

Fixing the Flawed Nature of DoD BCA's Industry Focus

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The government is not a business that is profit-oriented. Monetary business metrics as a means of determining what items to consume are inherently flawed for the government since metrics such as Return on Investment assume the organization is a provider of the goods or services, not a consumer. A better approach for the government would be to measure the areas that the government most values, i.e. schedule, requirements, and cost. Using those areas as anchors, a best value metric can be developed, pointing the government to smarter acquisition decisions.

The financial metrics used by most for-profit businesses in the United States include both Cash Flow Metrics and Financial Statement Metrics. Cash Flow metrics are used for evaluating investments and streams of cash flow events and include net present value (NPV), return on investment (ROI), and internal rate of return (IRR).

- ▶ Net Present Value (NPV) - The value today of money that will not be received or paid until sometime in the future; the value today (present value) is discounted below the value the funds will have when the future cash flow actually occurs. (Schmidt, 2016)
- ▶ Return on Investment (ROI) - Return on investment is frequently derived as the “return” (incremental gain) from an action divided by the cost of that action. (Schmidt, 2016)

$$\text{ROI} = \frac{\text{Gain from Investment} - \text{Cost of Investment}}{\text{Cost of Investment}}$$

- ▶ Internal Rate of Return (IRR) - The interest rate that yields a net present value of 0 for a cash flow stream.

Financial Statement Metrics are used for evaluating a company's financial position and financial performance and include current ratio, inventory turns (ITR), and earnings per share (EPS). (Schmidt, 2016)

- ▶ Current Ratio - the ratio of current assets to current liabilities.
- ▶ Inventory Turnover Ratio (ITR) - measures the rate at which a company purchases and resells products to customers.
- ▶ Earning per Share (EPS) - represents the portion of a company's earnings, net of taxes and preferred stock dividends, that is allocated to each share of common stock. (Schmidt, 2016)

Financial metrics mean little to the government because the government: (1) does not have to operate at a profit to stay in business, (2) does not issue common stock or pay dividends based on performance, and (3) is a purchaser, not a seller.

Additionally, financial metrics do not accurately measure what the government values: meeting schedules (being on time), on time deliveries of products, meeting performance requirements (meeting or exceeding performance), and meeting program cost goals (meeting or beating cost goals). Financial metrics provide no insight into the metrics that are actually important to the government and provide no impetus for positive change. Therefore, an exploration of more appropriate metrics for the government customer is in order.

Performance and schedule metrics are more viable measurements of what is important to the government. A performance metric is one that determines an organization's behavior and performance. Performance metrics measure an organization's activities and performance. (Performance metric, 2016)

Performance metrics would include both not overrunning schedules (\$) and not overrunning program budgets (\$).

Developing performance metrics usually follows a process of: (1) establishing critical processes/customer requirements, (2) identifying specific, quantifiable outputs of work, and (3) establishing targets against which results can be scored. (Performance metric, 2016)

Successful metrics requirements are always actionable, limited to less than 5 in total, emphasize simplicity over comprehensiveness, are easily presented and understood, and evolve to meet goals that are important. (Gemignani, 2006)

Schedule Metrics refer to a set of verifiable measurement standards by which the efficiency, performance, state or quality of a schedule can be identified and assessed. They are used to measure schedules against their baselines to determine any variance and discrepancy. They are measured in quantitative or qualitative terms. A system of schedule metrics is a great way to monitor and control schedule changes. Such a system allows managers to track variance while capturing schedule performance, make comparisons to baseline measures, and support schedule improvement. (YouTube, 2013)

A system of verifiable metrics can be applied to a schedule if the schedule is:

- ▶ *Measurable* so the schedule content can be gauged.
- ▶ *Relevant* to preset goals and expectations.
- ▶ *Controllable* in terms of capturing and tracking the content.

There are four basic indicators that characterize a schedule and its state: (1) *Variance*; a measure of a schedule's variability from an average (e.g. average duration, average cost), (2) *Performance*; a qualitative indicator that proves how well a given schedule is performed against the expected performance level, (3) *Quality*; a metric that examines how well a schedule conforms to a

range of preset values, such as cost and time, and (4) *Efficiency*; a general indicator that confirms whether scheduled items are performed in the right way. (YouTube, 2013)

Two performance and schedule metric systems that work with government acquisition programs are Milestones A, B, & C requirements (Figure 1) and Earned Value Management (EVM) (Figure 2).

