Chartered Institute of Management Accountants

CIMA

OPERATIONAL CASE STUDY PRACTICE EXAM ANSWERS

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Section 1:

Report to Mr Harris and Mr Webb

Re: Possible change from traditional absorption costing to activity based costing

Purpose of Report:

This report will cover the following:

- How an activity based costing (ABC) system differs from a traditional absorption costing system.
- The advantages and disadvantages to MW of using ABC.
- The implications of using ABC on MW's costing information.
- The potential difficulties we might face in changing to activity based costing.

How ABC differs from a traditional absorption costing system

The key difference between an ABC system and an absorption costing system is the way in which the fixed overhead cost is included within the standard cost per bag of product. It is important to note that the treatment of direct material, direct labour and variable overhead is the same in both.

At the moment, under absorption costing total fixed overheads and total labour hours are estimated at the start of the year and these are used to calculate an absorption rate for fixed overhead on a per direct labour hour basis. This is then applied to CHICKEN and SHEEP on the basis of the number of direct labour hours that each product uses to establish the fixed overhead cost per bag. Therefore under absorption costing we assume that there is a direct link between the overhead being incurred and the amount of direct hours used in production, in other words that production overhead costs are driven by the direct labour hours used in production.

Under ABC, instead of assuming that overhead costs are driven by direct labour hours, there is an assumption that costs are driven by activities which are known as cost drivers. For each activity or cost driver there will be a cost pool which is simply the total overhead cost generated by that activity.

As you can see from the costing schedule, in the case of MW the following cost pools have been identified – machinery set up costs, ingredients handling costs and inspection costs – as these have been identified as the key activities that generate overhead cost within our production processes. Any overhead cost that doesn't fit into one of these categories is included in other overhead. Therefore a key difference between the two systems is the way in which the actual cost information is collated and in the case of ABC broken down.

Another key difference is the way in which the total costs within these cost pools is absorbed into a unit of production. Under absorption costing total direct labour hours are used to establish an overhead absorption rate which is then used to work out the overhead cost per bag based upon the number of hours taken to produce one bag. ABC on the other hand uses the total number of activities within each cost pool to calculate an overhead absorption rate per activity for each separate cost pool.

In MW's case the activities will be number of set ups (for machinery set up costs), number of ingredients movements (for ingredient handling costs) and number of inspections (for inspection costs). The overhead cost per bag of each product is then calculated by multiplying the rate per activity with the number of activities for one bag of production.

Advantages and disadvantages for MW of using ABC:

Advantages:
ABC is likely to give us a more accurate cost per bag because our four products, being of different sizes and with different production volumes, will utilise or use overhead at different rates. This in turn means that pricing of CHICKEN, SHEEP, HORSE and GOAT will be more accurate and management decision making more meaningful.

By setting up ABC you will be able to understand more fully what drives overhead costs. By understanding the drivers of cost, we will be better placed to react and control costs.

ABC recognises that not all overhead costs are driven by production or sales volumes.

Disadvantages:
The application of ABC can be more time consuming and therefore costly because of the level of detail required. Care needs to be taken that the benefit from using it (that is, the more useful information as identified above) is not outweighed by this cost. Where production is simple and products are limited such as in our case then ABC is unlikely to be beneficial overall.

Not all overhead costs can be allocated to activity cost pools and therefore there will also be an element of overhead absorbed on a traditional basis.

Implications of using ABC on our costing information:
The application of ABC to the absorption of overheads means that more overhead is allocated to HORSE and GOAT and less to SHEEP (the difference in CHICKEN is negligible). This is because production of HORSE and GOAT must generate a greater proportion of the cost drivers. This is likely to be because as new products they will be sold and therefore produced in relatively small batches which will require a greater proportion of set ups. Additionally HORSE and GOAT have greater material content than CHICKEN and SHEEP and therefore will have generated a greater proportion of the ingredient handling costs.

The costing schedules show that if pricing decisions were based on absorption costing that potentially HORSE would be sold for less than its activity based cost. This could potentially lead to an erosion of MW's margins and therefore potentially the use of ABC will be beneficial to MW.

The costing statement for ABC shows that a significant proportion of overheads will still be allocated on a direct labour hour basis, although it's possible with more time to look into identifying cost pools and activities that this could be reduced.

