

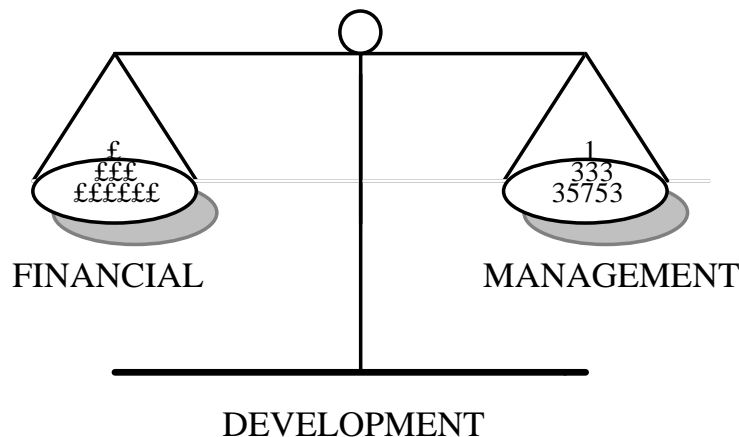
# FINANCIAL MANAGEMENT DEVELOPMENT

## Decision Making

### Management Accounting

NO 311

## MANAGEMENT ACCOUNTING



ONE OF A SERIES OF GUIDES FOR  
FINANCIAL MANAGEMENT DEVELOPMENT

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This is one of a series of documents produced by David A Palmer as a guide for managers on specific financial topics to assist informed discussion. Readers should take appropriate advice before acting upon any of the issues raised.



**THE NATURE OF COSTS**

There are many different types of cost. Many have names deliberately designed to confuse the financially illiterate. However it is vital to realise that no one cost is appropriate for all decisions. The art of management is about taking decisions which have an impact on the future in a way that improves the future outcome. The normal use of cost is the amount spent on an item to get it to its current state or the amount of an expense. This is the Historic Cost. It is the keystone of Financial accounting and is used to calculate profit by deducting it from sales value. Other categories of cost are:

Variable costs            Costs which directly vary with the volume sold or produced.

Examples include raw materials or overtime.

Fixed costs                Costs which are not related to volume.

Examples include office rent or heating costs.

In the short term all costs are fixed, in the long term all costs are variable.

Direct Costs              Costs which can be identified with particular products, processes or parts of an organisation. Examples include the components making up a car or the depreciation cost of machinery used for a particular product.

Indirect Costs            Costs which are not directly connected with that particular product, process or part of the organisation and which therefore may have to be allocated or apportioned on some arbitrary basis. An example is the rent of a factory which is apportioned to the various product lines on the basis of floorspace occupied.

The direct and indirect definition varies with level. All a company's costs are direct for the company as a unit but some will be indirect for the departments within it.

Marginal Cost            The cost of one more unit. This may be a little or a lot depending on the state of capacity. It will change with circumstances. If a factory is working at half capacity then there may be no marginal cost of performing an extra task. If it is already at full capacity then the cost of making one more unit might be the cost of setting up a new factory.

Sunk Cost                 A past cost irrelevant for future decisions. An example is the cost of a machine which is obsolete, the original cost is of no assistance in any management decision for the future.

Opportunity cost        The cost of the next best alternative which would be foregone if a particular course of action is taken. The cost of your time on a training course is not your salary but the loss of the value you would have added to your organisation if you had done something else.

**FIXED AND VARIABLE COSTS FOR RISK ASSESSMENT**

The split between fixed and variable costs is vital to assess the impact of changes in the level of demand. Consider these two companies.

**TWO COMPANIES - SAME SALES, SAME COSTS DIFFERENT STRUCTURES**COMPANY A

	£
SALES	10,000
VARIABLE COSTS	8,000
CONTRIBUTION	<u>2,000</u>
FIXED COSTS	1,000
PROFIT	<u><u>1,000</u></u> =====

COMPANY B

	£
SALES	10,000
VARIABLE COSTS	1,000
CONTRIBUTION	<u>9,000</u>
FIXED COSTS	8,000
PROFIT	<u><u>1,000</u></u> =====

Both companies have the same profit but which company would you rather work for?

Hopefully those who are sales orientated would opt for company B, while those who are risk averse would opt for company A, because the answer depends upon your view of the future.

Recalculate profits under two different scenarios. In the first, sales are expected to rise by 20%. In the second, sales are expected to fall by 20%. Notice that contribution is defined as sales less variable costs, and that variable costs vary directly with sales whereas fixed costs do not.

