

ACC406: Overhead Variance Analysis

TEXTBOOK: MOWEN, M. M., HANSEN, D. R., MCCONOMY, D. J., HEITGER, D. L., PITTMAN, J. A., & WITT, B. D. (2018). CORNERSTONE OF MANAGERIAL ACCOUNTING. TORONTO: NELSON.

Variance Analysis Components

- Variance analysis is the comparison between the standard variance and the actual variance
- 2 Steps:
 1. Find out 3 types of costs
 2. Compare the costs to get 3 types of variance

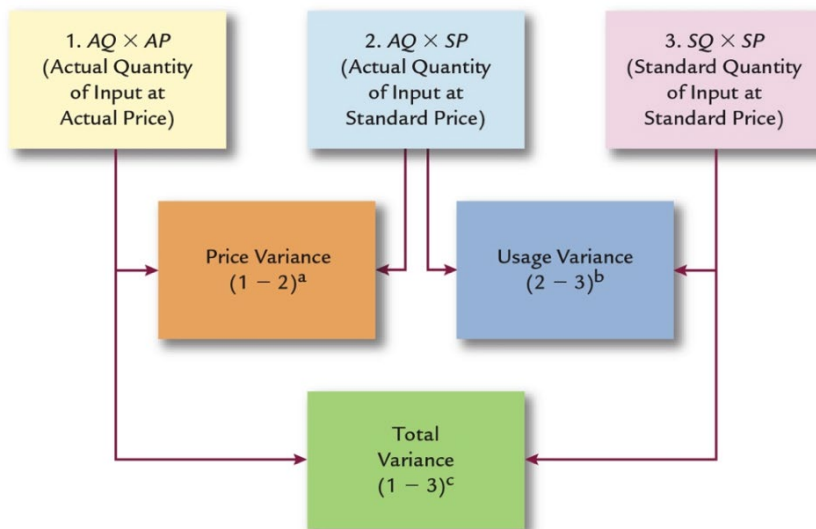
Tip: The following components build the foundation for the four-variance analysis. If you understand one of the approaches and know how to interpret quantity and price in different analysis, you do not need to remember formulas for each of the variance analysis.

Formula Approach

1. Find out the planned cost, actual cost, and budgeted cost
 - a. Planned Cost = Standard Price X Standard Quantity = $SP \times SQ$
 - b. Actual Cost = Actual Price X Actual Quantity = $AP \times AQ$
 - c. Budgeted Cost = Actual Quantity X Standard Price = $AQ \times SP$
2. Find the differences of the above costs to calculate variance
 - a. Price Variance = Actual Cost – Planned Cost = $(AP \times AQ) - (SP \times SQ)$
 - b. Usage Variance: Budgeted Price – Planned Cost = $(AQ \times SP) - (SP \times SQ)$
 - c. Total Variance = Actual cost – Planned cost = $(AP \times AQ) - (SP \times SQ)$

Column Approach

Variance Analysis: General Description



Tip: Cost = Quantity X Price = $Q \times P$

The cost/quantity at the first row changes from Actual to Standard

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Four Variance Analysis

General Principle	Direct Material Analysis	Direct Labour Analysis
Price Variance	Material Price Variance = (AP-SP) X AQ	Labour Rate Variance =(AR-SR) X AH
Usage Variance	Material Usage Variance = (AQ-SQ) X SP	Labour Efficiency Variance =(AH-SH) X SR
Total Variance	= (AQ X AP) – (SQ X SP)	= (AR X AH) - (SR X SH)

<p>A = Actual</p> <p>S = Standard</p> <p>B = Budgeted</p>

Variable Overhead Analysis	Fixed Overhead Analysis
Variable OH Spending Variance = (AVOR-SVOR) X AH	Fixed OH Spending Variance = AFOH - BFOH
Variable OH Efficiency Variance = (AH-SH) X SVOR	Fixed OH Volume Variance = BFOH – (SH x SFOR)

Tip: the basic components of price and quantity are interpreted (named) differently in the 4 variance analysis

- Price (P) in DM analysis = Labour rate (R) in DL analysis = Variable OH rate (VOR) in VOH analysis
- Quantity (Q) in DM analysis = Labour hours (H) in DL analysis = Hours (H) in VOH analysis
- The cost of fixed OH do not change with the OH hours, so the actual and budgeted cost is usually given, since these costs are fixed

Assessing Variance

- For Price or Rate Variance
 - If AP<SP □ Favorable
 - If AP>SP □ Unfavorable
- For Usage or Efficiency Variance
 - If AQ<SQ □ Favorable
 - If AQ>SQ □ Unfavorable

Tip: Think of it in a real-life scenario: It is better to pay less or be more efficient than expected