Edexcel

A Level

Accounts

CODE: (4AC1)

Unit 02 - Section 05

Standard costing

THE PURPOSE OF STANDARD COSTING

Standard costing is a management technique that compares the actual cost of a unit of production with the standard cost, and analyses the differences between the two. This investigation of the difference is known as variance analysis.

We saw in Chapter 6 that a budget is a financial plan for a future period. The budgets are prepared from past information as to price, quantity, and so on. This information is taken from existing standards, which set the data for quantities and costs of units.

The purposes of standard costing can be summarised as:

- assisting in setting budgets evaluating business performance controlling costs
- allowing management by exception.

ESTABLISHING A STANDARD COSTING SYSTEM

Getting the correct standard is vitally important in standard costing, as it is an example of **management by exception.** If the business functions are operating to the standard then no action will be taken to improve on the current situation. Only when standards are not met will the management of the business take action to correct the situation. Generally two types of standard are used: ideal standards and attainable standards.

Ideal standards are based on the most efficient operating conditions that could be achieved by the business. They assume that any machinery used will be operating at full capacity with no idle time; that employees will be working at full efficiency with no absenteeism; and that all materials, of the right quality, will be available at the right time with no wastage.

Attainable standards are standards of performance that are based on normal operating conditions. These will take into account normal levels of material wastage and labour idle time. They should not be too easy or too difficult to achieve but should be just right to motivate employees to achieve them.

As standard setting is of vital importance, it is useful, at this stage, to work through the three main cost groups and see how each standard is determined. The stages used in establishing a standard costing system are as follows:

1 setting standard costs

2 comparing standard to actual

3 calculating total variances

4 calculating sub-variances

5 analysing reasons for variances 6 taking appropriate action

COLLECTING THE REQUIRED INFORMATION

The first stage of any standard costing system is to set accurate costs for materials, labour and overheads.

Materials

A careful examination of the material specifications is required in order to produce a unit or a predetermined output. This will tell us the quality of material

required, as well as the quantities that will be needed. Quantities will vary, according to who is going to be handling the materials and what machinery is going to be used in the production process. If unskilled labour (or

outdated machinery) is to be used, wastage will normally be higher than if skilled labour or new machines are available.

Labour

Several different operations may be involved in the production of an item, and these may involve different labour skills, which may be paid at different rates.

To calculate the standard time needed to carry out a particular operation, it is necessary to know what equipment the employees will have to work with, as the quality of the material they are processing.

Overheads

The prices that are expected to be paid for all overheads are usually based on recent costs. Any known future increases should be taken into account.

It is important to distinguish between fixed and variable overheads. The standards are set for one level of activity and include a charge per product for fixed overheads. This can result in significant differences should production be completely different. The level of production chosen is one that is likely to be achieved and must be realistic.

SETTING A STANDARD COST

Once the information for material, labour and overheads has been collected, it is possible to set a standard cost for a unit of production using the formula:

> Standard cost per unit = standard material cost per unit + standard labour cost per unit + standard overhead cost per unit

VARIANCE ANALYSIS

Having set the standards and the way in which the budget is constructed, the next item to consider is the monitoring of results, which is done using **variance analysis.**

A variance is the difference between the standard cost and the actual cost. It can either be favourable or adverse. The business must decide on how many standards can be set and how many variances should be calculated. The key to this decision is whether or not a particular standard or variance will be useful for guiding the business.

Adverse variances

As a rule, an adverse variance means that we have spent more than the budget allowed - actual costs are greater than budgeted costs.

Let us look at a few specific examples and try to determine the reasons for the adverse variances:

- an adverse material usage variance can be brought about by the use of inferior raw material, or poor training of staff

- an adverse price variance may be because of a sudden price increase, or the withdrawal of a supplier from the market

- adverse labour hour variances may be due to an unskilled person doing a job that requires more skill, or a delay in getting the materials needed before the job can start

- an adverse rate variance may arise because trade unions have increased pay rates after the budget was prepared, or the wrong kind of labour was used for the job.

Favourable variances

Favourable variances show that we have spent less than planned - actual costs are lower than budgeted costs. Under favourable variances, there can also be a price variance - where materials were purchased at a better price, or where it was possible to use less skilled or cheaper labour than originally thought.