Potential difficulties of changing to ABC:
The potential difficulties of changing to an activity based costing approach will include:

- Determining the cost drivers and cost pools based on real data rather than estimated data.
- Budgeting the costs for each cost pool.
- Ensuring that information can be captured regarding the usage of these cost drivers for each product.
- ABC would become more complex and timely to manage as the number of products grows in the business.

Section 2:

Email to Mr Harris:

To: Mr Harris
From: Candidate
Date: 24 June 2015

Hello Mr Harris,

Please see below my responses to your requests for information.

Recruitment
Decisions need to be made about the sources from which to recruit, at what cost and by which media. We also need to have a clear idea of the range of skills we are seeking to recruit, the level of experience, technical ability and salary we are prepared to offer.

Achieving the correct balance of response is essential as if the process generates too few applications, or too many that are unsuitable it can become very costly and time consuming.

Having given due consideration to these requirements we can use closed searches and responsive methods such as:

- Speculative applications/word of mouth, we can make our existing staff aware of the possible vacancies through the use of notice boards and asking if they are aware of anyone who may be interested

- Links to schools, colleges and universities, will require some organisation and time with presentations to students at jobs fairs.

- Recruitment agencies, which may be useful for the recruitment of broad based skills.

- Search consultants, may be useful for specific skill requirements but may be the most expensive option.

Or open searches:

- Local and national newspaper adverts, which can be costly and may not attract the required applicants.

- Adverts in the specialist press, more likely to succeed at identifying our skill requirements but more costly than general advertising.

- Employment centre adverts, cheaper will possibly produce unfocussed results.

- The organisation's website, although time will be needed to formulate the recruitment section, relatively cheap and will give wide coverage.

- Radio and TV adverts, these are relatively expensive and may produce unfocussed results.

As you have heard, the use of the organisation website as a means of recruitment has been growing in popularity both as a result of easy access and low cost, with more than 78% of organisations now potentially recruiting by this means.

The benefits and potential disadvantages of this process can be summarised as follows:

Advantages to MW
Reduced costs of recruitment, apart from design costs of adverts, which we may be able to achieve in house, coverage on the internet is very cost effective.

Improved organisation image if website is well designed, this is an opportunity to explain fully that we are a growing company, with good future prospects.

Reduced administration, once on the web very little maintenance should be required.

Shorter recruitment cycle, the response time will be reduced, but important here to specify the requirements accurately, and filter early in the process.

Wider pool of applicants, including overseas candidates can be expected to apply, thus enhancing the likelihood of finding required skills.

Easier process for candidates to complete, it is relatively simple to apply on-line.

Disadvantages to MW
Too many unsuitable applicants, because of the relative ease and speed mentioned above, the process may attract many unsuitable applications which will take time to review.

Technical problems with the website, it is important that the website is technically functional.

Not enough information about the position or organisation, care needed with this when designing the adverts which need to contain sufficient background information about MW.
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The impersonal nature of the process, it is important to make the web site as user friendly as possible, MW must look like a pleasant place to work.

Poorly designed website may deter applicants and give them the wrong impression about MW and our ethos.

Given the various pro and cons a balanced approach of both broad website campaign associated with some more focussed closed search methods should be adopted to enable us to recruit the required skills at reasonable cost.

Impact of the acquisition of property on the future financial statements and profit of MW

IAS 16 *Property, plant and equipment* is the international financial reporting standard which governs the accounting treatment of property in the financial statements.

Initial recognition:
The property will be initially recognised at cost in the statement of financial position as a non-current asset as long as it is probable that economic benefit will flow to MW and that the cost can be measured reliably (both of these criteria are clearly met here). The cost at which the property is initially recognised will include its purchase price but also any associated professional fees. Therefore the property will have an initial value of $1,650,000, which will increase non-current assets in the statement of financial position.

Subsequent measurement:
In accordance with IAS 16, subsequent to initial recognition the property will be subject to a depreciation charge which will reduce profit much in the same way that we depreciate the plant and equipment that we currently own. One difference will be however that the property is likely to have an estimated life significantly longer than existing plant and equipment and therefore the depreciation rate will be lower.

