

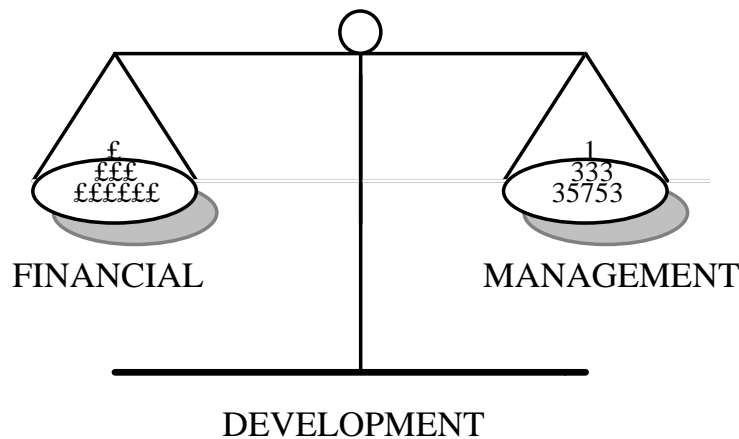
FINANCIAL MANAGEMENT DEVELOPMENT

Decision Making

Management Accounting

NO 314

STANDARD COSTS



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.

STANDARD COSTS

This paper examines the rationale behind standard costing systems and the issues underlying their use as an aid to management accounting and decision making. As with any management tool there are times and circumstances when standard costs may not be appropriate. The objective of all management information is to be available to assist decision making, it is not a replacement for common sense. The paper covers the topic under the following headings:

- Why have standard costs?
- What are standard costs?
- How are standard costs calculated?
- How are standard costs used?
- Problem areas

In all circumstances the cost of costing must be considered. The objective is maximum profit not the most accurate costing system.

Why have Standard Costs?

The short answer is “to provide better, faster information to assist decision making”. Conventional accounting shows total amounts paid. It does not necessarily record volumes purchased, nor does it produce information about the future. It merely records the past. For a complex organisation there is a need to provide a plan in advance (to budget for cash and other resource utilisation); and a control mechanism which allows segregation of deviations from plan into price and efficiency impacts to identify responsibility and controlability in a timely manner.

In plain English: A car manufacturer does not say “Let’s make a lot of cars next year. Then when we have finished we will count the cash from sales, take off all the cash spent and then we will know how much profit we have made (or whether we went bust)”. They calculate the expected cost of each component and the expected number to be used; the expected activities required in hours and the expected hourly rate; and the expected fixed cost of plant and equipment divided by expected volume to calculate the “cost” of a car. If they are sensible they include expected levels of wastage for materials and idle time for people and plant. They then have:

- A Plan
- A Basis for Pricing
- A Benchmark against which to manage by exception
- A Cheaper, faster way of keeping management accounting records.

What are Standard Costs?

Standard Costs are predetermined costs to use as a standard (in the sense of a benchmark) against which actual costs can be compared. Since they are set in advance they are likely to be different from the actuals. There will thus be a variance worth investigating. This may be broken down into Volume, Price, Efficiency etc. The financial records can reflect these amounts or they could merely record the actuals with the standard costing system running in parallel.

How are Standard Costs Calculated?

There is a distinction between Direct and Indirect Costs and Fixed and Variable Costs.

Using the example of a cup of coffee, there are five separate costs:

- Water
- Coffee
- Electricity
- Kettle Costs
- Labour (Time)

The following diagram may assist the analysis.

	VARIABLE	FIXED
DIRECT	WATER COFFEE	ELECTRICITY KETTLE
INDIRECT	?	WAGES

In the short run all costs are fixed and in the long run all costs are variable; at the micro level all costs are indirect; at the macro level all costs are direct. The analysis therefore has to relate to practical levels of volume and identification.

The water and coffee are variable (the more cups you make the more you need) and direct (each cup will have some of each). The Kettle costs and Electricity could be direct, if you only make one cup but if you boil a full kettle then the cost of the electricity used will be spread over the number of cups made each boiling and the cost of the kettle will be spread over the total number of cups made in its working life. Unless the only activity is making coffee the cost of time (wages) is only indirectly connected with this activity.

Various costing mechanisms are used to apportion or allocate the costs to products or activities. Here we are only concerned with calculations on sensible bases.