## TWO COMPANIES - SAME SALES, SAME COSTS DIFFERENT STRUCTURES

		SALES UP 20%	SALES DOWN 20%
<u>COMPANY A</u>	£	£	£
SALES	10,000	12,000	8,000
VARIABLE COSTS	8,000	9,600	6,400
CONTRIBUTION	<u>2,000</u>	<u>2,400</u>	<u>1,600</u>
FIXED COSTS	1,000	1,000	1,000
PROFIT	<u>1,000</u> =====	<u>1,400</u> =====	<u>600</u> =====

When Sales are good the contribution rises and since fixed costs do not change the profit is automatically improved. When sales fall by 20% profits are reduced. However, because the majority of costs are variable the company is protected when times are hard. The price it pays for the low risk is the lower reward when sales are good. Examples of such companies are supermarkets, staff agencies and training companies.

	£	£	£
<u>COMPANY B</u>			
SALES	10,000	12,000	8,000
VARIABLE COSTS	1,000	1,200	800
CONTRIBUTION	<u>9,000</u>	<u>10,800</u>	<u>7,200</u>
FIXED COSTS	8,000	8,000	8,000
PROFIT	<u>1,000</u> =====	<u>2,800</u> =====	<u>(800)</u> =====

Because company B has low variable costs it does well when times are good and badly when sales fall. Such companies have cyclical profits and tend to hit the headlines in both good and bad times. Examples are heavy industry, merchant banks, estate agents etc. Such companies need to concentrate all their efforts on making sales and because of their cost structure are frequently found to be dumping surplus capacity at marginal cost

It is commonplace to alter the cost structure, by making fixed costs variable to reduce the risk of a down turn in demand. Outsourcing and subcontracting are one approach. More common is redundancy for some, with those retained being asked to work overtime. Employees are a variable cost for companies but a fixed cost for the nation!

**FIXED AND VARIABLE COSTS FOR PRODUCT RISK APPRAISAL**

The split between fixed and variable costs is vital to assess the break-even point for sales when evaluating a new product or when considering delisting an existing product.

The break-even point is defined as being the level of sales when profit is zero. At this point sales less variable costs less fixed costs equals zero.

IF  $\text{SALES} - \text{VARIABLE COSTS} - \text{FIXED COSTS} = 0$

THEN  $\text{SALES} - \text{VARIABLE COSTS} = \text{FIXED COSTS}$

OR  $\text{CONTRIBUTION} = \text{FIXED COSTS}$

Consider the data above as being for two new potential products:

Product A has a contribution ratio of 20%. That is the ratio of contribution to sales value is 20% (2,000/10,000). Thus for every £1 of sales the contribution and therefore the profit for product A increases by 20p.

How many sales of 20p contribution are needed to cover the fixed costs of £1,000?

5,000 or £5,000 worth because  $20\text{p} \times 5,000 = 1,000$

The same calculation can be carried out for product B

Product B has a contribution ratio of 90% (9,000/10,000). Thus each unit of product B sold will add 90p contribution and therefore 90p profit.

For product B, fixed costs are £8,000.

How many 90p's are required to cover £8,000?

8,889 or £8,889 worth because  $90\text{p} \times 8,889 = 8,000$

Thus if the sales forecast for each product is 10,000, the manager of product A can afford a shortfall of 50% before he makes a loss, while the manager of product B can only afford a shortfall of 11%. If these were two competing new products then the prudent accountant would accept product A before product B.

Break-even analysis can be a useful mechanism for quantifying risk and identifying the action to take to mitigate it. For example if firm orders of 9,000 can be proved for B then there is no risk of it making a loss. Using spreadsheets different levels of demand, prices and costs can be used to establish the best course of action if a reasonable estimate is made of the fixed and variable costs. Estimates are fine in management accounts. It is better to be approximately right than precisely wrong.

**FIXED AND VARIABLE COSTS FOR RESOURCE ALLOCATION**

When considering whether to take a particular course of action it is vital to consider only those costs which will vary and ignore those which are fixed.

Assume a new salesperson is to be recruited and they can sell £10,000 worth of either product A or product B. Which product should they be asked to sell?

If they sell £10,000 of product A the extra profit generated will be £2,000, because each extra unit brings in an extra 20p.

If they sell £10,000 of product B the extra profit generated will be £9,000, because each extra unit brings in an extra 90p.

It does not take a degree in finance to appreciate that the sales person should sell product B, the product with the higher contribution ratio. However it is an unfortunate fact that many organisations have no clear picture of the contribution ratios of the various products in their portfolio and thus do not know which products to promote.