In order to calculate the depreciable amount of the property, the land and building elements of the property need to be split as under IAS 16 land is not depreciated. We know that land is valued at £500,000 at purchase and therefore the element of the £1,650,000 that would not be depreciated would be £550,000 (=£500,000 + ((£500,000 / £1,500,000) x £150,000). Therefore the building element of the property has a cost of £1,100,000. To arrive at depreciable amount however we will need to make an assessment of any residual value and net this off. We will also need to make an assessment of useful life as well in order to calculate the depreciation.

There are a few additional points to make in respect of IAS 16 and property in respect of any subsequent expenditure, valuation and impairment.

Subsequent expenditure
If in the future we incur additional costs in respect of the property then as long as this expenditure improves the future economic benefits that the property will generate then it can capitalised and included as part of the asset value in the statement of financial position. If however, the expenditure relates to general maintenance then it will need to be treated as an expense which will reduce profit in the future.

Valuation
Under IAS 16 there is a choice of accounting policy regarding the carrying value of assets. It is possible the property could be annually re-valued to its market value. If this policy is chosen then any revaluation movement will be shown in reserves rather than impacting on profit.

Impairment
In accordance with IAS 36 *Impairment of Assets,* all assets of an entity need to be reviewed for indications of impairment annually (where impairment is defined as occurring when the carrying value of an asset is greater than its recoverable amount). Such an impairment might occur to the property value if its market value were to decline markedly. This could then potentially reduce profit in the future.

Please let me know if you need any further information.

Kind regards

Candidate

Section 3

Email to Mr Harris:

To: Mr Harris
From: Candidate
Date: 1 July 2015

RE: Budgeting queries:

The benefits of setting more formal budgets:
There would be many benefits to MW of setting up and using formal budgets which include:

Planning:
By setting detailed budgets it forces us as a management team to plan ahead and to take time out to complete the budget process. It will allow us to look into the long term as well as focusing on the short term.

Control and Evaluation:
The budget gives a benchmark against which to compare the actual results. Variance reports of the difference between budgeted and actual results can be produced which can be used to hold staff to account for inefficiencies and overspends. Such reports will also allow us to set more realistic budgets in the future which could have a knock on impact on product costing and pricing.

Co-ordination:
A more formal budget allows for the different parts of the business to be reconciled to each other. This will become increasingly important as the business expands as we might need to set up different departments to deal with sales, production and distribution. A formal plan or budget will allow each department to work together.

Communication:
Budgets can be used to communicate targets to all staff within the business. Again this is going to be increasingly important with the business expanding. We cannot expect staff to work efficiently if they are unaware of the overall plan.

The different approaches to budget setting and their appropriateness to MW:

The following are approaches that can be adopted when setting budgets:

Incremental budgeting:
This approach is where the previous year's budget is used as a base, with incremental changes made to reflect known movements in costs, prices and other factors. This is clearly not appropriate to MW for the first year but could be used once budgets are embedded as long as MW doesn't change too much in terms of number of products and scale of production.

Zero-based budgeting:
As the name suggests this approach treats the budget as a new event every year and starts the process from scratch. This forces management to re-evaluate all of the activities of the business each time a budget is set. This is likely to be the most appropriate approach for MW to take if significant expansion occurs or a large range of new products are developed.

Activity-based budgeting:
Activity based budgeting is similar to activity based costing in that it is a budget based around an activity framework. In effect an activity based budget is one where a budget is set for each of the cost pools within an activity based costing system – therefore it is only appropriate where such a costing system is used.

Types of individual budget:
The master budget is in effect the end product of the budget process and will contain:

- Budgeted income statement.
- Cash budget.
- Capital Expenditure budget.
- Budgeted statement of financial position.

In order to arrive at this a series of individual budgets will be needed which ultimately build upon each other. Examples of individual budgets and the information required to complete them are shown below:

Sales budget
Quantity (number of bags) of each product (that is CHICKEN, SHEEP, HORSE and GOAT) expected to be sold in the year.
Expected selling price per bag of product.

Production budget
Number of bags in opening inventory of CHICKEN, SHEEP, HORSE and GOAT.
Sales (from the sales budget).
Planned closing inventory in number of bags of each product.
Sales + closing inventory - opening inventory gives production in terms of bags.

Ingredient requirement budget
Opening inventory of all types of ingredient used in production in kg.
Number of kg of each ingredient required for production - using CHICKEN as an example, for each ingredient used the quantity used in production will be found by multiplying the number of kg per unit of CHICKEN by the number of CHICKEN to be produced (from the production budget).
Planned closing inventory in kg of each type of ingredient.
Production + closing inventory - opening inventory gives purchases.