An appropriate amount of time has been spent to arrive at the following information:

Water	1 cupful	0.5p	
Coffee	1 teaspoon	4.0p	(jar is £1.20 for 30 cups)
Electricity	1 boiling	0.2p	(5 cups per boiling, 1p per boiling)
Kettle		0.8p	(500 boilings, £20 cost)
Wages		4.0p	(£6 /hour, 2 minutes per boiling)
		9.5p	
Cost per cup		9.5p	

The above could form the standard costing of a cup of coffee.

In the absence of any other information and assuming no wastage, a full kettle each boiling and a perfect worker (robot) the cost could be used to set a benchmark for planning, pricing and control purposes.

How are Standard Costs Used?

Standard costs are frequently used to simplify the processes of pricing and planning by stating the “standard” to be included. In addition the control mechanism is based on analysis of the deviation from the standard volumes and prices.

Assume the following information is received for month one from the kitchen:

- 1,000 cups of coffee were made
- 1,100 cups of water were used costing £5.50
- 40 jars of coffee were purchased each costing £1.40, 10 are left
- The kettle cost £20 but is now halfway through its life
- Wages were £6 hour and 7 hours were spent making coffee
- There were 220 boilings, electricity costs were £2.20.

The Standard Cost Accounting system would show the following -

Coffee Stores Account

	Dr	Cr
Actual purchases at Standard Price		
40 jars at £1.20	48.00	
Actual Used 30 jars		36.00
Stock at Standard		12.00
	=====	=====

Coffee Price Variance Account

Actual Purchase Price Difference	8.00	
40 jars x (1.40 - 1.20)	=====	

Coffee Quantity Variance Account

Difference in Quantity Used at Standard		
100 cups (1,000 - (30 x 30)) at 4p		4.00
		=====

Coffee Making Cost Account

Standard Volume for 1,000 cups	40.00	
	=====	

At the end of the month the following would appear as costs in the Profit and Loss Account:

Standard Cost of Coffee	40.00
Saving on Usage (weak coffee)	(4.00)
Higher Price on Coffee	8.00

Profit and Loss Account

Assuming the coffee was sold at 20p per cup the full profit and loss would be as follows:

	£	
Sales	200.00	
Manufacturing Standard Cost	95.00	
Standard Gross Profit	<u>105.00</u>	
Water Wastage*	(0.50)	
Saving on Coffee	4.00	
Price increase on Coffee	(8.00)	(includes stock £2.00)
Electricity Wastage*	(0.20)	
Kettle underrecovery of depreciation	(2.00)	
Wages underrecovery	(2.00)	
Profit	<u>96.30</u>	
	=====	

In the Balance Sheet the Stock would appear at Standard Price of £12.00 plus the price variance of £2 which represents the extent to which the stock at standard was exceeded by the actual cost. (See Problem area No.5)

* Apart from the possibility of complaints about weak coffee investigations need to be carried out into why the kettle is being boiled so often (or perhaps the standard should recognise the fact that a kettle is never emptied).

The Financial Accounts would show

	£	£
Sales		200.00
Coffee Purchased	56.00	
Less Closing Stock	(14.00)	
	42.00	
Water Costs	5.50	
Electricity	2.20	
Kettle Depreciation	10.00	
Wages	<u>42.00</u>	
Total Costs		<u>101.70</u>
Profit		<u>98.30</u>

Problem Areas

1. Emphasis on Variances

It is easy for organisations to concentrate only on variances from Standards and forget to review the Standards themselves. This is particularly true where new technology may have made old methods, and standards obsolete.

2. Perfection or Benchmark

If the standards are set to motivate by being too high, their use for variance analysis becomes devalued.

3. Rapid Price Fluctuations

There are dangers in having standards for certain items especially where foreign currency is involved. Rapid changes in input prices are not fed through to production leading to the possibility of sub-optimal decisions.

4. Level of detail

It is important that the level of detail is appropriate. Too detailed and there is an excess of information. Too high level and there is no basis for action.

5. Stock Valuation

For any reconciliation with financial accounts the price variance on stock holding has to be identified and added back if it has already been charged at time of purchase or manufacture.

In summary, for large volume, complex but stable manufacturing situations Standard Costing can provide better quality management information. It is up to management to use it wisely. In particular decisions need to be made on the frequency of reviews of standards. Too rarely and they become irrelevant; too often and the benefit of using standard data is lost. "A watched kettle never boils!".

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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).