Milestone requirements address what is important to the government. For example, Milestone A Review requirements indicate what is important to the government customer and include:

- ▶ Acquisition Strategy
- ▶ Business Approach
- ▶ Framing Assumptions
- ▶ Program Risks
- ▶ Risk Mitigation Activities
- ▶ Should Cost Management
- ▶ Affordability Analysis
- ▶ Proposed Affordability Goals
- ▶ Cost Estimate
- ▶ Demonstrate Full Funding in FYDP (DoDI 5000.02, 2015)

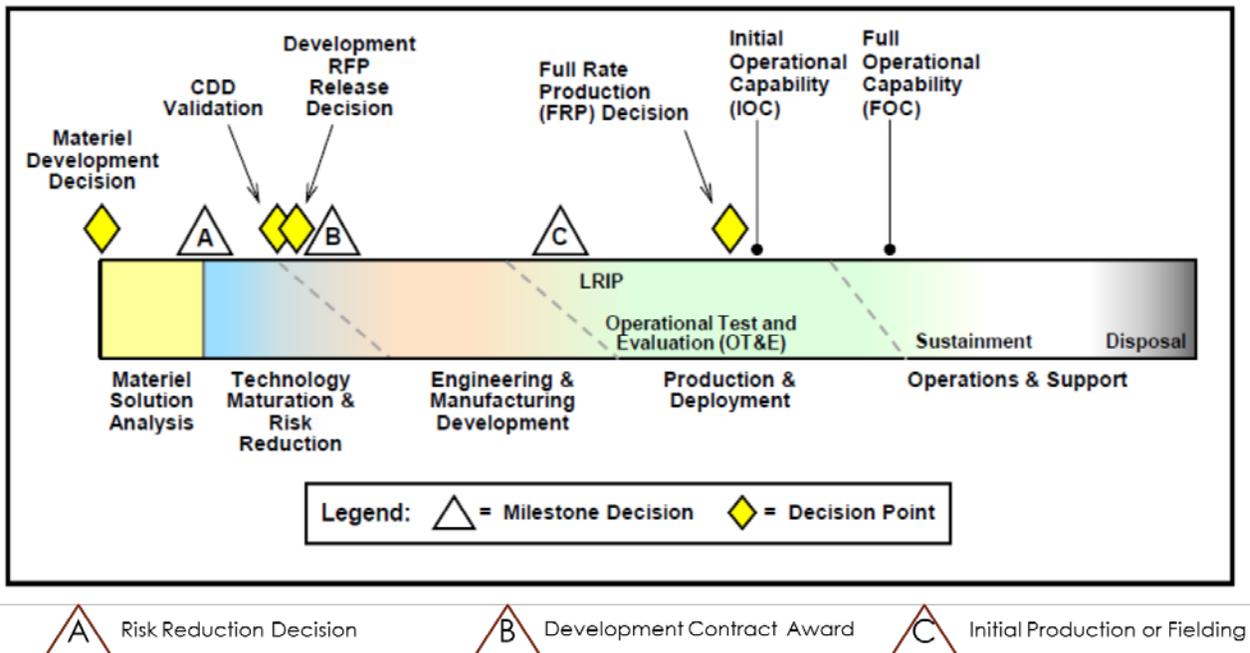


Figure 1. Hardware Intensive Program (DoDI 5000.02, 2015)

“Earned value management (EVM). . . is a project management technique for measuring project performance and progress in an objective manner. Earned value management is a project management technique for measuring project performance and progress.” (Wikipedia, 2014) EVM addresses both program schedule and cost requirements (Figure 2). EVM is required on government programs under these circumstances:

- ▶ Contract Total Estimated Value of \$50M and greater
- ▶ \$20M and greater but less than \$50M
- ▶ Less than \$20M - Optional (at discretion of PM) (ANSI/EIA-748, 2013)

