

F2.4 Management Accounting

Model Answers

July 2019

QUESTION 1

a) Calculation of unit cost under absorption costing and ABC principles

Using a conventional absorption costing approach the absorption rate for overheads based on direct labour hours or machine hours is: $\$30,800 \div 440 \text{ hours} = \$70 \text{ per direct labour}$. The product costs would be as follows.

	Capital screen	Boise mini speaker	Heusen key board	Arial earphones	Total
	\$	\$	\$	\$	
Direct material	200	800	2,000	8,000	
Direct labour	50	150	500	1,500	
Overheads	700	2,100	7,000	21,000	
	950	3,050	9,500	30,500	44,000
Units produced	10	10	100	100	(1 marks)
Cost per unit (1 marks)	\$95	\$305	\$95	\$305	

Using activity based costing, it will be assumed that the number of production runs is the cost driver for set-up costs, expediting and scheduling costs and materials handling costs; and that machine hours are the cost driver for short-run variable costs. Product costs per unit are as follows

	Capital screen	Boise mini speaker	Heusen key board	Arial earphones	Total
	\$	\$	\$	\$	
DM (No change)	200	800	2,000	8,000	
DL No change	50	150	500	1,500	
Short-run variable overheads (W1)	70	2,10	700	2100	
Set-up costs (W2)	1,560	1,560	3,900	3,900	
Expediting, scheduling costs (W3)	1,300	1,300	3,250	3,250	
Materials handling costs (W4)	1,100	1,100	2,750	2,750	
	4,280	5,120	13,100	21,500	44,000
Units produced	10	10	100	100	
Cost per unit (1 marks)	\$428	\$512	\$131	\$215	

Workings

1. $\$3,080 \div 440 \text{ machine hours} = \$7 \text{ per machine hour}$ (1 marks)
2. $\$10,920 \div 14 \text{ production runs} = \$780 \text{ per production run}$ (1 marks)
3. $\$9,100 \div 14 \text{ production runs} = \$650 \text{ per production run}$ (1 marks)
4. $\$7,700 \div 14 \text{ production runs} = \$550 \text{ per production run}$ (1 marks)

b) Difference between the cost units

Summary (1 mark for each product)

Product	Cost per unit under absorption costing	ABC unit cost	Difference per unit	Difference in total
	\$	\$	\$	\$
Capital screen	95	428	+333	+3,330
Boise mini speaker	305	512	+207	+2,070
Heusen key board	95	131	+36	+3,600
Arial earphones	305	215	−90	−9,000

c) Benefits and criticisms of ABC

The complexity of manufacturing has increased, with wider product ranges, shorter product life cycles and more complex production processes. ABC recognizes this complexity with its multiple cost drivers. In a more competitive environment, companies must be able to assess product profitability realistically. ABC facilitates a good understanding of what drives overhead costs.

In modern manufacturing systems, overhead functions include a lot of non factory floor activities such as product design, quality control, and production planning and customer services. ABC is concerned with all overhead costs and so it can take management accounting beyond its 'traditional' factory floor boundaries.

It has been suggested by critics that activity based costing has some weaknesses.

Cost apportionment may still be required at the cost pooling stage for shared items of cost, such as rent, rates and building depreciation. Apportionment can be an arbitrary way of sharing costs. A single cost driver may not explain the cost behaviour of all items in a cost pool. An activity may have two or more cost drivers. Unless costs are 'driven' by an activity that is measurable in quantitative terms, cost drivers cannot be used. What drives the cost of the annual external audit, for example?

There must be a reason for using a system of ABC. ABC must provide meaningful product costs or extra information that management will use. If management is not going to use ABC information for any practical purpose, a traditional absorption costing system would be simpler to operate and just as good. The cost of implementing and maintaining an ABC system can exceed the benefits of 'improved accuracy' in product costs. Implementing ABC is often problematic due to problems with understanding activities and their costs. ABC is an absorption costing system. Absorption costing has only limited value for management accounting purposes. (1 mark each for four benefits and 1 mark each for four drawbacks, up to a maximum of 8 marks)

d) A sunk cost is a cost that an entity has incurred, and which it can no longer recover. Sunk costs should not be considered when making the decision to continue investing in an ongoing project, since these costs cannot be recovered. For example, once rent is paid, that dollar amount is no longer recoverable. (2 marks)

