

On the subject of project schedule and completion forecasting¹

LETTER TO THE EDITOR

11 March 2023

Ref: Weaver, P. (2023). **Earned Schedule - the First 20 Years**; *PM World Journal*, Vol. XII, Issue III, March. Available online at <https://peworldjournal.com/wp-content/uploads/2023/03/pmwj127-Mar2023-Weaver-Earned-schedule-the-first-20-years.pdf>

Dear Editor,

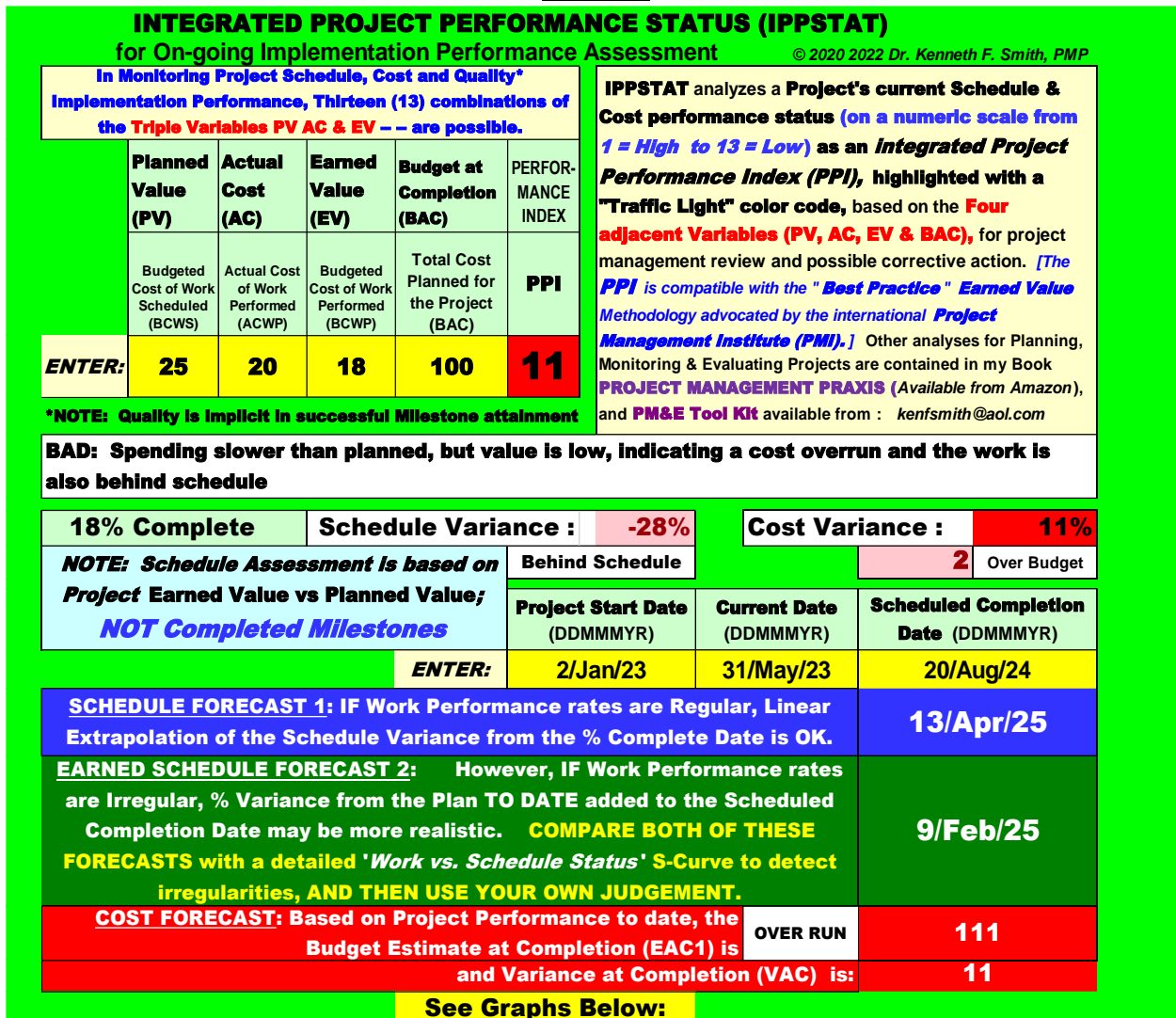
I really appreciated Patrick Weaver's detailed 20-year history of Earned Schedule (ES) and related footnote references in the March 2023 issue of the PMWJ.

However, while Patrick reaffirms the fact that before the advent of ES there was “*no accepted methodology for adjusting future work durations or resource requirements based on performance to date,*” and “*the assumption that all future work will go as planned tends to make the results from a CPM update process a very optimistic assessment of the likely project completion,*” nevertheless a range of Best Case, Most Likely & Worst Case projections could still be developed from Critical Path scheduling and Earned Value **schedule** data.