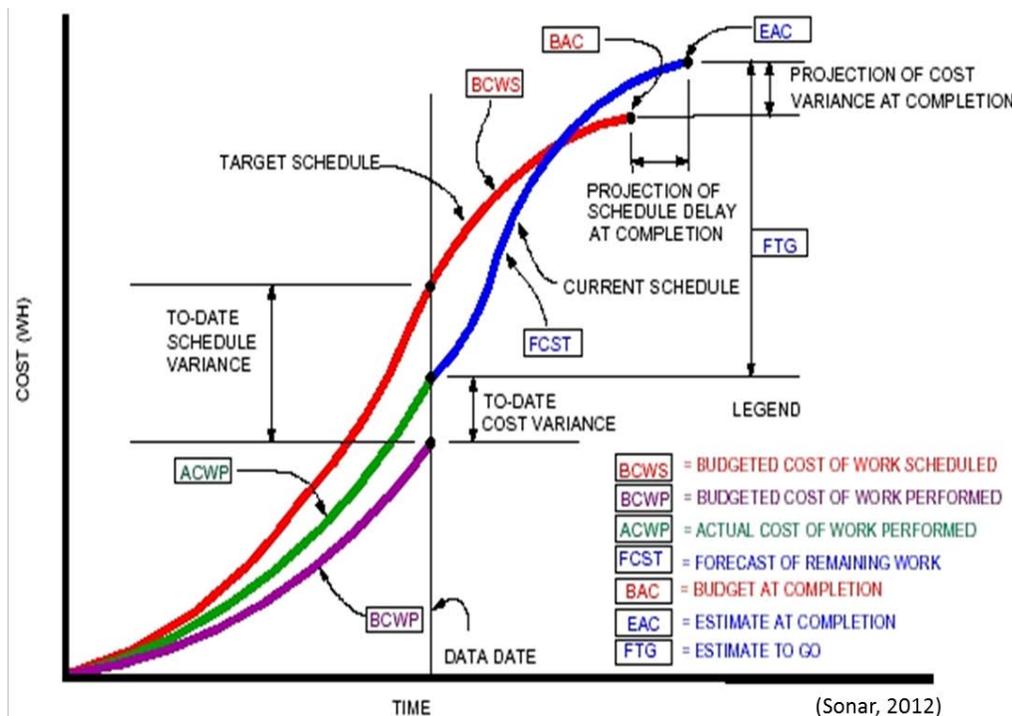


Figure 2. Earned Value Management

When developing Program Requirements Metrics, the metrics must meet these requirements:

- ▶ ensure each requirement is tracked back to a business goal/need
- ▶ ensure each requirement is objective and un-ambiguous
- ▶ insist that requirements only contain the requirement and not design decisions
- ▶ validate the requirements with the business stakeholders
- ▶ create prototypes or wire-frames or solution documents that explain how the requirements might be realized by the system and place those in the broader business process => get feedback from the stakeholders
- ▶ List of Requirements

► Achievement of Requirements (Marchis, 2008)

Program Cost Metrics are an important requirement and indicator of program success. Metrics addressing cost, both predicted and actual, must show estimates and progress toward Unit Manufacturing Cost, Production Cost, and Life Cycle Cost (Figure 3). To achieve program cost goals it is imperative that Cost Targets be established and progress to them measured and reported. Program Management of budget must also be addressed using EVM or some other similar tool.

