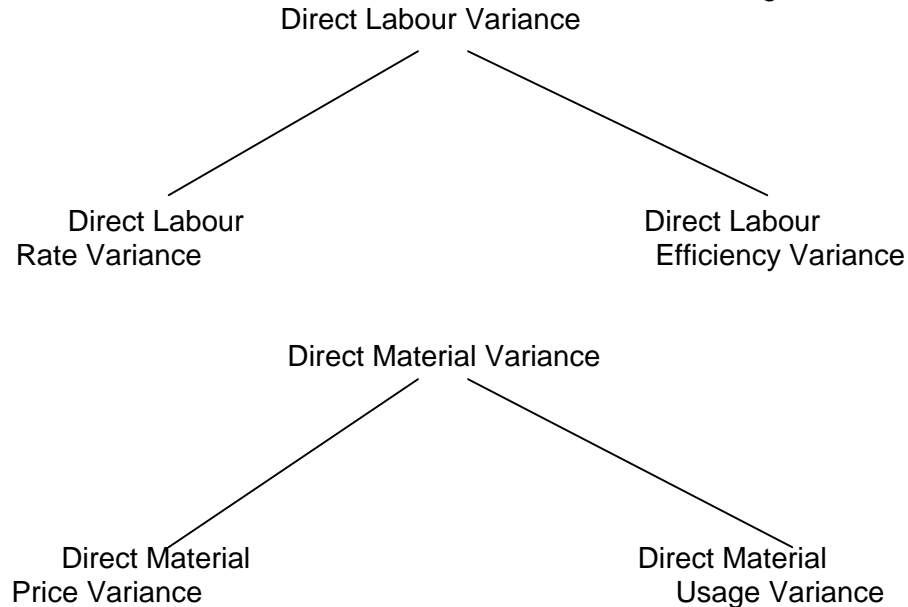


Standard Costing – Operational and Planning Variances

By Dr. Philip E. Dunn

Students will recall that in a traditional approach to standard absorption costing variances relating to both direct labour and direct material sub-divide to the factors shown in the following diagram.



This traditional approach is one whereby actual performance is compared with the standard cost of activity achieved and is based on predetermined standards. If the predetermined standard, set prior to the budget period, is still realistic under current conditions then the variance report will still be of added value to the user. However if there has been changes in both internal and external factors then the standards may no longer be realistic and the variances reported will be of little use and no longer relevant for control purposes.

To address this problem, for example, Terry Lucey, "Management Accounting", suggests that the total variances should be sub-divided to planning and operating variances.

He states "Planning variances seek to explain the extent to which the original standard needs to be adjusted in order to reflect changes in operating conditions between the current situation and that envisaged when the standard was originally calculated, in effect it means that the original standard is brought up to date so that it is a realistic attainable target in current conditions.

Operating variances indicate the extent to which attainable targets (ie the adjusted standards) have been achieved. Operating variances would be calculated after the planning variances have been established and are thus a realistic way of assessing performance."

The use of this approach challenges the assumption that in the traditional model the variances are due in whole to operating deficiencies and that planning which underpins the predetermined standards was accurate.

Case Study

Northcliffe Feeds Ltd manufacture a standard animal feed.

The predetermined standards for the budget period Jan-March 2005 were set by management in October 2004.

Standard hours per tonne of product 1.1

Standard direct labour rate per hour €8.50

Standard usage of material per tonne of product 1.2 tonnes

Standard price of material €70 per tonne

Research shows that in the quarter ended 31 March 2005 the prevailing market price of material had been €71 per tonne. Since the budget was set the wage rate had increased to €8.75 per hour, national pay award.

During the quarter modifications to plant and machinery shows that direct labour hours per unit should be 1.05 per tonne of product and that standard usage would reduce to 1.175 tonnes per tonne of product.