TYPES OF VARIANCE

If we are shown a budget for a particular month then, given the actual results for that month, we can easily determine whether the profit is more or less than anticipated. However, it is important to determine the reasons for the difference, and this is where the calculation of variances becomes important.

The previous section dealt with the types of variance that can be determined in general terms. The importance of ascertaining the many variances cannot be understated, as control is one of the main purposes of the budget process.

RAW MATERIAL VARIANCES

These variances consist of:

- the total variance
- the usage variance
- the price variance

These can all be either favourable or adverse.

The total direct material variance is the difference between the standard cost of the material and the actual cost of the material for the actual units produced.

It is therefore made up of the sum of the two sub-variances - the **material usage variance** and the **material price variance**. Rarely is the total variance the result of only one of the two sub-variances.

The material usage variance is the result of the difference between the quantity budgeted (the standard usage) and the actual quantity used. To determine the value of this variance, the difference the two quantities is multiplied by the standard cost.

Material usage variance = (standard quantity – actual quantity) × standard price

The material price variance is brought about by a change in price. That variance, like all others, can be favourable or adverse.

Material price variance = (standard price – actual price) × actual quantity

LABOUR VARIANCES

As was the case with material, there is more than one type of labour variance. The variances used are:

- the total variance
- the labour rate variance
- the labour efficiency variance

The total labour variance is the difference between the standard labour cost and the actual labour cost for the actual units produced.

It is made up of two sub-variances - the **labour rate variance** and the **labour efficiency variance.**

Labour rate variance = (standard rate – actual rate) × actual hours

The labour efficiency variance is calculated using the formula:

Labour efficiency variance = (standard hours – actual hours) × standard rate

OVERHEAD VARIANCES

The fixed overheads can also vary between the budget and the actual amount spent. In this case, there is only one variance that can be calculated, and this is the total **fixed overhead variance.**

Total fixed overhead variance = budgeted fixed overhead expenditure – actual fixed overhead expenditure

In addition to the fixed overheads, there are also overhead costs, that vary with the level of output. The **variable overhead variance** shows the difference between the amount of variable overhead that has actually been incurred and the budgeted variable overhead, for the actual number of units produced (the level of production).

Variable overhead variance = budgeted variable overhead expenditure for actual output – actual variable overhead incurred.

REASONS FOR VARIANCES

Having calculated variances for materials, labour and overheads, including the relevant sub-variances, it is essential that businesses identify and understand the reason for the variances. By understanding the causes of variances, a business is able to take corrective action to rectify the situation and improve financial performance.

Variances can be favourable or adverse. The total material and labour variances will be a function of the different sub-variances, so it is necessary to examine the reasons for these variances. Only then can we understand the reason for the total variance.

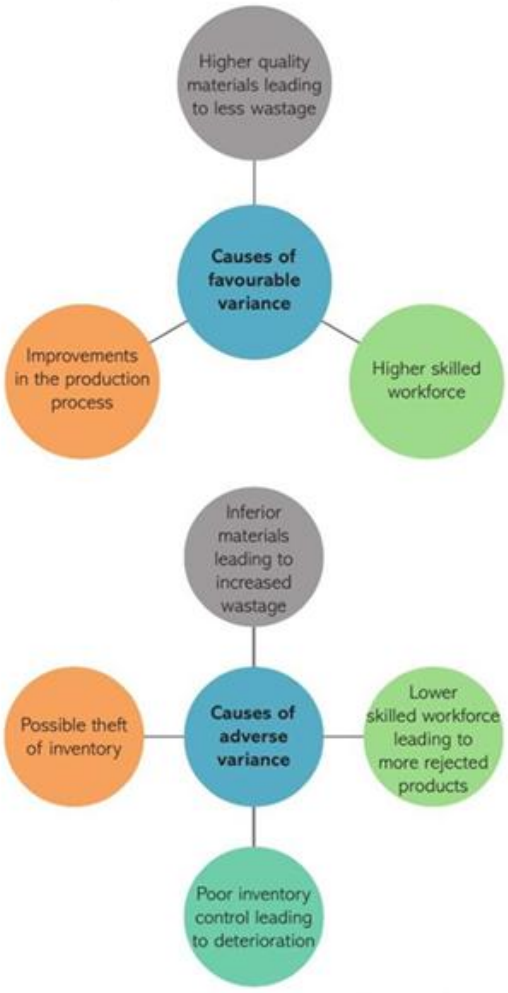
Material variances

This is the sum of the two sub-variances - the material price variance and the material usage variance.

