

**ADVANCED GCE****BUSINESS STUDIES**

Further Operations Management

2877

Candidates answer on the Answer Booklet

OCR Supplied Materials:

- 8 page Answer Booklet

Other Materials Required:

- Calculators may be used

Tuesday 27 January 2009
Morning

Duration: 1 hour 30 minutes

**INSTRUCTIONS TO CANDIDATES**

- Write your name in capital letters, your Centre Number and Candidate Number in the spaces provided on the Answer Booklet.
- Use black ink. Pencil may be used for graphs and diagrams only.
- Read each question carefully and make sure that 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.
- Do **not** write in the bar codes.

INFORMATION FOR CANDIDATES

- The number of marks 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** pages. Any blank pages are indicated.



**A calculator may
be used for this
paper**

The Traditional Narrowboat Company Ltd (TTNC)

When Jon Rafferty and Richard Cox met in 1996 they did not think that 12 months later they would be in business together, as owners of The Traditional Narrowboat Company Ltd (TTNC). The business they bought consisted of:

- premises at Saltham Wharf, near Bristol, containing a number of moorings, which some regular canal users rent to keep their boats; 5
- a floating restaurant boat and a number of narrowboats for canal holiday hire.

Both Jon and Richard were canal enthusiasts, although Jon's real ambition was to build narrowboats. A qualified electrician by profession, Jon had been involved in boatyards for many years, building and repairing boats.

The British Waterways Board (BWB), a government body which manages the UK's canals, said, however, that Saltham Wharf was not suitable for boat building. In the 1990s, Bumper's Farm, 12 miles from Saltham, converted a number of outbuildings into small business units. In 2001 one of these units became vacant. There were already two narrowboat building firms on the site and a specialist carpentry business. The business unit itself was the ideal size and shape for constructing two narrowboats at any one time to a maximum of 70 feet in length. Although the site was not actually on a waterway, new boats could be transported to the nearby canal. 10 15

To begin with, TTNC built boats that could be used by the hire part of its business. Hire boats brought in a regular income for TTNC. This helped to reduce its cash flow problems in the boat building part of the business - due to the length of time it took to construct the boats. These boats, built for the cheaper end of the market, cost around £1000 per foot to construct. Some private customers were keen to buy hire boats after they had holidayed on them and Jon felt there was a growing market for privately owned boats. Jon believed TTNC should concentrate on the premium end of the market, charging around £1750 per foot for a typical 60-foot boat. Currently, over 1200 new boats are registered every year in the UK. 20

TTNC builds between 6 and 8 new narrowboats per year. Currently, breakeven for the company is 5 boats, although it can depend on the length and specification required by each customer. To build narrowboats a wide range of material is needed: 25

- body shells are supplied by a company in the Midlands;
- boat equipment such as gearboxes, engines, propellers, etc. comes from an engineering company also based in the Midlands; 30
- interior fittings such as sinks, shower units, toilets, cookers and heating equipment come from an engineering supply company in Southern England. Other items such as timber, fabrics, cushions, etc. come from a variety of local suppliers, depending on which gives the best deal;
- stone, used for ballast to give boats stability, comes from a local stone company free of charge, saving the stone company having to pay Landfill Tax. 35

TTNC needs a multi-skilled and flexible workforce willing to work varying hours depending on deadlines for boat launches. TTNC employs three full-time workers and two additional self-employed workers who can be hired, if required. One employee, Janice, is a mechanical engineer; another, Giri, was a kitchen fitter, who now lives on a boat nearby. These workers' skills have proved invaluable when fitting and testing engines and constructing boat interiors. More specialist work, such as carpet fitting and decorative painting on the exterior of the boats, has to be sub-contracted to local businesses. Jon is always looking for ways to improve productivity and recently he asked a business consultant to carry out a work study of the boat building part of the business. 40

At Saltham Wharf, one full-time and three part-time flexible workers are employed to manage the moorings and clean and maintain the hire boats. The demand for narrowboats for holiday hire is highly seasonal and each year the season can be cut short, particularly when the BWB closes stretches of canals for maintenance between November and March. TTNC is also facing increased competition in this sector of its market, as three new hire companies have set up along the canal within 15 miles of TTNC's hire base at Saltham Wharf during the last five years. 45

The external environment has a significant impact on TTNC. Demand for hire boats and, more especially, new narrowboats, is affected by the state of the economy. Economic growth in recent years has meant demand in both parts of the business is high. Jon also identified rising house prices in the area as adding to demand as more people are choosing to buy a narrowboat to live on. Health and safety is important in boat construction and all new boats need safety certificates and licenses from the BWB before being permitted to be used on canals. Waste from boats is also an issue, as the waterways cannot be polluted. Many new boats are also now fitted with solar panels and mini-wind turbines to help generate energy. 50 55

TTNC is planning to split the business into its two parts; separating the boat building at Bumper's Farm from the narrowboat hire, moorings and restaurant business at Saltham Wharf. Jon and Richard may even consider selling the hire part of the business. Jon is particularly keen to further develop the boat building and has produced the following table of figures to support his proposed expansion. 60

Table 1: Comparative figures for cost and output for the current and proposed boatyard*

	Current boatyard	Proposed new boatyard
Overheads	£75 000	£180 000
Direct cost	@ £1500 per foot = £90 000	Reduction of 10%
Price charged to customers	@ £1750 per foot = £105 000	Reduce by £100 per foot
Capacity	8	20
Breakeven	5	?

*(Based on a typical 60 foot narrowboat)

Answer **all** questions.

- 1 (a) Analyse **two** benefits to TTNC of having a multi-skilled workforce. [6]
- (b) Analyse **two** ways work study might help to improve productivity at TTNC. [6]
- (c) Evaluate how changes in the external environment might affect operations at TTNC. [16]
- 2 (a) Using the figures in Table 1, calculate the number of "typical 60 foot narrowboats" TTNC would have to construct in the proposed new boatyard to breakeven. [4]
- (b) Discuss the **operational** implications for TTNC of increasing its capacity from eight to 20 boats per year. [10]
- (c) Evaluate the implications to TTNC of splitting operations into two separate businesses (lines 58–59). [16]