During the quarter ended 31 March 2005 activity and costs showed:

Actual production 15,400 tonnes

Raw material usage 16,555 tonnes

Actual cost of raw materials used €1,191,960

Actual direct labour cost 16,632 hours €143,035

Variance Analysis Report

Traditional Approach

Direct Labour

| Standard Cost of Actual Production | Actual Cost | F/(A) Variance |
|--|---------------------------------------|-------------------|
| 15,400 tonnes * 1.1 = 16,940 std hr.s * €8.50 = €143,990 | 16,632 hr.s * €8.59998 €143,035 | <u>€955 F</u> |

Direct Labour Rate Variance

| | |
|---|-------------------|
| (Standard rate – actual rate) actual hours (€8.50 - €8.59998) 16,632 | <u>€(1,663) A</u> |
|---|-------------------|

Direct Labour Efficiency Variance

| | |
|--|-----------------|
| (Standard hours produced – actual hours worked) standard rate (16,940 – 16,632) €8.50 | <u>€2,618 F</u> |
|--|-----------------|

Direct Material

| Standard Cost of Actual Production | Actual Cost | F/(A) Variance |
|--|-------------------------------|-------------------|
| 15,400 tonnes * 1.2 tonnes = 18,480 * €70 = €1,293,600 | 16,555 * €72 €1,191,960 | <u>€101,640 F</u> |

Direct Material Price Variance

| | |
|---|--------------------|
| (Standard price – actual price) actual usage (€70 - €72) 16,555 tonnes | <u>€(33,110) A</u> |
|---|--------------------|

Direct Material Usage Variance

| | |
|---|-------------------|
| (Standard usage – actual usage) standard price (18,480 – 16,555) €70 | <u>€134,750 F</u> |
|---|-------------------|

Direct Material Operating Variance (Controllable)

Direct Material Operating Price Variance

| | |
|--|--------------------|
| Actual cost – (actual usage x prevailing price) €1,191,960 – (16,555 x €71) | <u>€(16,555) A</u> |
|--|--------------------|

Direct Material Price Planning Variance

(Revised price – standard price) * Standard usage
based on revised standard

$$= (\text{€}71 - \text{€}70) * (15,400 * 1.175)$$

€(18,095)A

Direct Material Operating Usage Variance

(Actual quantity – Standard usage based on revised
standard) * Revised standard price (16,555 – 18,095) * €71

€109,340F

Direct Material Usage Planning Variance

(Revised standard usage – standard usage) standard price
(18,095 – 18,480) * €70

€26,950 F

Summary

Planning Variances

| | € | € |
|-------|-----------------|--------|
| Price | (18,095)A | |
| Usage | <u>26,950 F</u> | 8,855F |

Operating Variances

| | | |
|----------------------|----------------|------------------|
| Price | (16,555) A | |
| Usage | <u>109,340</u> | |
| | | <u>92,785F</u> |
| Traditional Variance | | <u>101,640 F</u> |

Direct Labour

Operating Variance

Direct Labour Rate Operating Variance

(Revised rate – actual rate) actual hours (€8.75 -
€8.59998) 16,632

€2,495

Direct Labour Rate Planning Variance

(Revised rate – Standard rate) * Standard hours based on
revised standard = (€8.75 - €8.50) * (15,400 * 1.05)

€(4,042.50)A

Direct Labour Efficiency Operating Variance

(Actual hours – Standard hours based on revised standard) * Revised standard wage rate = (16,632 – 16,170) * (€8.75) €(4,042.50)A.

Direct Labour Efficiency Planning Variance

(Revised standard hours – standard hours produced) standard rate (16,170 – 16,940) €8.50 €6,545 F

Summary

| Planning Variances | | € |
|----------------------|--------------------|---------------------|
| Rate | (4,042.50) | |
| Efficiency | <u>6,545 F</u> | |
| | | 2,502.50 |
| Operating Variances | | |
| Rate | 2,495 F | |
| Efficiency | <u>(4,042.50)A</u> | |
| | | <u>(1,547.5)</u> |
| Traditional Variance | | <u><u>955 F</u></u> |

This type of analysis highlights, with applying the revisions, those areas which require investigation and managerial action. The variances show the effect of the revisions and thus separates the traditional variance to operational and planning factors.

The use of this technique provides operational managers with more realistic and meaningful variances so assisting them in controlling the resources for which they are accountable. It also provides the mechanism for planning and reviewing of standards.

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