

Context – B & R Engineering Ltd

James Broadfield founded Broadfield Engineering, just outside Birmingham, in 1946. In 1962, Paul Rose joined the flourishing business as a partner and it was renamed B & R Engineering. It is near to its main customers, the Midland car industry and its raw material suppliers, the steel industry, making this an ideal location.

In 1984, Paul's son, Andrew, joined the business straight from school at 16. Today, following the retirement of both James and Paul, Andrew is the Managing Director and sole shareholder of B & R Engineering Ltd at its new bigger factory also just outside Birmingham.

B & R Engineering Ltd specialises in the manufacture of machine press tools and prototype parts. Its main customers are component companies that produce components, such as gear boxes, clutches and brake assemblies, for the motor car industry nationally and internationally (see chart).

B & R Engineering Ltd employs a Works Manager, Accountant, 5 machine tool makers, 3 CNC operators, 1 workshop technician and 1 part-time office clerk.

Specialist machine press tool making is in a highly competitive worldwide market. In recent years, many British companies have looked to the Far East, China and Korea, to purchase their machine press tools but some companies are returning to manufacturers in the UK.

B & R Engineering Ltd has invested heavily in CAD/CAM using American software which has been specially developed for its needs. It believes in and operates TQM.

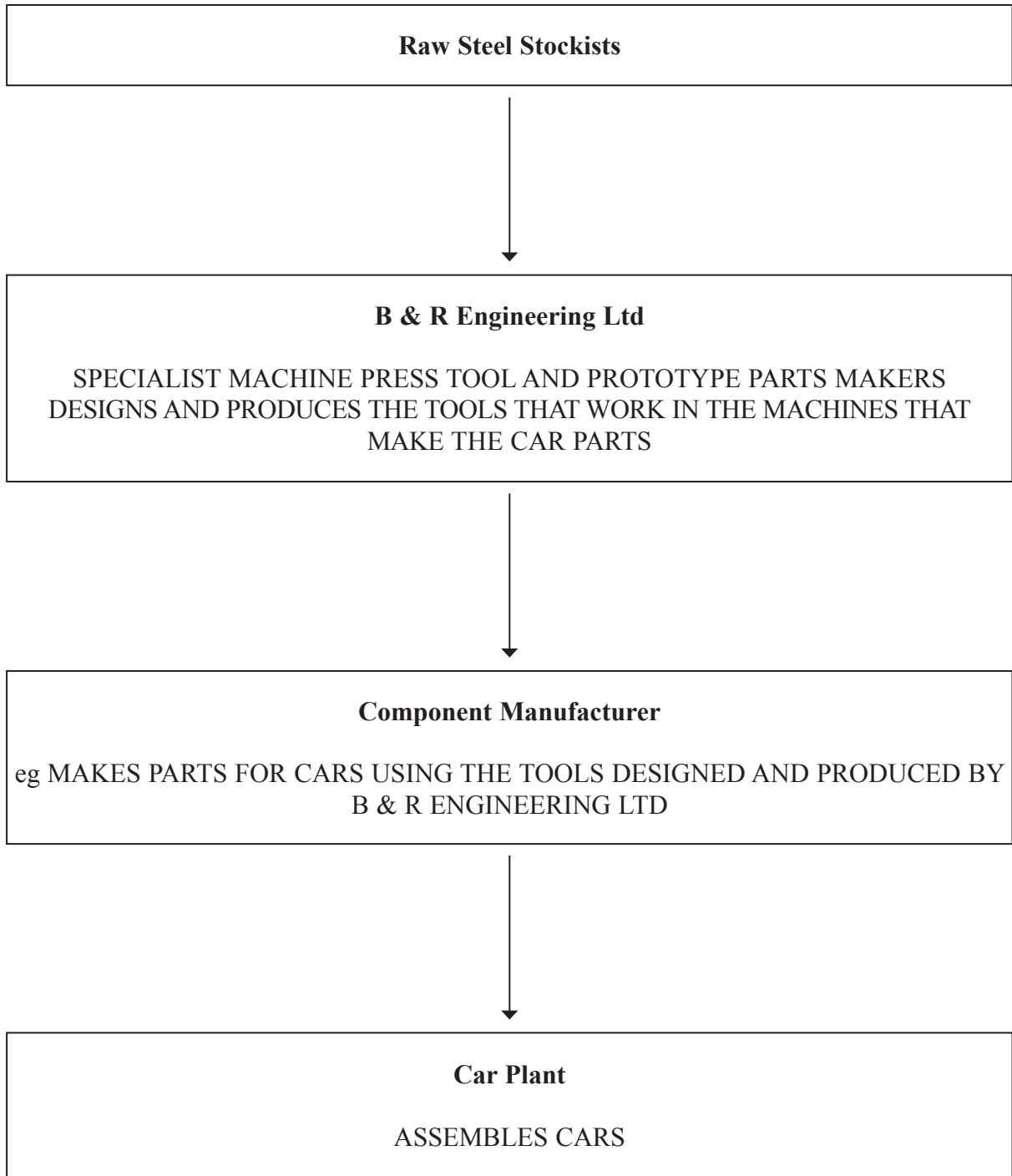
Its mission statement is – 'to become a market leader by continuous investment in the most advanced technology in the world.' It has a 20-year plan to achieve this aim through the objectives of increasing profits and growth of its market share.