Ingredient purchase cost budget
Purchases of each ingredient from the ingredient requirement budget.
Price per kg of each ingredient.
Purchases x cost per kg gives ingredient cost.

Task 4:

To: Mr Harris
From: Candidate
Date: 4 August 2015

Hello Mr Harris

Please find below my response to your email.

Why the overdraft position is so bad:
I agree that on first sight the overdraft does appear to be alarming. However, there are a number of specific reasons for this and we should not be worried that this is a permanent position because it is likely that had January been included that you would have seen MW returning to a positive cash balance.

The reasons for the overdraft and why it worsens are:

1. Production in the new factory will start on 1 October which means that ingredients need to be purchased in advance of this. From the forecast we can see that cash paid to payables increases significantly from October which reflects these purchases.

2. Other expenses (which will include labour costs) will also increase from October as production commences.

3. The first sales receipts from this production, however, will not materialise until December because these sales are made on 60 day credit terms. Indeed December will be the first month of "normal" cash flow and as you can see a positive inflow will be generated.

4. The purchase of £800,000 for plant and equipment will clearly have an impact on cash flow.

5. The dividend to be paid in September is also a factor.

Measures that MW could take to improve the overdraft position:

1. The dividend could be delayed by three months. This will clearly depend upon your need for the cash as you are the main shareholder.

2. Whilst the plant and equipment needs to be purchased in order for the factory to become operational, it might be possible to lease the assets rather than acquire them outright. This will have the benefit of spreading the cash flow over the life of the asset.

3. We could seek to negotiate different payment terms with both suppliers and the new customer. It would be advisable to have both on the same terms.

4. We could tighten up on production and ensure that we only order ingredients when required and therefore reduce our levels on inventory.

5. We could take out another loan to support the working capital investment needed for the new factory.

Marketing:
A key aspect with regard to marketing is that the customers of MW are businesses in their own right, some key points regarding the differences between B2B and consumer marketing is as follows:

1. The intended customer is an organisation rather than an individual; as such you have been the organisational face of MW, dealing with our present customers, many of whom were individual farmers in the early days of the business. With the growth of MW and the expansion of our customer base to include larger organisations we are now dealing with their buyers on a business to business basis.

2. These organisations buy and use our products to support their organisational objectives, different marketing programmes are required to reach and influence organisational buyers, explaining how our products can assist them in achieving these objectives, for example the unique nutritional value of our products enabling them to produce healthier livestock faster.

3. In the business sector our customers buy a range of products and services to either make new products or enable production processes to operate successfully, and as such it is important for us to understand their business objectives and show how we can help them achieve these. As mentioned above healthier higher value livestock can be produced.

4. Businesses will use defined processes and procedures to buy products and services and the decisions attached to securing the necessary products will be controlled by a small number of people, the 'buyers' in these organisations This is unlike consumer –based marketing where decisions often involve a large number of people. It is in our interests for our future key account manager to know them and understand their requirements.

5. Even though there may be several people associated with a buying decision in an organisation, the overall number of people involved is very small compared to the millions of people involved in everyday purchases such as chocolates.

6. The financial value of organisational purchase orders will be much larger and the frequency much lower, as such it is in our interests to maintain close contact with our customers, monitoring purchases, maintaining contact with them to indicate our interest.

7. Given the size of orders and the requirements for consistent quality, agreements may be made between organisations for the supply of materials over a number of years, and consequently we must be prepared for the negotiation processes to be lengthy.

Although there are differences many of the characteristics of the consumer decision making process can still be observed in the organisational context.

Organisational buyers (our customers) make decisions which ultimately contribute to the achievement of our corporate objectives. To make the necessary decisions a high volume of pertinent information is required, which needs to be detailed and presented in a rational and logical style.

This puts the organisational buyer in a very important role. It is essential that those liaising understand these concepts, and as such the role and importance of the key account manager in building trusting relationships with such individuals cannot be understated.

It is vitally important that we fully understand our customers, have good relationships with their key staff, and convince them that our products can help them achieve their business objectives. As such an effective key account manager will be a necessary addition to our skill base in the near future.