

Sometimes I become as unhappy with the world as I am with myself. I'm a hard-to-please skeptic working on certified cynic. Case in point—triggered by an article in the *Program Manager* entitled “Controlling Costs—A Historical Perspective,” which appeared in the November-December 1996 issue of *Program Manager* and joins the letter to the editor on this same article, which appeared in the March-April 1997 issue. Without challenging the article's historic perspective, I must take issue with its lack of balance in discussing Design to Cost (DTC).

Example: From the article—“...[For FSD] the [F-18] program office provided little or *no guidance* to the contractor on the *design, performance, and cost* interrelationships. There were *no contractual incentives* to motivate the contractor and make DTC an active effort on the program [emphasis added].”

I have before me a copy of a McDonnell Aircraft Company F-18 briefing, prepared with data through August 1978 (3rd year of FSD). (I've never worked for McDonnell Douglas, by the way).

Here are three figures [opposite page] from that briefing so you can draw your own conclusions. Figure 1 describes the incentives (and penalties) which were contractually applied to the F-18 FSD DTC program.

Figure 2 shows that trade-off studies were completed—not just contemplated. If you can read it, note that the Y axis is *hundreds* of trade studies.

In Figure 3, note the column “Perfor-

mance.” At this point, this cynic probably should rest his case.

There's a broader issue, however, that disturbs me about inferences the reader may have drawn. The author cites an IDA study of 63 major systems showing that cost growth [of DTC programs] was 19 percentage points greater than that of non-DTC programs. The inference is that without DTC, cost growth on those programs would have been less—or “Gosh, we should have avoided DTC at all costs!” (Excuse the pun.)

And excuse the author's propensity to denigrate DTC programs in order to espouse the comparative virtue of “cost as an independent variable (CAIV).” Occasionally, it's necessary to look beyond contrived revelations to find value.

For a different view of cost growth and variance based on SAR (Selected Acquisition Report) data, see “Cost Variance in Acquisition,” by Miguel A. Ortegui, in the November-December 1990 issue of *Program Manager*—if you can find someone with issues that go back that far.

However, those who have participated in the SAR process recognize the limitations in the value of the summary-level SAR data—as well as how it's reported.

Now—this yet-to-be cynic rests.

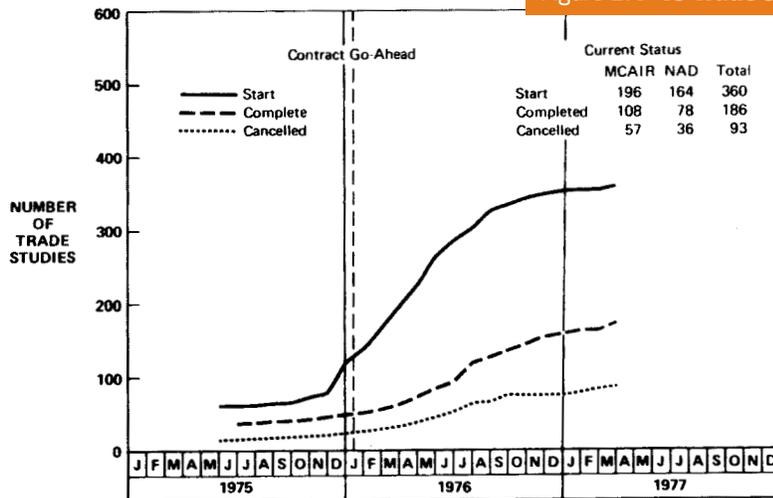
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(I never saw a strawman I liked)
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Figure 1. McAir F-18 Full Scale Development Contract Incentives

- DEVELOPMENT COST INCENTIVE = 80/20 SHARE RATIO, VARIANCE FROM FSD TARGET COST
- DESIGN-TO-COST AWARD/PENALTY = 15% (OBJECTIVE - PRODUCTION CONTRACT TARGET), MID-1979
- LIFE CYCLE COST/PROGRAM MILESTONE MANAGEMENT AWARD FEE ≤ \$15,000,000 JAN 76 - JAN 81
- RELIABILITY AND MAINTAINABILITY AWARD FEE ≤ \$24,000,000 EARLY 1980 TO EARLY 1982

MAXIMUM FEE = 15% x FSD TARGET COST

Figure 2. F-18 Trade Study Status



ITEM	COST SUMMARY			WEIGHT (LB)	RELIABILITY	MAINTAINABILITY	PERFORMANCE
	FSD	UNIT PROD (K)	LIFE CYCLE (M)				
COMMON F-18/A-18 WHEEL/TIRE	-0.9M	+0.4	-7.5	+89	IMPROVED	IMPROVED	DEGRADED
WING PYLON JETTISON	-2.1M	-4.0	-23.8	-40	NO CHANGE	IMPROVED	DEGRADED
WING LE AND TE SURFACES	-8.6M	-15.8	-15.8	+17	NO CHANGE	IMPROVED	NEGLIGIBLE
WING - FUSELAGE ATTACH	-1.2M	-31.0	-26.6	+4	NO CHANGE	NO CHANGE	NEGLIGIBLE
FCS COST/WEIGHT REDUC	-8.8 M	-33.0	-33.2	-60	IMPROVED	IMPROVED	IMPROVED
INCREASED RADAR VOLUME	-8.5 M	-18.4	-31.4	-3	IMPROVED	IMPROVED	NEGLIGIBLE

Figure 3. Example Life Cycle Cost Trades