While my formulas may not be *pro forma* or *de rigueur* ES, for many years I have forecast project completion dates based on CPM & EVM data, using the **baseline calendar schedule** data – *i.e. rather than the monetary value* – of the project's reported **PV & EV** variance status. This is captured in my latest IPPSTAT template, illustrated in Figure 1.

¹ How to cite this work: Smith, K. F. (2023). On the subject of project schedule and completion forecasting, Letter to the Editor, *PM World Journal*, Vol. XII, Issue IV, April.

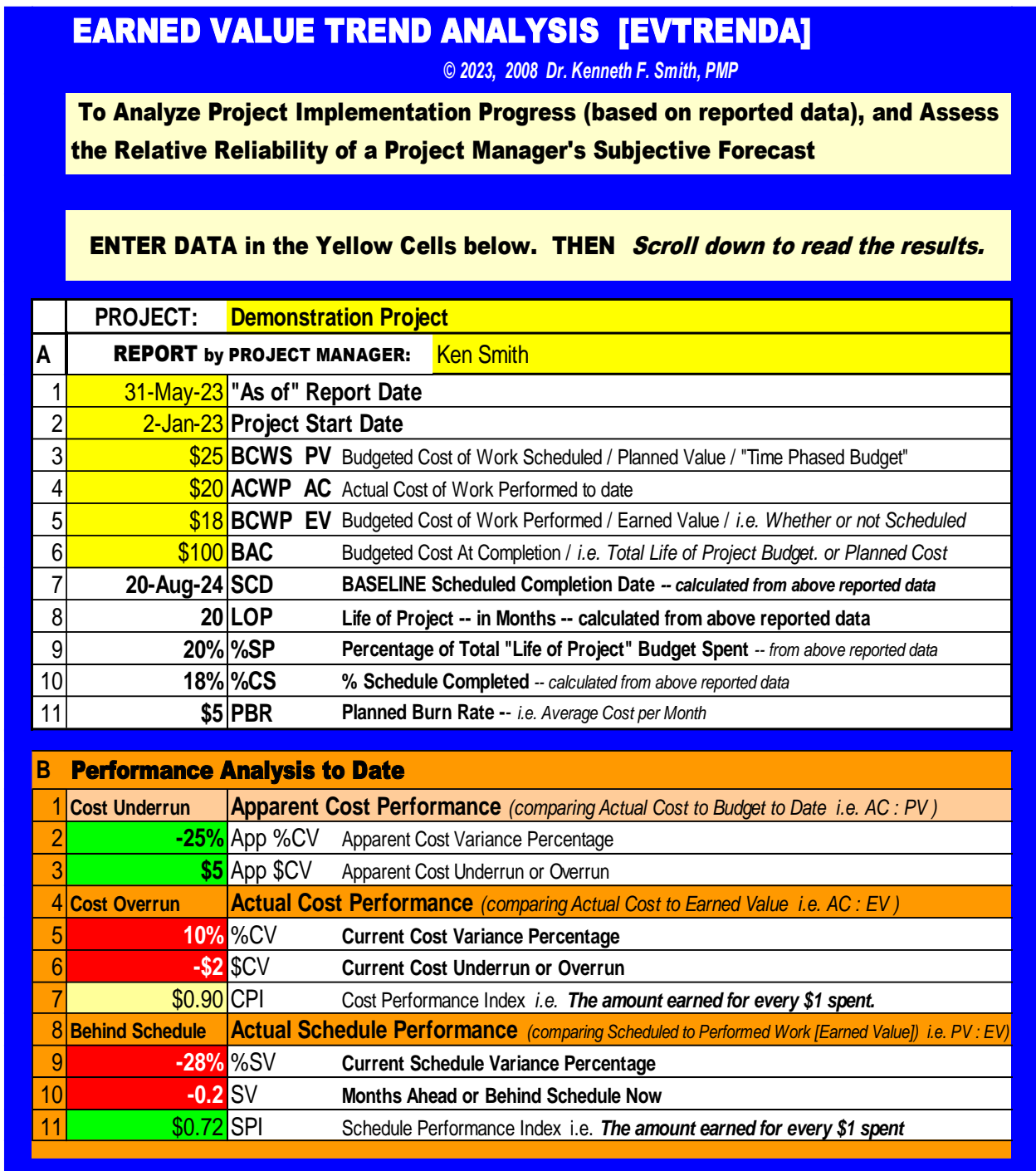
Figure 1



NOTE: A constraint of my calendar day computation is that it is based on a 7-day week.