The investor's opportunity cost represents the cost of a foregone alternative. If you choose one alternative over another, then the cost of choosing that alternative becomes your opportunity cost. ... For example, there is an opportunity cost of choosing to finance a company with debt over issuing stock. (2 marks)

Historical cost is the original cost of an asset, as recorded in an entity's accounting records. ... For example, the historical cost of an office building was \$10 million when it was purchased 20 years ago, but its current market value is three times that figure. (2 marks)

Total 25 marks for question 1

QUESTION 2

PART A

a) Differences between management accounting and financial accounting

Management accounting

No legal requirement to prepare management accounts.

Management accounting has an internal focus. It is designed to assist company managers in planning, controlling and decision-making activities.

Management accounting information may focus on many areas as required by the company.

The layout and substance of management accounting information is decided by company management.

Management accounting information may include both monetary and non-monetary information.

Management accounting may be used for planning purposes and also for presenting information on past activities.

Management accounting information may be prepared daily, monthly, weekly etc. as required.

Financial accounting

There is legal requirement.

Financial accounting has an external focus. It is designed to provide information to users who are external to an organisation.

Financial accounting focuses on the organisation as a whole.

Financial accounting information is presented in a format prescribed by law and by accounting standards.

Most financial accounting information is expressed in monetary terms.

Financial accounting information provides information on what has happened in the past.

A detailed set of financial statements for a business is produced annually and in some cases less detailed financial information may be produced semi annually.

(1 mark per difference up to a maximum of 4 marks)

b) Role of a management accountant

The role of the management accountant As part of his/her role the management accountant provides information to facilitate a range of activities including planning and controlling, decision making, performance measurement and the allocation of costs between cost of goods sold and inventories.

Planning and controlling

To carry out their roles effectively the various managers in a business require information to assist them in planning and controlling the operations of the organisation. Planning involves translating goals and objectives into the specific activities and resources that are required to achieve the goals and objectives. The management accountant is involved in the preparation of both long term and short term plans. Budgets are short-term plans that are prepared in more detail than longer term plans. Control involves the process of ensuring that actual outcomes conform to planned or expected outcomes. Budgets may be used to support the controlling of activities by providing a measure against which actual performance may be compared.

Decision making

Managers also require information to assist them with routine and non-routine decision making. Routine decisions relate to issues such as assessing the profitability of different segments of an organisation in terms of products, services and customers. Non-routine decisions are made infrequently and may relate to strategic issues such as the introduction of new products or services.

The information provided by the management accountant to support these decisions may be financial or non-financial in nature, depending on what best meets the needs of management. In many instances cost information accumulated by the management accountant is relied upon to inform decisions, and therefore it is critical that such information is of a high quality.

Performance measurement

The management accountant generates periodic reports, which compare actual performance to plan, and presents these to managers enabling them to determine if operations are proceeding as expected and to identify where corrective action may be required. These periodic reports also allow managerial performance to be evaluated and provide incentives for managers to try to achieve favourable results.

Allocation of costs between cost of goods sold and inventories

It is important to allocate costs to products as accurately as possible in order to establish the profitability of the business. The management accountant ensures that cost information is collected and correctly allocated to cost of sales or inventories as appropriate. The management accountant may use techniques such as activity based costing to allocate overheads to products, or the first in first out (FIFO) method to value inventory.

(1 mark per valid point up to a maximum of 6 marks)

c) Factors that influence demand for management accounting information

Management accounting has grown and become more important as a result of the following factors:

Increased competition

It is now more important than ever to have accurate cost information as companies are competing not just in terms of product price but also based on other factors such as product quality and customer service. Access to accurate product cost information allows companies to focus attention away from pricing to other significant factors.

Global marketplace

With improvements in transportation and communication the market for customers has expanded and so too have company operations. Management accounting enables cost information to be provided and analysed across divisions, segments and countries to support the overall activities of the company.

Focus on customer satisfaction

Customers have become more discerning and it is now more important to have pertinent information relating to customers and their profitability to a business. Management accounting allows companies to use cost information and techniques to obtain data on the cost of providing services to customers.

New management approaches

To facilitate focusing on customer satisfaction, companies are adopting a variety of new management approaches such as Total Quality Management, Value Chain Analysis and Benchmarking. In addition, companies are adopting a philosophy of continuous improvement and promotion of employee empowerment. Consequently, more detailed information regarding organisational performance is available.

