Project Performance Report

'Istanbul New Airport'

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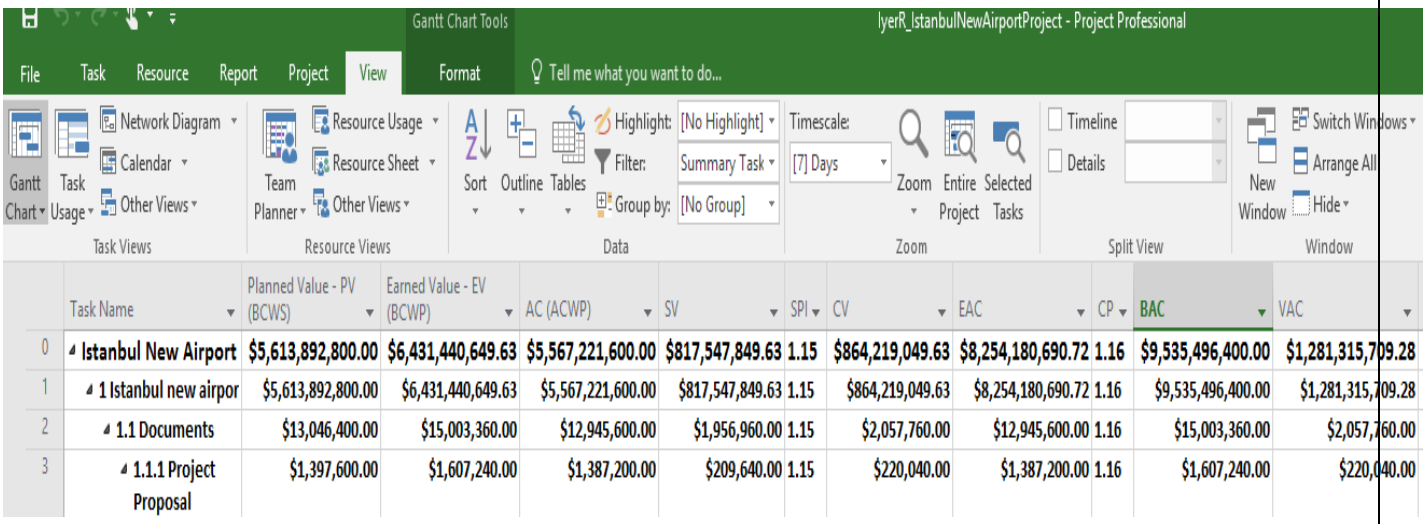
Istanbul New Airport's Tracking Gantt:



	Task Name	Planned Value - PV (BCWS)	Earned Value - EV (BCWP)	AC (ACWP)	SV	SPI	CV	EAC	CP	BAC	VAC
0	Istanbul New Airport	$5,613,892,800.00	$6,431,440,649.63	$5,567,221,600.00	$817,547,849.63	1.15	$864,219,049.63	$8,254,180,690.72	1.16	$9,535,496,400.00	$1,281,315,709.28
1	1 Istanbul new airpor	$5,613,892,800.00	$6,431,440,649.63	$5,567,221,600.00	$817,547,849.63	1.15	$864,219,049.63	$8,254,180,690.72	1.16	$9,535,496,400.00	$1,281,315,709.28
2	1.1 Documents	$13,046,400.00	$15,003,360.00	$12,945,600.00	$1,956,960.00	1.15	$2,057,760.00	$12,945,600.00	1.16	$15,003,360.00	$2,057,760.00
3	1.1.1 Project Proposal	$1,397,600.00	$1,607,240.00	$1,387,200.00	$209,640.00	1.15	$220,040.00	$1,387,200.00	1.16	$1,607,240.00	$220,040.00

Fig. 1. Earned Value Table

Performance Report:

Controlling is key to the success or failure of the project (Vanhoucke, 2011). Earned Value Management (EVM) is an excellent technique to do so. In addition to producing reliable cost and schedule estimates, it can be used to identify, mitigate risks or exploit opportunities, early on.

Project performance maybe measured by comparing the current results with the estimates. It could assess cost, time performance for any given project, with the help of three key parameters- PV, EV and AC.
PV (Planned Value), also known as Budgeted Cost of Work Scheduled (BCWS) is the approved or agreed budget of work to be done at a specific time within the project. The entire project's planned value is known as the Budget At Completion (BAC), which can be established as a baseline. In this case, the current PV is estimated to be USD 5,613,892,800.

EV (Earned Value) is expressed as the monetary value attained or added to the product. It also represent the actual work done in the project. It is also known as Budgeted Cost of Work Performance (BCWP).In this case, the current EV= USD 6,431,440,649.63.

AC (Actual Cost) is the expenses incurred in accomplishing the work performed or completed till date, which is USD 5,567,221,600 currently.

