter. Finished products can be hand engraved, then checked for quality and finally packed for delivery to customers. 15 20

Ellie, who is now responsible for sales, is looking to expand into new markets. She has received an enquiry from the local university, which wants to commemorate its 250th anniversary. It would involve producing 100 wine glasses and 50 glass plates over a two week period. The university wants its crest engraved on all the pieces of glass, and to carry out this unique etching TBGC would have to hire a specialist engraving machine. Normally wine glasses and plates produced by TBGC sell for around £60 and £100 respectively. The university would be willing to pay £35 for each glass and £75 for each plate. To help decide whether to accept this special order, Ellie proposes using contribution costing and she has worked out the costs (see Table 1). Sean is worried that the special order would mean staff working additional hours and also the one oven used for cooling would be unavailable for completing other orders for the two weeks the university order will need. 25 30

Table 1 Costs associated with the university order

ESTIMATED COSTS OF THE UNIVERSITY ORDER	
Cost of the material for the wine glasses	£10 per glass
Cost of the material for the glass plates	£20 per plate
Hire of the engraving machine	£1250 per week
Estimated additional labour costs per week (8 staff × 10 hours per week at an average of £10 per hour)	£800

35

Ellie and Sean have been drawing up plans for the future of the business. Ellie is hoping TBGC will receive other orders similar to the one from the university. Sean is also worried about the fourfold rise in TBGC's energy bills over the last two years. He is keen to purchase a new large furnace to produce the molten glass and also a cooling oven, both of which are more energy efficient. Providing they could employ three more glassblowers, this could increase TBGC's capacity significantly. Ellie has some reservations about this because it took nearly three months to recruit their last glassblower. She is very keen to look at ways in which TBGC could automate some of its glassmaking processes. Quality is an essential factor for successful sales of TBGC's products. Every item produced is closely inspected to ensure it has no flaws. Substandard goods can be sold as 'seconds', but at a substantial discount. Currently fewer than 10% of glass items produced are rejected. However, automating parts of the production process might lead to an increase in the number of rejects.

Both Sean and Ellie also want to develop part of the former bus depot into a shop and gallery where visitors could watch the glass being made and then, hopefully, purchase some of TBGC's products in the shop. Such facilities have proved to be very popular in other glass making businesses, generating valuable additional revenue. Some staff are concerned about this possible development. They have pointed out that health and safety is already an important issue at TBGC and having visitors on the premises would create further problems which need to be considered.

Answer **all** questions.

- 1 (a) Analyse **two** possible implications for TBGC of employing specialist staff. [6]
- (b) Evaluate how TBGC could improve the quality of its products. [16]
- (c) Is automating some of the glass making process (line 45) an appropriate operational strategy for TBGC? Justify your view. [16]
- 2 (a) Using the information in the case study, calculate the contribution from the university order. [4]
- (b) Is contribution costing a useful technique for TBGC to use when deciding whether to accept orders? Give reasons for your view. [10]
- (c) Analyse **two** ways in which health and safety legislation might affect operations at TBGC. [6]

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