Changing product lifecycles

Due to intense competition and changing customer needs product lifecycles are becoming shorter. Companies need to be ready and able to introduce new products quickly and management accounting can facilitate this process by providing essential information for costing and decision making.

Changing cost structures

In the past materials and labour comprised the highest product costs but this has changed, overheads are now more significant and need to be carefully monitored. Management accounting facilitates this monitoring and control of costs.

Information technology

Over the past few decades significant technological change has occurred in production design and technology, and in the delivery of products and services to customers. There have also been substantial changes in information preparation, processing and dissemination; reports and analyses that previously took days to produce may now be obtained at very short notice, sometimes in minutes. Hence, a greater volume of more detailed information is required and may be prepared and disseminated quickly.

(1 mark per valid point up to a maximum of 4 marks)

Total 15 marks for question 2 part a

PART B

a) Main purpose of budgeting

The main purposes of budgeting are as follows:

- Co-ordination: there is better co-ordination of the various functions of the business as managers examine the operations of their departments relative to other departments.
- Communication: the budgeting process requires that all levels of the organisation are informed of long range plans, providing and receiving feedback throughout the budgeting process.
- Motivation: a budget, if it is realistic and prepared with the participation of managers, provides a standard of performance that managers will strive to achieve. However, if a budget is set by higher level managers and imposed on lower level managers it may be resisted and cause dissatisfaction and demotivation.
- Control: a budget assists managers in controlling the activities for which they are responsible by allowing them to compare actual performance with expected or budgeted performance. Any significant differences may then be investigated and inefficiencies highlighted for remedial action.
- Performance evaluation: a manager's performance may be evaluated by reference to how well budgeted results are achieved. Budgets thus allow managers to gauge how well they are meeting targets that they have been involved in setting.

(1 mark per point up to a maximum of 6 marks)

b) Functional budgets prepared for manufacturing companies

The budgets that would be prepared for a manufacturing company In a manufacturing environment it is likely that the following budgets would be prepared:

- Sales budget: this is the starting point as it is based on what the company expects to sell in the year ahead. It is prepared showing sales in units and in value terms.

- Production budget: this budget is prepared in unit terms only and aims to ensure that production is sufficient to cover sales and planned inventory levels for the year ahead.
- Direct materials usage budget: this budget is based on the production budget and shows the materials required to meet budgeted production levels. It is expressed in units and cost terms.
- Direct materials purchase budget: this budget shows the quantity of materials that must be purchased to meet budgeted production levels and planned materials inventory levels. It shows material quantities and costs.
- Direct labour budget: this budget is based on the production budget and shows the labour hours required to achieve production levels and also the budgeted cost of that labour.
- Factory overhead budget: comprises fixed and variable factory overheads. Budgeted fixed factory overheads for the year ahead are included as are variable factory overheads based on production levels.
- Selling, distribution and administration budgets: these are prepared by the managers of the respective departments and show the budgeted overhead costs for the year ahead.
- Master budget: when all of the other budgets have been prepared they are then summarized into a budgeted profit and loss and balance sheet, which gives an overview of the expected performance for the year ahead.

(1 mark per point up to a maximum of 8 marks) (Format and presentation 1 mark)

Total 15 marks for question 2 part b

QUESTION 3

a) Target cost gap

The target cost gap is the estimated cost less the target cost. Increasing the selling price will not close the cost gap. In a system of target costing, the total target cost is split into broad cost categories, such as development, marketing and manufacturing. Then the manufacturing target cost per unit is split up across the different functional areas of the product. The product is designed so that each functional product area can be made within the target cost. If a functional product area cannot be made within the target cost, so that a cost gap exists between the currently achievable cost and the target cost, the targets for the other areas must be reduced, or the product redesigned or scrapped. The product should be developed in an atmosphere of continuous improvement using value engineering techniques and close collaboration with suppliers to enhance the product (in terms of service, quality, durability and so on) and reduce costs. (1 mark per valid point up to a maximum of 3 marks)

b) Target cost of product

	\$
Target selling price	600
Target profit margin (30% of selling price)	180
Target cost (60.00 – 18.00)	420
Projected cost	458.9

The projected cost exceeds the target cost by \$3.89. This is the target cost gap. The company will therefore have to investigate ways to reduce the cost from the current estimated amount down to the target cost. (10 marks)

c) Characteristics of services that make it difficult to use target costing

A target cost for a product is a cost for an item whose design and make-up is specified in exact detail in a product specification. A target cost is the cost for this detailed specification. Services are much more difficult to specify exactly. This is due to some of the characteristics of a service.