Material price variance

▲ Figure 7.1 Causes of favourable and adverse material price variances

Material usage variance



▲ Figure 7.2 Causes of favourable and adverse material usage variances

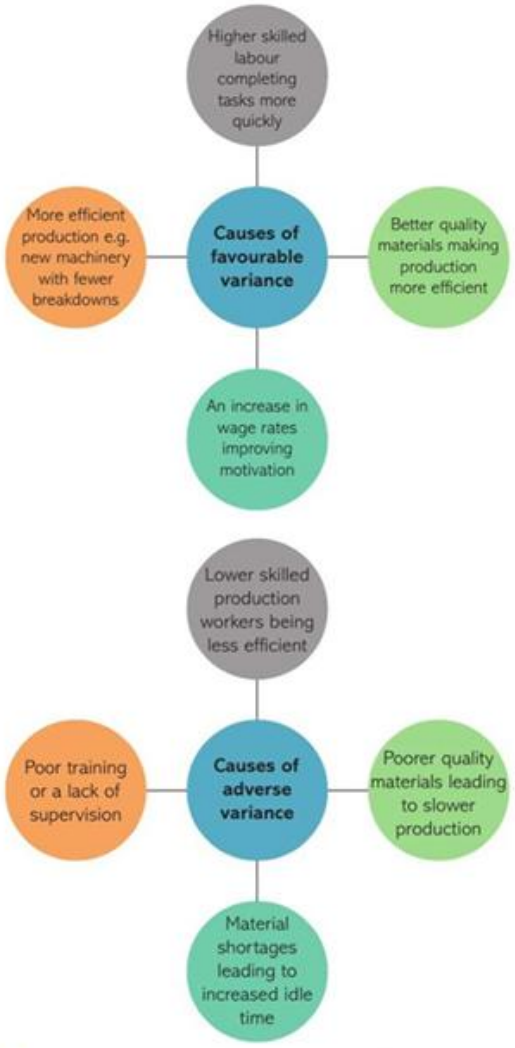
Labour variances

The total labour variance is made up of the labour rate variance and the labour efficiency variance.

Labour rate variance

▲ Figure 7.3 Causes of favourable and adverse labour rate variances

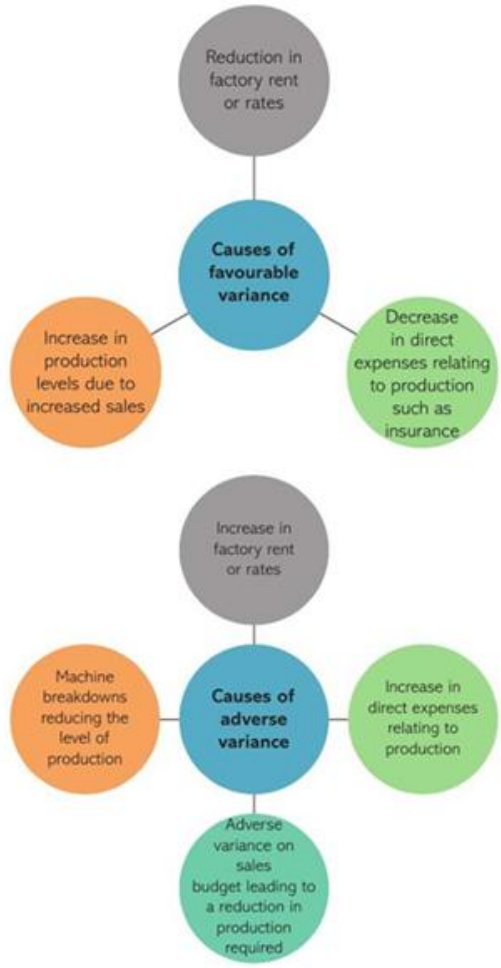
Labour efficiency variances



▲ Figure 7.4 Causes of favourable and adverse labour efficiency variances

Fixed overhead variance

You will recall that this is a measure of the difference between the actual fixed overheads incurred and the standard fixed overheads.



