13.5.3 Earned Value Example

Q: (a) Schedule Variances

PV

EV,

SPI

ETC

(b) cost variance

AC

CPI

ECC

(c) conclude { time / cost

Solution: (a)

Planned Value (PV) = 103

Earned value (EV) = 44

Schedule Performane Index

$$= \frac{EV}{PV}$$

$$= \frac{44}{103}$$

$$= 0.4272$$

Estimated Time to completion

$$= \frac{\text{Est total proj. schedule.}}{\text{Schedule Performane Index}}$$

$$= \frac{7}{0.4272}$$

$$= 16.3858 \text{ months}$$

(b) Cumulative Actual Cost of work performed (AC)

= 78

Cost Performance Index

$$= \frac{EV}{AC}$$

$$= \frac{44}{78}$$

$$= 0.5641$$

Estimated Cost to completion

$$= \frac{\text{Est total proj budget}}{\text{Cost Performance Index}}$$

$$= \frac{118,000}{0.5641}$$

$$= 209,182.7690$$

(c) $16.3858 - 6 = 10.3858$

$209.182.1690 - 118,000 = 91182.1690$

1) Needs addition 10 months and running more than 9 months behind schedule

2) Expect cost overrun to exceed ~~$210k~~ $92

超出的成本