

Exercise - Reverse Formulas (Cost Management)

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In the latest earned value report for your project, you see the CPI is 1.2, the SPI is 0.8, the PV is \$600,000, and the SV is -\$120,000. You can't find the CV in the report, so you need to calculate it based on the information given.

What is the CV?

Answer

The formula for CV is $CV = EV - AC$. Therefore, we need to find EV and AC to calculate CV. We can do this by using one of the reverse formulas we learned earlier. Since we know the values for SPI (0.8) and PV (\$600,000), we can use $EV = SPI \times PV$ (this is the reverse formula for $SPI = EV/PV$).

$$EV = SPI \times PV$$

$$EV = 0.8 \times \$600,000$$

$$EV = \$480,000$$

Now we need AC, which we can get from the EV we just determined and the CPI given in the question (1.2).

$$\text{The formula is } CPI = \frac{EV}{AC} \text{ or } 1.2 = \frac{\$480,000}{AC}.$$

We need to isolate AC on one side of the equation to figure out what it is. Start by multiplying both sides of the equation by AC.

$$1.2 \times AC = \frac{\$480,000}{AC} \times AC.$$

The resulting equation is:

$$1.2 \times AC = \$480,000$$

To get AC on its own, we need to divide both sides by 1.2.

$$\frac{(1.2 \times AC)}{1.2} = \frac{\$480,000}{1.2}$$

The resulting equation is:

$$AC = \frac{\$480,000}{1.2}$$

$$\text{So, } AC = \$400,000.$$

Now that we know the EV and the AC, we can figure out what the CV is:

$$CV = EV - AC$$

$$CV = \$480,000 - \$400,000$$

$$CV = \$80,000$$