Andrew Rose says: "We have very high staff retention and while this is partly due to the good salaries paid, a lot of this is down to our approach to the business. We believe that our staff share our values and are proud of the quality of their work. This is very important because without their support we would not be as successful as we are. We are one of the quiet little businesses just getting on with things. Our success is based on successfully marrying new technology with a happy workforce".

B & R Engineering Ltd tries to attract well qualified machine tool makers. It offers apprenticeships and sponsorship as well as attending graduate job fairs.

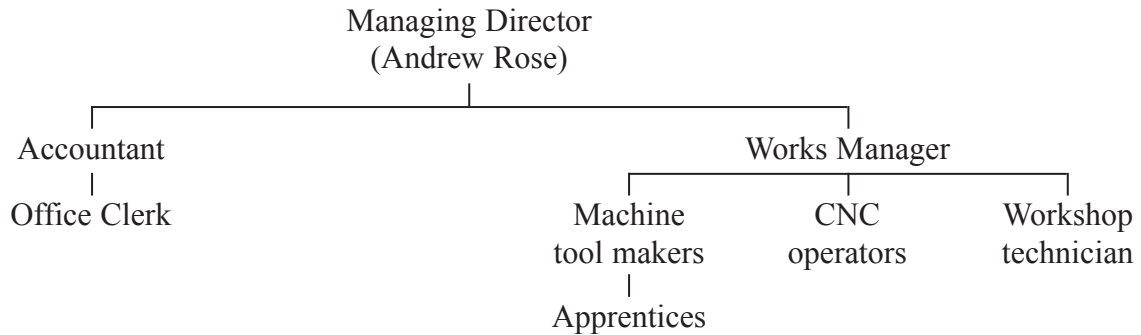


The following chart shows where the business fits into the chain of production for the car manufacturing industry.



Answer ALL the questions.

1. The organisation chart for B & R Engineering Ltd is shown below.



(a) Using information from this chart, define the following terms.

(i) Hierarchy.

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(2)

(ii) Delegation.

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(2)

The Works Manager writes the job advertisements for new factory employees.

(b) Analyse **ONE** way the Sex Discrimination Act will influence the Works Manager when writing the job advertisement.

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(2)



Andrew and the Works Manager need to recruit well qualified machine tool makers.

(c) How will the following help Andrew and the Works Manager when recruiting these employees?

(i) Job descriptions.

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(2)

(ii) Interviews held at the factory.

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(3)

Some B & R Engineering Ltd employees attend training courses in order to know how to use the specialist CAD/CAM software made for the company.

(d) Discuss the likely effects on B & R Engineering Ltd of sending some employees on these training courses.

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(4)

(Total 15 marks)

Q1

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2. B & R Engineering Ltd uses job production to make specialist machine press tools.

(a) Why is job production used in this situation?

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(3)

The machine press tools are sold to the motor car industry, which uses flow (mass) production methods. These tools are advertised on leaflets that are produced in batches by a local printer.

(b) (i) Outline the differences between **batch** production and **flow** (mass) production.

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(ii) Why is flow production an appropriate method for making motor cars?

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B & R Engineering Ltd uses a Just-in-Time (JIT) system for the raw materials they use.

(c) Consider **ONE advantage** and **ONE disadvantage** to B & R Engineering Ltd from using JIT.

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(Total 15 marks)

Q2

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3. At present, B & R Engineering Ltd makes specialist machine press tools. Andrew is thinking of buying second-hand machine tools, reconditioning (repairing and updating) and then selling them.

Andrew plans to carry out primary (field) market research.

- (a) (i) What is meant by **primary market research**?

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- (ii) How can primary market research help Andrew decide whether to buy and recondition the second-hand machine tools?

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Andrew has been given information that shows the following trends.

Compared with two years ago:

Trend 1 CAD/CAM machines are coming down in price

Trend 2 some British companies that had switched to buying machine press tools from overseas manufacturers are starting to buy more from British suppliers.

(b) Analyse how Trend 1 and Trend 2 are likely to affect B & R Engineering Ltd.

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The business objectives of B & R Engineering Ltd include increasing its profits and growth of its market share.

(c) Referring to the context, examine **TWO other** suitable business objectives for this company.

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Q3

(Total 15 marks)

4. B & R Engineering Ltd advertises its products. It also advertises for new employees.

(a) How will advertising B & R Engineering Ltd's products differ from advertising for new employees?

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Andrew plans to buy some new CAD/CAM equipment. The software needs updating to run on this new equipment, and staff training will be necessary. Expected costs are as follows.

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CAD/CAM equipment	75 000	
Updating software	5 000	
Training costs	1 500	
	<u>81 500</u>	

Andrew has two sources of finance available. He can invest more of his own money as additional capital or take out a medium-term bank loan.

(b) Consider which source of finance Andrew should use in this situation.

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Q4

(Total 15 marks)

Quality of Written Communication: 3 marks

TOTAL FOR PAPER: 63 MARKS

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