Moreover, to assist Portfolio & Program managers -- as well as others who may perhaps not be so intimately familiar with the multitude of EVM acronyms, or the dirty details of the project -- fifteen years ago I created another template – illustrated in Figure 2 – (Part A & B) to analyze CPM & EVM data and assess the status and trends (Part C), as well as the verity of estimates by project managers who were reporting to them (Parts D, E & F).

Figure 2



Continue with Part C:

C Trend Analysis to Complete the Project -- from Current Date			
C1 MOST LIKELY -- i.e. Assuming continuance of current status variance			
1	Cost Overrun	MOST LIKELY Cost at Completion	
2	11%	%VAC	Percentage of Cost Variance at Completion
3	\$111	EAC1	Estimated Total Cost at Completion
4	-\$11	VAC	Amount of Cost Variance at Completion i.e. Cost Overrun or Underrun
5	\$4	PTD (avg)	Average Performance to Date -- Cost per month
6	Behind Schedule	MOST LIKELY Schedule Status at Completion [Assuming continuance of current status variance]	
7	8-Apr-25	ECD	Revised Estimated Completion Date [Assuming continuance of current status variance]
8	-7.7	SV	Months Ahead or Behind Schedule
9	-28%	%SV	Percentage of Schedule Variance at Completion i.e. Ahead or Behind Schedule
C2 BEST CASE -- i.e. Assuming NO Future Cost or Schedule Problems			
1	Cost Overrun	BEST CASE Cost at Completion	
2	2%	%VAC	Estimated Cost Variance Percentage
3	\$102	EAC4	Estimated Total Cost at Completion
4	-\$2	VAC	Cost Variance at Completion i.e. Amount of Cost Overrun or Underrun
5	Behind Schedule	Estimated Schedule Status at Completion	
6	30-Sep-24	ECD	Revised Estimated Completion Date [Assuming no future cost or schedule problems]
7	-1.4	SV	Months Ahead or Behind Schedule
8	-7%	%SV	Percentage of Schedule Variance at Completion i.e. Ahead or Behind Schedule
C3 WORST CASE -- i.e. Assuming BOTH Future Cost and Schedule Problems			
1	Cost Overrun	WORST CASE Cost at Completion	
2	47%	%VAC	Estimated Cost Variance Percentage
3	\$147	EAC3	Estimated Total Cost at Completion
4	-\$47	VAC	Cost Variance at Completion i.e. Amount of Cost Overrun or Underrun
5	Behind Schedule	Estimated Schedule Status at Completion	
6	8-Apr-25	ECD	Revised Estimated Completion Date [Assuming no future cost or schedule problems]
7	-7.7	SV	Months Ahead or Behind Schedule
8	-39%	%SV	Percentage of Schedule Variance at Completion i.e. Ahead or Behind Schedule

And finally, Parts D, E & F:

Project Manager's Forecast - If different from "C" above. [Rationale should be given separately.]			
D			
1	6-Aug-24	PM ECD	Estimated Completion Date
2	\$111	PM EAC	Estimated Total Cost Estimate at Completion
E ANALYSIS of Project Manager's Forecast Schedule & Cost Estimate			
	Cost Overrun	Estimated Total Cost at Completion	
1	-\$11	VAC	Cost Variance at Completion i.e. Amount of Cost Overrun or Underrun
2	11%	VAC %	Estimated Cost Variance Percentage
3	0.5	Months Ahead or Behind Schedule	
4	2%	PM SV %	Schedule Variance Percentage
5	\$6	P-RQD (avg)	Cost per Month Required to attain Project Manager's Forecast Schedule
6	\$4	PTD (avg)	Average Performance to Date -- Cost per month
7	\$5	PBR	Baseline Planned Burn Rate -- i.e. Average Cost per Month
8	1.13	RQD / PBR	Required Performance vs. Baseline Plan
9	0.72	PTD / PBR	Experience to Date vs Baseline Plan
F AUTO-ASSESSMENT of Project Manager's Forecast Schedule & Cost Estimate			
1	Highly Unlikely	that Future Performance will be Sufficient to Attain the Project Manager's Schedule Forecast as it would require considerably greater efficiency & effectiveness than either planned or experienced to date	
2	It is Likely	that the Final Project Cost will be within the Project Manager's Cost Estimate as it is within the 'Best' and 'Worst' Case estimated range	

Thus, while my results were/are perhaps not in accord with those produced by authentic ES algorithms, it is feasible to make schedule estimates based on CPM & EVM schedule rather than monetary data, and they were/are not entirely optimistic. Other than that, my compliments to Patrick on his incisive research.

[NOTE: As usual, these, and many more templates for planning, monitoring and evaluating projects, programs and portfolios are available from kenfsmith@aol.com for free, on proof of purchase of my book **Project Management PRAXIS** (available from Amazon.)]

Best regards,

[Dr. Kenneth Smith](#)

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