

## Strategic Management Accounting

### Question 1

Max Bikes Ltd manufactures three products, a motorised scooter, a quad bike and a motor bike. The company currently operates a standard absorption costing system, and budgeted information for next year is provided below:

	Motorised Scooter	Quad Bike	Motor Bike	Total
	£000's	£000's	£000's	£000's
Sales revenue	7,000	24,000	19,000	50,000
Direct material	1,540	5,280	4,180	11,000
Direct labour	630	2,340	1,530	4,500
Fixed production overheads	2,800	9,600	7,600	20,000
Gross profit	2,030	6,780	5,690	14,500

The fixed production overheads are currently absorbed based on a percentage of sales revenue.

The newly appointed finance director believes the current system of assigning fixed production overheads to product costs are not suitable and has proposed using activity-based costing for planning and performance management purposes. He has asked the management accountant to identify the main activities performed and their associated cost drivers and overhead costs. This information is provided below:

Activity	Cost Driver	Production Overheads (£000's)
Manufacturing scheduling	Number of orders	450
Material handling	Number of parts	4,774
Assembly	Assembly time	9,010
Testing	Number of units	4,480
Other	Machine hours	1,286
		20,000

Further details for next year have also been ascertained as follows:

	Motorised Scooter	Quad Bike	Motor Bike
Budgeted Production (units)	10,000	12,000	6,000
Average number of units per order	5	3	2
Number of parts per unit	40	70	50
Assembly time per unit (hours)	5	10	7
Machine hours per unit	4.075	5.9	8.2

## REQUIRED

- (a) Calculate the total gross profit for each product using the proposed activity-based costing method.

[12 marks]

- (b) Critically discuss why the gross profit figures calculated in part (a) above differ with those calculated under the current absorption costing system. Your discussion should also include an explanation on how Max Bikes Ltd can use the information obtained from the activity-based costing system for cost and performance management. (maximum of 600 words).

[13 marks]

[TOTAL 25 MARKS]

Activity	Cost Driver	Production Overheads (£000's)	Cost Driver Quantity	Cost Driver Rate (£)
Manufacturing scheduling	Number of orders	450	9,000	50
Material handling	Number of parts	4,774	1,540,000	3.1
Assembly	Assembly time	9,010	212,000	42.5
Testing	Number of units	4,480	28,000	160
Other	Machine hours	1,286	160,750	8
		20,000		

<u>Overheads allocation</u>	<u>Motorised Scooter</u>	<u>Quad Bike</u>	<u>Motor Bike</u>	<u>Total</u>
	£	£	£	£
Manufacturing scheduling	100,000	200,000	150,000	450,000
Material handling	1,240,000	2,604,000	930,000	4,774,000
Assembly	2,125,000	5,100,000	1,785,000	9,010,000
Testing	1,600,000	1,920,000	960,000	4,480,000
Other	326,000	566,400	393,600	1,286,000
Total	5,391,000	10,390,400	4,218,600	20,000,000

<u>Profit Statement -ABC</u>	<u>Motorised Scooter</u>	<u>Quad Bike</u>	<u>Motor Bike</u>	<u>Total</u>
	£000's	£000's	£000's	£000's
Sales Revenue	7,000	24,000	19,000	50,000
Direct Material	1,540	5,280	4,180	11,000
Direct Labour	630	2,340	1,530	4,500
Production Overheads	5,391	10,390	4,219	20,000
Gross Profit	(561)	5,990	9,071	14,500

### 3(b)

#### Absorption

	<u>Motorised Scooter</u>	<u>Quad Bike</u>	<u>Motor Bike</u>	<u>Total</u>
	£000's	£000's	£000's	£000's
Fixed production overheads	2,800	9,600	7,600	20,000
Gross profit	2,030	6,780	5,690	14,500
Gross profit %	29%	28%	30%	29%

#### ABC

Production Overheads	5,391	10,390	4,219	20,000
Gross Profit	(561)	5,990	9,071	14,500
Gross Profit %	-8%	25%	48%	29%

### Marking based on quality and relevance of answers.

#### A few key points that students should elaborate on:

- Under the traditional absorption costing system each of the products was making a very similar gross profit margin of around 29%. However, under the activity-based costing system, the motorised scooter is now shown to be loss making and the motorbike is now making a significantly higher gross profit margin at 48%. The gross profit margin for the quad bike has declined slightly from 28% to 25%.
- Under the traditional absorption costing system, production overheads were charged to products based on sales revenue. This meant that the motorised scooter, which has a relatively low proportion of the total sales revenue (14%) was charged a relatively low level of fixed production overheads. When the activity based costing, system is used and the actual consumption of activities is considered motorised scooters are charged significantly more production overheads than before.
- Whilst the motorised scooter has the lowest number of cost drivers for most of the activities it also has a relatively lower selling price than the other products.
- The highest fixed overhead cost is assembly time, accounting for nearly 50% of the total, and while it took relatively less time when compared with the other products, it did require significantly more time for all of the units produced (50,000 hours vs 42,000 hours) when compared with motor bikes, and hence, should be allocated more costs.
- Similarly, every unit had to be tested to ensure that it is fully functional, and given the higher number of units for motorised scooters vs motor bikes, a greater proportion of 'testing costs' were assigned to it
- Information about the cost of activities enables the company to focus on those activities with the highest costs and to determine whether they can be eliminated or performed more efficiently
- Biking ltd can take action to reduce or eliminate the non-value-added activities.
- Biking ltd can try to reduce the number of cost drivers for each product through process or product redesign.
- The cost driver rate can also be used as a measure of cost efficiency.