**OPPORTUNITY COSTS**

This can also be used to illustrate the concept of opportunity cost. The benefit from the new sales person will be £9,000, if they sell product B. The opportunity cost to the company of using them to sell product B is the contribution from the sales of A which will now not be made i.e. the £2,000.

**DIRECT AND INDIRECT COSTS - THE DANGERS OF COST ALLOCATION**

It is perfectly appropriate to use costs as a guide to decisions on pricing, but the final price must be set by reference to Direct costs and not corrupted by allocations of total costs which can lead to misleading conclusions.

Assume a factory costs £100,000 per month to run. It expects to make 10,000 units of production per month and therefore when budgeting, each unit is costed at £10. During the year demand is poor and volume falls to 5,000 units per month. There are too many examples of costing systems which would suggest to management that the cost of each unit is now £20 and that therefore the price charged to customers should be doubled! This is perhaps not the best way of stimulating sales.

In production led companies "Cost per unit" is often a key measure of efficiency. Beware improvements in cost per unit that result from overproduction of units which cannot be sold. Since the units will stay in stock, profit looks fine. Management frequently only discover the problem when they run out of storage space, or worse, cash.

**SUNK COSTS**

Too many decisions are driven by a misunderstanding of the nature of profit.

A company bought some raw materials for £100,000. These are now obsolete and there are two alternatives:

- (a) Sell them for scrap for £10,000 or
- (b) Spend a further £20,000 refining them and sell them for £70,000.

There is of course the further option (c) which is always available.....do nothing.

- Consider the cashflows:
- (a) + £10,000
  - (b) + £70,000 - £20,000 = +£50,000
  - (c) NIL

It is obvious that option (b) refine and sell is the best option, followed by option (a). Yet many managers in large organisations would go for option (c), followed then by option (a).

Why?..... Consider the financial accounting.

- (a) Loss of £90,000....but at least you can blame the buyer
- (b) Spend another £20,000 and generate a loss of £50,000. That will really look good at the next appraisal.
- (c) No impact and if we wait a few years inflation might mean we can scrap them at a profit!

**SUMMARY**

It is vital for the health of an organisation that managers realise that different information is needed for different decisions. The management information required on a routine basis is not necessarily appropriate for all purposes.

The exact format of the management accounts will be unique to each organisation. In addition it is perfectly reasonable to change the format to highlight particular areas of information need. Subject, like every other activity, to cost/benefit analysis reports should be produced to aid specific decisions and then stopped. Too many organisations suffer from excess management information because no-one has the courage to say that they no longer wish to look at data which the purpose of which is lost in the past.

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David is an experienced financial professional who has devoted his skills to management training in practical understanding and utilisation of financial information. A Graduate, Chartered Accountant, and Associate of the Institute of Taxation, he is also a Member of the Chartered Institute of Personnel and Development.

He has worked as a Financial Controller and Company Secretary in the Finance Industry and as a Director of Finance and Administration in the Computer Services industry. Since 1990 he has conducted management development programmes for over thirty major organisations including Blue Circle, BP, CSC Computer Sciences, Conoco, Ernst & Young, Lloyds Bowmaker, The Post Office, Rothmans and Zeneca. International training experience includes work in Denmark, Kenya and the Czech Republic for Unilever, in Dubai for Al Atheer, in Holland and the U.S. for Avecia and Zeneca and in Bahrain and Saudi Arabia for Cable & Wireless.

He specialises in programmes in financial management for both tactical and strategic decision making. A key output from the training is demonstrable use of the knowledge and skills acquired to enhance corporate profitability. In addition he has run courses in acquisition evaluation (The Economist, Blue Circle and Hays Chemicals) and in post-acquisition management (Unilever). He has also developed material for delivery by in house personnel (Royal Mail, Lloyds Bowmaker and Conoco) and computer based training packages (The Post Office, Unilever and BP).

He is a prolific writer of case studies, role plays and course material, he has also published articles on the financial justification of training, financial evaluation of IT investment proposals, the use of Activity Based Costing and Customer Profitability statements, commercial considerations for consultants and the need for taxation awareness training for general managers.

He is married with one grown up daughter and his outside interests include being The Treasurer of the Hospice of St. Francis (Berkhamsted), and a member of the Catholic Alpha Training Team (Promoting the Alpha course on Basic Christianity). He was a Governor of Luton University for nine years and a school Governor for four years.

This series of papers is designed to help managers by providing a basic understanding of key financial concepts to assist them in their work. It is provided at no cost since this knowledge is a Gift from God and thus to be shared (Matthew 10:8).