Intangibility

Some of the features of a service cannot be properly specified because they are intangible. What exactly does a customer receive, for example, when they go to a cinema? When services are provided by a human, the quality of the personal service can be critically important for the customer, but this is difficult or impossible to specify. When services do not have any material content, it is not possible to reduce costs to a target level by reducing material costs. In comparison, reducing material costs can be an effective approach to target costing for products.

Variability/homogeneity.

A service can differ every time it is provided, and a standard service may not exist. For example, repairing a motor car, providing an accountancy service, or driving a delivery truck from London to Paris are never exactly the same each time. When services are variable, it is possible to calculate an estimated average cost, but this is not specific and so not ideal for target costing.

(1 mark per valid point up to a maximum of 7 marks)

Total 20 marks or question 3

QUESTION 4

a) Material price planning variance

		\$
Original standard price of materials per m2		5.0
Revised standard price		6.0
Material price planning variance per m2		1.0 (A)
Actual quantity used/purchased (248,000 + 95,000)	343,000	
Material price planning variance in \$	\$343,000 (A)	

b) Material price operational variance

		\$
Revised standard price of materials per m2		6.0
Actual price paid		5.8
Material price operational variance per m2		0.2(F)
Actual quantity used/purchased (248,000 + 95,000)	343,000	
Material price operational variance in \$	\$68,600 (F)	

c) Material usage planning variance (This applies to pillow cases only)

		M ²
180,000 pillow cases should use: original standard (× 0.5)		90,000
180,000 pillow cases should use: revised standard (× 0.55)		99,000
99,000v		
Material usage planning variance in m2		9,000 (A)
Original standard price per m2		\$5
Material usage planning variance in \$		\$45,000 (A)

d) Material usage operational variance (This applies to pillow cases only)

		M ²
180,000 pillow cases should use: revised standard (× 0.55)		99,000
120,000 sheets should use (× 2)		<u>240,000</u>
Together they should use		339,000
They did use		343,000
Material usage operational variance in m2		4,000 (A)
Original standard price per m2		\$5
Material usage planning variance in \$		\$20,000

e) Performance of the production manager for the month of November

The production manager is not responsible for setting the standard costs and is therefore not responsible for any planning variances. He is responsible however for the operational variances (including the price variance, since he has responsibility for materials purchasing).

The manager is also not responsible for the production shortfall of 10,000 pillow cases in the month, since this was caused by the change in customer requirements. However, this did not affect the materials variances. (It is much more likely to have affected labour efficiency or idle time variances in the month.) Assessing performance on operational variances only, it would appear that the production manager has performed well. Although the expected material price rose to \$6 per m², he was able to purchase materials at \$5.80 per m², which 'saved' \$68,600 in purchase costs.

The materials usage operational variance was adverse in total, by 4,000 m². The usage of materials on bed sheets (248,000m²) was more than the expected 240,000m² for 120,000 sheets produced (120,000 × 2). On the other hand, materials usage for pillow cases (95,000m²) was 4,000 m² less than the expected usage of 99,000 m² for the 180,000 pillow cases produced (180,000 × 0.55). The production manager should therefore be asked to explain the adverse usage of materials in producing the bed sheets.

The large favorable variance for materials usage on pillow cases should also be explained, to make sure that the pillow cases are being made properly to the new standard requirement.

Marking scheme

Part a

For each variance : 3 marks

Total 12 marks

Part b

Responsibility for operational variances but not planning variances	1
comments on production volume, but not relevant to materials variances	1
comments on price operational variances	2
Comments on total operational usage variance	2
Comments on usage variances for bed sheets and pillow cases individually	2
Maximum 8 marks	

Total marks 20 marks for question 4

QUESTION 5

a) Introduction of an ERP system in Shein

An ERP system integrates the information required by all functions within an organisation into a single system, so that everyone uses the same data and information. A properly-designed system will also provide for continual updating, so that the information it contains is both current and accurate. It should also enable employees who are away from the company's premises to have immediate access to the system, both to input data and to obtain information. It appears that a large proportion of the company's employees are out of the office for much of the time, speaking with potential customers and visiting their premises, so it will be important for them to be able to easily access up-to-date information about Shein's performance.