These key elements are sufficient to get an overall idea on the project's status by calculating Schedule Variance (SV) and Cost variance (CV).
SV can be expressed as the difference between EV and PV. In this project EV=USD 6,431,440,649.63 whereas the PV= USD 5,613,892,800 and AC= USD 5,567,221,600

Mathematically,
SV= EV – PV CV= EV- AC

As of the status date, SV=817,547,849.63 USD& CV=864,219,049.63 USD

Verification:
SV= 6,431,440,649.63 - 5,613,892,800
= 817,547,849.63

CV= 6,431,440,649.63 - 5,567,221,600
= 864,219,049.63

Therefore, the value of SV and CV are positive. This positive value of SV indicates that the project is about 817 million dollars' worth working hours ahead of schedule, while the positive CV value indicates the project is atleast 864 million dollars under-budget.

SPI (Schedule Performance Index) and CPI (Cost Performance Index) is a measure of schedule and cost efficiency respectively, having the same parameters as mentioned in the variances. SPI is expressed as the ratio of EV and PV; CPI is the ratio of EV and AC.

<u>After calculation:</u>
The value of SPI = 1.15 & CPI = 1.16
This means that the project is 15% ahead of schedule and 16% under-budget. The value of CV can also be interpreted as: A dollar invested in the project returned with an earned value of a dollar and 16 cents, which is an increase of 16 cents.

These performance measures are assumed to be reasonably accurate and reliable for predicting the entire project's actual working cost known as ACWP(Actual Cost of Work Performed) and estimating the time-phased resources for project completion known as ETC(Estimate to Complete). EAC (Estimate at completion) is the sum of these two, ACWP and ETC.

EAC = 8,254,180,690.72

BAC (Budget at Completion) is the estimate of the project's cost in the planning phase, once the resources have been assigned. It serves as a constant comparison with the actual results obtained at any point and time within the project.

Variance at Completion (or VAC) is the difference between BAC and EAC. It represents if the budget is surplus or deficit. In case of Istanbul New Airport,
VAC = USD 1,281,315,709.28

This means that as of today (about halfway through the project), the project is expected to complete almost 1.3 billion USD under-budget.

Benefits of Tracking Gantt:

The Tracking Gantt chart displays two bars representing each task. The lower (grey) bar represents the baseline start and finished dates while the upper (blue/red) represents the actual start (and actual finish dates if the task has been completed). This serves as a basis for comparison of actual results with planned estimates. It is also used to check the percentage completion of each task.

According to Housatonic Support (n.d.), Tracking Gantt can be used to observe the progress of tasks and evaluate slippage of tasks; view tasks graphically with detailed information such as dependencies and the assigned personnel/resources.

Interpretation of SV:

Schedule variance maybe used as an indicator to determine whether the project at any given point is ahead, behind or on-schedule. Although the value of SV is in units of currency like USD, CAD or INR. SV, which is the difference between EV and PV, can be interpreted to estimate the cost of work yet to be completed (if SV is negative) when compared with the baseline; or to estimate the additional cost of work which has been achieved in the same time-frame (if SV is positive).

Baseline Changes:

The PM creates a baseline for a project in the planning phase by managing the triple constraints- scope, time and cost to guide the project towards success. It is very rare and almost impossible to find projects that have been implemented accurately according to 'the plan'. In reality, every project faces difficulties that could result in a change of scope, budget or schedule. A change in any would affect the other two constraints as well because of their interdependence.

For instance, a service-based project has a planned budget of 100,000 USD with a duration of 100 working days. The scope of this project is to allow customers to purchase equipment online. During the service development phase, competitors enter the market with a similar or better service. At this point, the company is faced with two options- either provide users with the same software at a lower cost or enhance the software's functionality.

Option 1- Reducing the cost of the software

This would mean reducing the budget of the project. Therefore, the priority shifts a bit to be more cost-effective. Resources would be used more wisely, which means reducing man-power to stay within the reduced budget. Lesser availability of resources would directly lead to increase in the project duration. It is also possible that the team would have to compromise on some features mentioned in the scope statement. Therefore, reducing budget would mean increasing the duration of the budget and changing the scope.

Option 2: Software enhancement

Enhancing the software to maintain market competitiveness is directly changing the scope, by adding new features. This would definitely require additional funds, increasing the budget of the project. Programming and coding would take longer than expected, delaying the project from its planned date. Therefore, a change in scope led to increase in both, budget and duration of the project.

It is practical to change baseline in such scenarios so that the project may have more realistic expectations. After establishing a formal change control process that consists of identifying, evaluating and responding to changes; change requests must be made describing the change, reason for the change and the impact on the baseline (McConnell, 2011). Once the approval has been granted, the changes can be implemented.

However, some projects may not have the provision to change their baseline at all. It maybe that any changes would affect the quality of the product, which is the topmost priority for every PM. The thumb rule is that a quality product will attract customers by meeting their expectations. While evaluating decisions to make change requests, a lot of thought has to be given to the quality of work and the end-product, which is of prime importance. In the above service-example, another method of reducing the budget could be outsourcing resources, but this would directly influence the quality. By hiring cheaper or low/moderate-skilled human resources, the software would undoubtedly be completed within the reduced budget, but it would degrade the quality of the product. Here, the quality would refer to the ordering experience of the customer. The customers facing difficulties or having bad experiences is highly undesirable.

Reference:

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