Cost accounting 2

Section NO. (11)

Analysis of differences (variances) of direct cost

Prepared by :

Shehata Shaheen

Analysis the total variance of direct wages

Frist: Determination of the total variance:

Total variance = Standard Cost – Actual Cost

Standard Cost = Standard Hours per Unit of Product × Standard rate per hour × Actual of Production Volume

SC - DL = SH × SR

Actual Cost = Actual Hours per Unit of Product × Actual rate per hour × Actual of Production Volume

AC - DL = AH × AR

Example (2)

•The following data were extracted from an industrial company:

	Standard Data		Actual Data	
Direct Wages	Standard hours per unit	Standard rate per Hour	Actual hours per unit	Actual rate per Hour
	6 hours.	3 EGP.	5 hours.	4 EGP.
	❑ Actual Volume of production 3,000 unit. ❑ Standard Volume of production 5,000 unit.			

Required :

Determine and analyze the variances between the standard cost and the actual cost of Direct wages.

Solution

Frist: Determination of the total variance of Direct wages:

Total variance = Standard Cost – Actual Cost

Standard Cost = SH × SR

SC = (6 ×3,000) × 3

SC = 18,000 × 3

SC = 54,000 EGP.

	Standard Data		Actual Data	
	Standard hours per unit	Standard rate per Hour	Actual hours per unit	Actual rate per Hour
Direct Wages	6 hours.	3 EGP.	5 hours.	4 EGP.
	❑ Actual Volume of production 3,000 unit. ❑ Standard Volume of production 5,000 unit.			

Actual Cost = AH × AR

AC = (5 × 3,000) × 4

AC = 15,000× 4

AC = 60,000 EGP.

Total variance = Standard Cost – Actual Cost

= 54,000 – 60,000

= - 6,000 EGP Unfavorable.

Second: Binary analysis of the total variance of direct Wages :

Efficiency Variance = (Standard hours of actual production - Actual hours of actual production) × Standard rat

$$EV = (SH - AH) \times SR$$

Rate Variance = (Standard rate – Actual rate) × Actual hours of actual production

$$RV = (SR - AR) \times AH$$

Second: Binary analysis of the total variance of direct wages :

Efficiency Variance = (SH - AH) × SR

EV = (18,000 – 15,000) × 3

EV = 3,000 × 3

EV = 9,000 EGP Favorable.

	Standard Data		Actual Data	
	Standard hours per unit	Standard rate per Hour	Actual hours per unit	Actual rate per Hour
Direct Wages	6 hours.	3 EGP.	5 hours.	4 EGP.
	❑ Actual Volume of production 3,000 unit. ❑ Standard Volume of production 5,000 unit.			

Rate Variance = (SR - AR) × AH

RV = (3 - 4) × 15,000

RV = - 1 × 15,000

RV = - 15,000 EGP Unfavorable.

Total variance = Efficiency Variance + rate Variance

= 9,000 + (- 15,000)

= - 6,000 EGP Unfavorable.

Third: Trible analysis of the total variance of direct Wages :

Efficiency Variance = (SH - AH) × SR

Net Rate Variance = (Standard rate – Actual rate) × Standard hours of Actual production

NRV = (SR - AR) × SH

Mixed Rate Variance = (Standard hours - Actual hours) × (Actual rate – Standard rate)

MRV = (SH – AH) × (AR - SR)

Third: Trible analysis of the total variance of direct raw wages :

Efficiency Variance = 9,000 EGP Favorable.

Net rate Variance = (SR- AR) × SH

	Standard Data		Actual Data	
Direct Wages	Standard hours per unit	Standard rate per Hour	Actual hours per unit	Actual rate per Hour
	6 hours.	3 EGP.	5 hours.	4 EGP.
	❑ Actual Volume of production 3,000 unit. ❑ Standard Volume of production 5,000 unit.			

NRV = (3 - 4) × 18,000

NRV = - 1 × 18,000

NRV = - 18,000 EGP Unfavorable.

Mixed rate Variance = (SH - AH) × (AR - SR)

MRV = (18,000 – 15,000) × (4 - 3)

MRV = 3,000 × 1

MRV = 3,000 EGP Favorable.

Total variance = Efficiency Variance + Net rate Variance + Mixed rate variance

= 9,000 + (- 18,000) + 3,000

= - 6,000 EGP Unfavorable.

Example (3)

For each of the following independent cases, fill in missing amounts:

	Casey Co.	Kevin Inc
Actual Units produced	2,000	??
Standard hours per unit	3.5	0.9
Standard hours	??	900
Standard rate per hour	$14.5	$??
Actual hours worked	6,800	975
Actual rate per hour	$??	$??
Actual labor cost	$??	$??
Direct labor rate variance	$1,700 F	$975 F
Direct labor efficiency variance	$??	$ 765 UF