Shein also needs to be flexible and responsive to its customer's demands. Its retail customers are not particularly loyal to their suppliers; instead they are looking for quick delivery and low prices, as well as items of clothing that will sell well. By integrating its manufacturing and inventory systems, the ERPS should help Shein increase the flexibility and efficiency of its production, which are characteristics the retailers value.

An ERP system should enable Shein to respond to customer requests promptly. The sales representative can access the inventory files to check whether inventory is available for immediate delivery. If there is insufficient inventory, the system should be able to provide an estimate of when the items can be produced and delivered. The system should also hold information about the current state of work in progress, so that information about delivery dates for these items can also be given to retailers. The customer can therefore be given reliable information about availability and delivery.

If a retailer asks for a special batch of an item, the Shein representative should be able to quickly obtain a price quotation from the accounts data on the IT system. Orders from retailers can be fed into the system prompting automatic decisions about producing new items. The system may also provide information for predicting future orders so that items can be produced in anticipation of orders – allowing the company to deliver orders more quickly when they are eventually obtained.

Data on production and delivery costs should be recorded immediately, so that up-to-date product costs can be measured and reported. Sales prices can be adjusted as appropriate in response to changing costs. Shein has some retail outlets of its own. The checkout function in each of these outlets can be linked to the ERP system, providing immediate information about sales in each retail outlet. The sales information can be used to predict future order quantities for each of the outlets, and the managers of each outlet should also be able to input orders to the central system. By linking checkout to order and delivery systems, the retail outlets should be kept better stocked to meet customer demand.

In summary, an ERP system should provide an integrated IT system that allows for input from different locations, including remote input from representatives, and for the provision of up-to-date information about inventory, work-in-progress, sales demand for different products, sales orders and costs. In a competitive environment, this should help Shein to respond immediately to customer requests and queries, and so provide a better service to the customer and (hopefully) secure a higher volume of sales.

By integrating the IT system for the company as a whole, the ERP will provide access for many employees to data that was previously unattainable that they can use to perform their jobs more effectively. (1 mark per valid point, up to a maximum of 13 marks)

b) Nature and purpose of strategic management accounting

Strategic management accounting involves the provision of information to management for strategic decision-making purposes. Strategic decision-making is concerned with achieving strategic objectives over the long term. It is therefore largely forward-looking in nature, involving targets and forecasts of what will happen. The information required for strategic decisions comes from both external and internal sources, and is not derived from a traditional cost accounting system.

Competitor analysis is one method or technique that comes within the definition of strategic management accounting. Shein operates in a competitive environment, and to remain successful it needs to establish a competitive position in the market and offer its products to customers in a way that competitors cannot match. To do this it needs to understand the strengths and weaknesses of major competitors, and monitor their strategies alongside its own.

An IT system to support competitor analysis can help management to monitor competitors more closely and respond to their initiatives more quickly. It should be able to provide information about competition in various markets, for example, that managers can use to drill down for more detailed information about specific competitors, sales regions or products. The CEO may be correct in stating that an IT system will help to improve decision-making, but the value of the IT system will depend on various factors. The quality of the IT system will only be as good as the information that it provides. The information requirements of management need to be established, so that the system is capable of providing them with the information they need. The information should also be reasonably easy to obtain, whether from published financial accounts, press releases, advertising and sales promotion materials, word-of-mouth or other sources. It should be stored on file in a form that makes it easy to access. The information should also be valuable, in the sense that management should be able to use it in a way that helps them to make better strategic decisions to improve the competitive position of Shein.

An information system for strategic decision-making will take time to establish. Therefore, before an IT system is designed, the actual strategic information needs of management must be established. However, there remain aspects of Shein's strategic decision-making which the IT system will not be able to influence. For example, the Board will need to identify the risk appetites of different stakeholder groups such that any strategic options chosen will be acceptable to the key stakeholders. (1 mark for each valid point up to a maximum of 7 marks)

Total 20 marks for question 5