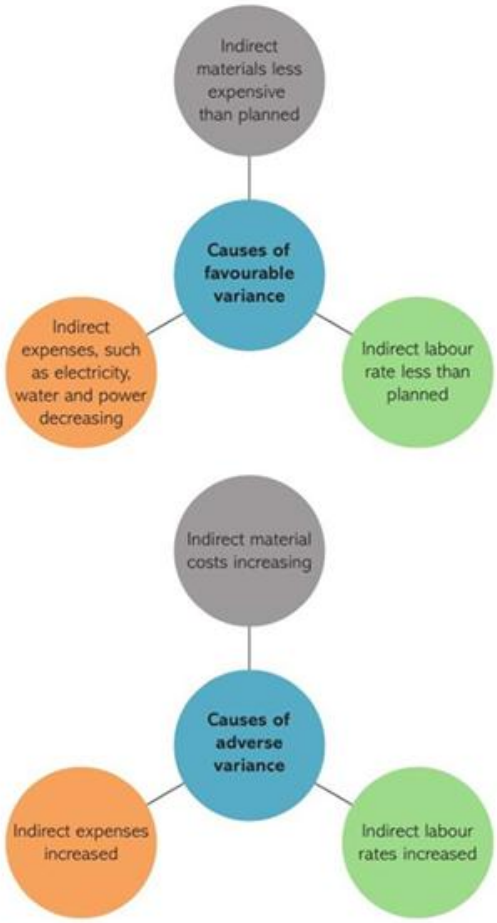
▲ Figure 7.5 Causes of favourable and adverse fixed overhead variances

EXAM HINT

You will notice that the reasons for an adverse fixed overhead variance are the opposite of the reasons for a favourable fixed overhead variance. In the exam, you need to make sure what the question is asking.

Variable overhead variance

You will recall that this is a measure of the difference between the actual variable costs incurred and the standard variable costs.



▲ Figure 7.6 Causes of favourable and adverse variable overhead variances

INTERRELATIONSHIPS BETWEEN VARIANCES

Variances should not be looked at in isolation. There is a relationship that exists between different variances and it is important to recognise this interrelationship when analysing the causes of variances and planning to take corrective action. The cause of a favourable variance might directly lead to an adverse variance elsewhere.

Also, it might lead to an adverse labour efficiency variance if production takes longer due to poorer quality material. Other interrelationships to consider:

- Better quality materials might not only affect material usage but also labour variances. It might mean lower skilled and therefore less expensive employees can be used, resulting in a favourable labour rate variance.

● A higher level of skilled labour may result in an adverse labour rate variance but a favourable labour efficiency variance.

● An adverse labour efficiency variance might lead to an adverse variable overhead variance if less skilled employees are less productive.

When analysing variances, it is always wise to look at all the information you have been provided with before coming to conclusions about the cause of the variation.

VARIANCE ANALYSIS - MANAGEMENT BY EXCEPTION

Management by exception is a business technique for examining operational results and only reporting and acting on those issues that are important to the business. In terms of variance analysis, the aim of management by exception is to focus the attention of management on those variances that differ significantly from the standard. It is the larger, significant variances that should be carefully examined as to the reasons behind them. The business can then take the required actions to correct these, because it understands that the scarce resources of the business are being targeted at the important issues.

SUBJECT VOCABULARY

attainable standard a standard based on normal operating conditions
fixed overhead variance the difference between the standard fixed overhead and the actual fixed overhead
ideal standard a standard based on the most efficient operating conditions
labour efficiency variance the difference between the actual hours used and the standard hours expected at the standard rate paid
labour rate variance the difference between the actual rate paid and the standard labour rate for the actual hours used
management by exception a business technique of examining operational results and only reporting and acting on those issues that are important to the business
material price variance the difference between the actual price paid and the standard price for the actual materials used
material usage variance the difference between the actual amount of materials used and the standard amount of materials expected to be used at the standard material price
standard costing a method of costing that sets levels of costs and revenues that should be achievable under normal operating conditions
variable overhead variance the difference between the standard variable overhead and the actual variable overhead
variance analysis the calculation and investigation of the differences between actual costs and standard costs