B. com. Sem-IV Page-(1)

Topic - variance analysis.

D.B. Sub: CMA-II

L-2 → Material Mix Variance

Before going to lecture-2, there is a correction to lecture-1 (L-1), Page-4, 2nd para, pl see - "That is why we say material price variance is sum total of two other variances i.e. Material ~~Qty~~ quantity variance and material price variance."

It should be " that is why we say Material Cost Variance is sum total of ~~two~~ other variances i.e. material Quantity variance and material price variance.

pl. make it corrected.

Now, we will proceed to second lecture - L-2 in variance analysis.

In L-2 we will discuss material mix variance. Actually it is a part of material usage variance. Material usage variance has two parts - Material mix variance and Material yield variance.

→

Sometimes a product is produced with mixture of two or three raw materials. This is called material mix. Every material has different price also. In that case simple material usage variance is not effective. We will calculate material mix variance.

Say, an example:

A product requires three types of raw materials - A, B and C in different quantities. Obviously price of three raw materials will be of different.

	Qty (Kg)	Per Qty (Kg)	Amt (Total)	
A	30000	Rs.10	R.300000	Standard.
B	40000	Rs. 5	R.200000	
C	50000	R. 6	R.300000	
	120000		800000	

But actual quantities and price are different:

			R.	
A	35000	9	315000	Actual
B	42000	6	252000	
C	53000	7	371000	
	130000		938000	

Here, if we calculate material cost variance:

MCV = Total Std Mat Cost − Total Actual Mat Cost

= R. 800000 − R. 938000

= (−) R. 138000 i.e. Adverse.

Mat usage variance = (St Qty − Actual Qty) × S.R.

Mat A → (30,000 − 35000) × Rs. 10 = R. 50,000 A

B → (40000 − 42000) × 5 = R. 10,000 A

C → (50,000 − 53000) × 6 = R. 18000 A

78,000 A

Mat Price variance = Actual Qty × (Std Rate − Actual rate).

Mat A → 35,000 × (10 − 9) = R. 35000 F

B → 42000 × (5 − 6) = R. 42000 A

C → 53000 × (6 − 7) = R. 53000 A

60,000 A

Net result → MUV + MPV

= R. 78000 + 60,000 = R. 138000 Adverse.

Mat Mix variance = (Revised Std Qty − Actual Qty) × S.R.

Material A → What is the Revised Std Qty?

B → "

C → "

We are to calculate that first, then we will calculate mat mix variance.

→

Now, Revised Std Qty = $\frac{\text{Total actual weight mix}}{\text{Total Std weight mix}}$ × Std Qty

Mat A → Revised Std Qty → $\frac{130000}{120000} \times 30,000 = 32500$ kg

(Pl. see Page - 2)

Mat - B → $\frac{130000}{120000} \times 40,000 = \frac{130000}{3}$ kg.

Mat C → $\frac{130000}{120000} \times 50,000 = \frac{162500}{3}$ kg.

Now,

Mat Mix Variance:

Mat A → (Revised Std Qty − Actual Qty) × Std. Rate.

$= (32500 \text{ kg} - 35000 \text{ kg}) \times R.10 = R.2500 A$

B → $\left(\frac{130000}{3} - 42000\right) \times R.5 = R.6667 F$

C → $\left(\frac{162500}{3} - 53000\right) \times R.6 = R.7000 F$

Total → R.11,333 A

This formula is applied when ratio of standard mix differs from the ratio of actual mix and also total Qty of actual mix and std mix differs. In this case only Revised Std Qty is required to be calculated.

→

In case so happens that, ratio of std mix differs from ratio of actual mix but total quantity of std mix and ~~a~~ total qty of actual mix remaining same, then the formula is a different one.

Mat mix variance = (Std qty − Actual qty) × SR

Say, an example:

	Std	Actual
Mat A −	90 units @ R.12	100 units @ R.12
B −	60 " @ R.15	50 " @ R.16
	150	150

Here, total qty for both std and actual are same.

Now:

MMV = A = (90 units − 100 units) × R.12 = 120 R A

B = (60 units − 50 units) × R.15 = 150 F

Total R. 30 F

Now, I think you have understood.

Thanks

A.D.B.