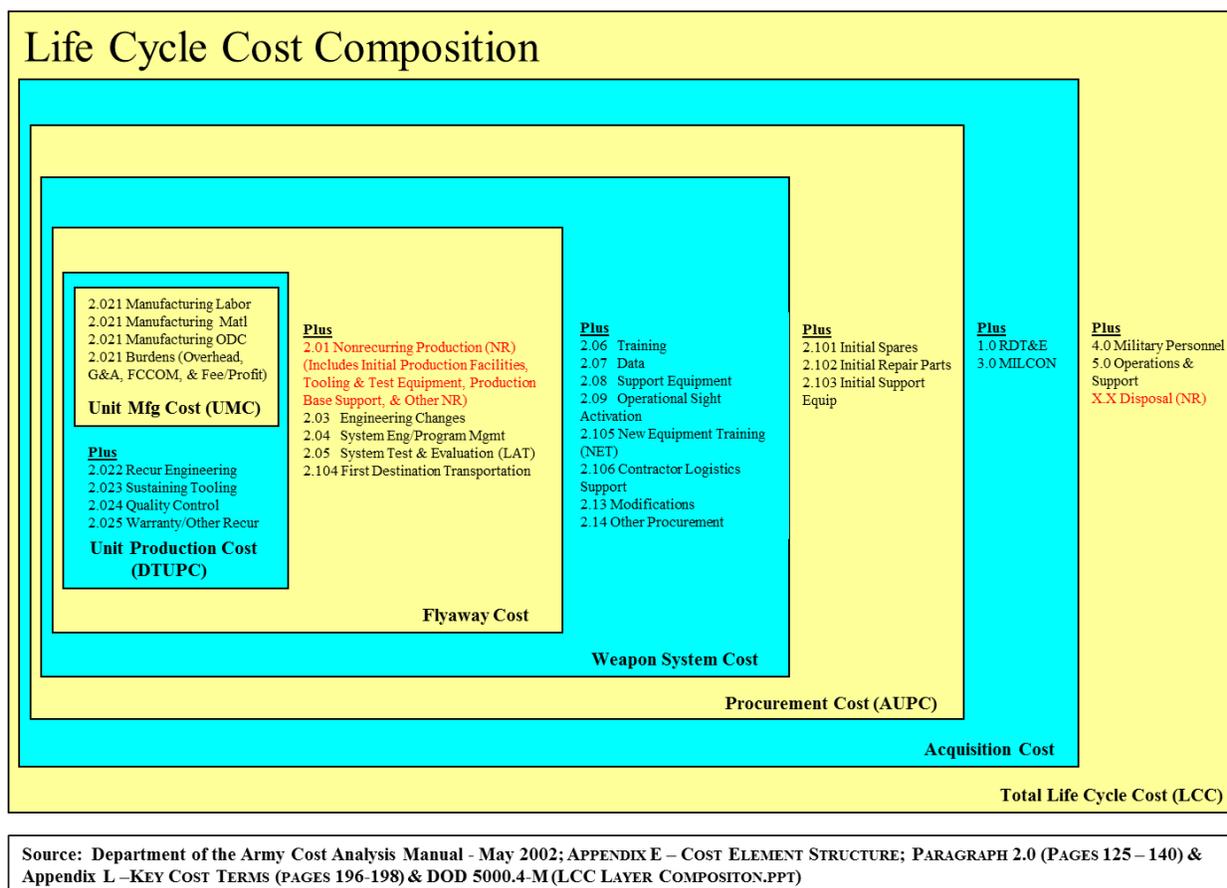


Figure 3. Life Cycle Cost Composition

In conclusion, to address what is important to the government customer each program should develop a dashboard/chart (Figure 4) that addresses the government customer focus. For example:

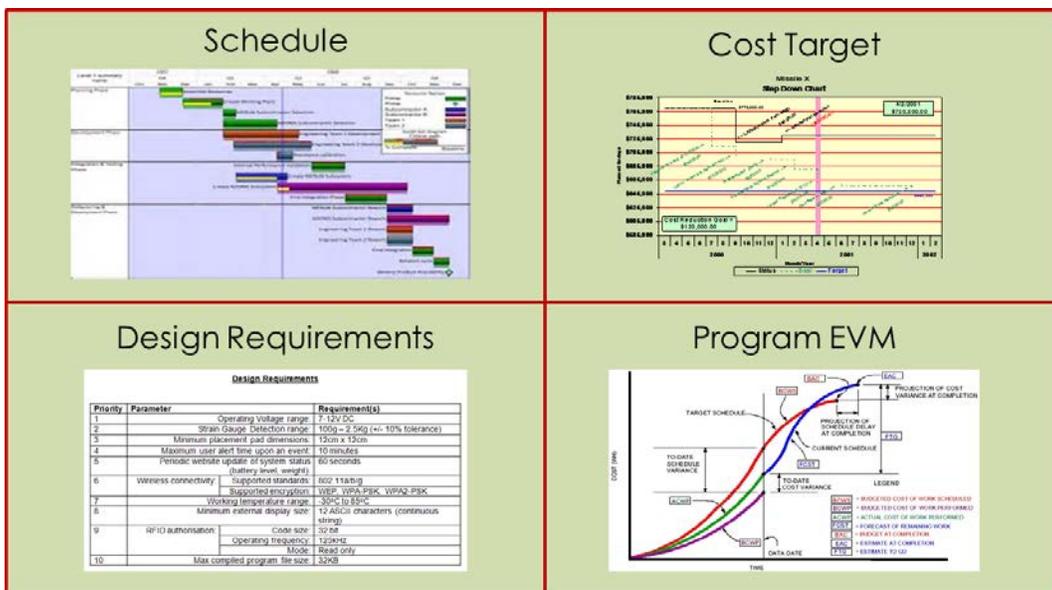


Figure 4. Customer Focus Four-Corner Chart

Appropriate metrics that address the government customer’s concerns must be used. They must be relevant to what the government customer deems important, support decision making and planning, and identify problem areas early. Instead of financial metrics the appropriate metrics for a government program are a combination of best value performance, schedule, and cost metrics that address what is important to the government customer: schedule, requirements, and cost.

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